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The Community-Based Monitoring System (CBMS): An Investigation of Its Usefulness in Understanding the Relationship Between International Migration and Poverty in the Philippines

Thesis Submitted to Obtain the Degree of Doctor in Applied Economics

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2017

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Dedicated to my late parents, *Nanay* Aleja Borel Sobreviñas and *Tatay* Consorcio Sobreviñas
and my late sister, *Ate* Belfa Sobreviñas

Abstract

This research investigates the usefulness of the Community-Based Monitoring System (CBMS) in understanding the relationship between international migration and poverty in the Philippines. CBMS is an organized process of collecting, processing and validating, and integrating data in local development planning. It is designed to empower the communities by promoting a participatory approach to poverty monitoring and development planning. To complement the national migration data which are gathered mainly through nationally-representative surveys or administrative records, the CBMS census data should be explored to help enrich the understanding of migration and how it affects poverty, especially at the local level.

In line with the objectives of this study, two major datasets were compiled using the existing CBMS data of selected local government units (LGUs) in the Philippines. The first dataset is a cross-section CBMS data of eight LGUs in the Philippines consisting of more than 126,000 households while the second dataset is a constructed three-period CBMS panel data for LGU-Orion in Bataan province with 4,299 households in each period. A detailed examination of the CBMS Household Profile Questionnaire (HPQ) administered in these LGUs revealed that aside from collecting information necessary for monitoring the core poverty indicators, it gathers some migration-related household and individual level data. At the household level, it collects information that can identify households with an overseas Filipino worker (OFW) and can estimate the total annual remittances received by the households. Meanwhile, at the individual level, the scope of information collected for each OFW member of the household varies depending on the version of the CBMS-HPQ as the questionnaire has undergone several refinements over the years. Given the available data from these existing CBMS datasets, this research demonstrated how they can be used to examine the profile of international migration and poverty. At the same time, some econometric techniques were employed to estimate the impact of international migration on poverty. For instance, the instrumental variable (IV) method was applied using the cross-section dataset to address the endogeneity of migration while some relevant panel data techniques were implemented using the constructed panel dataset.

Given the complexity of migration, this study found that the migration data collected using the standard CBMS-HPQ are rather limited. To address this limitation, this research developed a new questionnaire to collect additional information that are useful in having a more in-depth understanding of the various migration issues, especially at the local level. The new data collection instrument, which serves as a rider to the CBMS-HPQ, was administered in 476 households in two selected villages in the Philippines, including Barangay Saguing (rural) in Mabini, Batangas and Barangay Villa Angeles (urban) in Orion, Bataan. To complement the quantitative data and help find explanations for the results, qualitative information were also collected in the two villages through direct observation, informal interviews with the residents and local officials and focus group discussions (FGDs), in addition to the community validation activity which is part of the standard CBMS process.

Recognizing the richness of the CBMS data, it is strongly suggested that LGUs in the Philippines use their CBMS data to enhance their understanding of the link between international migration and poverty, as well as integrate the relevant findings in their local development planning. At the same time, to fill the gap in migration data, a set of representative LGUs in the Philippines may be encouraged to administer CBMS-HPQ together with the rider questionnaire (complemented by the collection of additional qualitative data) in order to have a more comprehensive understanding of the different migration issues and how they are linked to poverty in the Philippines. To the extent possible, collecting additional migration-related information following the CBMS approach in those areas where international migration is an important development issue could be done on a more regular basis in order to complement existing data in the Philippines. This will further enhance the potential of CBMS as a tool in understanding the relationship between international migration and poverty situation both at the local and at the national level.

Abstract
(Nederlandstalig)

In dit onderzoek wordt nagegaan wat het nut is van het Community-Based Monitoring System (CBMS) bij het verwerven van inzicht in de relatie tussen internationale migratie en armoede in de Filipijnen. CBMS is een georganiseerd proces waarbij gegevens worden verzameld, verwerkt, gevalideerd en geïntegreerd in plannen voor lokale ontwikkeling. Het is ontworpen om gemeenschappen te versterken via de bevordering van een participatieve aanpak van armoedecontrole en ontwikkelingsplanning. Ter aanvulling van de nationale migratiegegevens, die voornamelijk worden verzameld via nationaal representatieve enquêtes of administratieve dossiers, dienen de tellingsgegevens uit het CBMS onderzocht te worden om meer inzichten te verwerven in migratie en de manier waarop die armoede beïnvloedt, in het bijzonder op lokaal niveau.

In lijn met de doelstellingen van deze studie werden twee grote datasets samengesteld op basis van de bestaande CBMS-gegevens van geselecteerde lokale overheidseenheden (Local Government Units, hierna LGU's genoemd) in de Filipijnen. De eerste dataset is een representatieve steekproef uit de CBMS-gegevens van acht LGU's in de Filipijnen, bestaande uit meer dan 126 000 huishoudens, terwijl de tweede dataset bestaat uit opgebouwde CBMS-panelgegevens voor drie perioden met betrekking op LGU-Orion in de provincie Bataan, met 4 299 huishoudens in elke periode. Na grondige analyse van de 'CBMS Household Profile Questionnaire' (HPQ), een enquête afgenomen in deze LGU's, is gebleken dat er naast informatie vereist om de belangrijkste armoede-indicatoren op te volgen ook bepaalde migratiegerelateerde gegevens over huishoudens en over individuen worden verzameld. Op het niveau van het huishouden wordt er informatie verzameld over welke huishoudens een overzeese Filipijnse werknemer (OFW) hebben, en hoeveel geld de huishoudens naar schatting jaarlijks ontvangen via overschrijving. Op individueel niveau varieert de hoeveelheid informatie ingezameld over elke OFW van het huishouden naargelang de versie van de CBMS-HPQ, want de enquête is door de jaren heen al een aantal keer bijgestuurd en verfijnd. Gelet op de beschikbare gegevens in deze bestaande CBMS-datasets toont dit onderzoek aan hoe die gegevens gebruikt kunnen worden om het profiel van internationale migratie en armoede te bestuderen. Tegelijkertijd zijn er een aantal econometrische technieken gebruikt om de impact van internationale migratie op armoede te berekenen. Zo werd de methode met de instrumentele variabele (IV) toegepast op de representatieve steekproef om de endogeniteit van migratie na te gaan, terwijl enkele relevante technieken voor panelgegevens toegepast werden op de opgebouwde panelgegevens.

Gezien de complexiteit van migratie blijkt uit deze studie dat de migratiegegevens verzameld via de standaardversie van de CBMS-HPQ eerder beperkt zijn. Om deze beperking te compenseren, is in het kader van deze studie een nieuwe vragenlijst ontwikkeld om aanvullende informatie te verzamelen die nuttig is om diepgaand inzicht te verwerven in de verschillende aspecten van de migratieproblematiek, en dan vooral op lokaal niveau. Dit nieuwe instrument voor gegevensverzameling werd als bijlage bij de CBMS-HPQ gevoegd, en

de enquête werd in haar uitgebreide vorm afgenomen bij 476 huishoudens in twee geselecteerde dorpen in de Filipijnen, namelijk Barangay Saguing (landelijk) in Mabini, Batangas en Barangay Villa Angeles (stedelijk) in Orion, Bataan. Om de kwantitatieve gegevens aan te vullen en verklaringen voor de resultaten te vinden, werd ook kwalitatieve informatie verzameld in de twee dorpen, en dat via rechtstreekse observatie, via informele gesprekken met de inwoners en lokale ambtenaren, en via focusgroepen (Focus Group Discussions, FGD's). Dit gebeurde in aanvulling op de validatie door de gemeenschap die standaard behoort tot het CBMS-proces.

Gelet op de veelheid aan CBMS-gegevens wordt sterk aangeraden dat LGU's in de Filipijnen hun CBMS-gegevens gebruiken om meer inzicht te krijgen in het verband tussen internationale migratie en armoede, en dat zij de relevante bevindingen integreren in hun plannen voor lokale ontwikkeling. Daarnaast kan het nuttig zijn de leemte in de migratiegegevens op te vullen door een reeks representatieve LGU's in de Filipijnen aan te moedigen om de CBMS-HPQ-enquête met de nieuwe bijlage erbij af te nemen (aangevuld met de inzameling van extra kwalitatieve gegevens). Dit kan leiden tot een diepgaander inzicht in de verschillende aspecten van de migratieproblematiek en hoe die gekoppeld zijn aan armoede in de Filipijnen. Voor zover mogelijk zou op regelmatiger tijdstippen aanvullende migratiegerelateerde informatie verzameld moeten worden via de CBMS-benadering in gebieden waar internationale migratie een belangrijke ontwikkelingskwestie is, om zo de bestaande gegevens over de Filipijnen aan te vullen. Dit zal het potentieel van CBMS als instrument voor meer inzicht in de relatie tussen internationale migratie en armoede versterken, en dat zowel op lokaal als op nationaal niveau.

Acknowledgments

This research would have not been possible without the help of so many people who have been with me in this entire PhD journey. Therefore, I would like to extend my sincerest gratitude to those who have helped me bring this research to completion.

I am extremely grateful to VLIR-UOS for the funding and support they provided which allowed me to pursue not only my Master in Development Evaluation and Management course at the Institute of Development Policy and Management (IOB-University of Antwerp) several years ago but also this PhD in Applied Economics at the same University under its VLIR-ICP Project (ICP Ph.D. 2012-009). Without their support, this PhD would not have been possible.

I would like to express my sincerest gratitude to my supervisors, Prof. dr. Germán Calfat and Dr. Celia Reyes, for their unwavering support and supervision. I thank them for trusting in me and recognizing my potential to complete this PhD. I am particularly thankful to Prof. Dr. Germán Calfat who has shown his sincere support not only during my PhD years but ever since I met him almost a decade ago as I worked on my Master's dissertation at IOB under his supervision. I thank him for putting his confidence in me and encouraging me to pursue this PhD. He has always been so generous in sharing his knowledge and ideas while at the same time, allowing me to work independently on my PhD research and discover things on my own. I appreciate all the comments and sincere advice he has given me. He is also always giving me encouraging words which inspired me to strive harder and improve my work. I feel that he is not only my supervisor but also acts as a father under different circumstances. My PhD would not have been possible without his full support and guidance. I am also extremely grateful to my local supervisor, Dr. Celia Reyes, who has been my mentor since I started working for the CBMS International Research Network under her supervision. My CBMS work is actually one of the things that motivated me to pursue a PhD on this topic. Her comments and recommendations on the different aspects of my research concerning CBMS were extremely helpful. In thank her for her constant encouragement and inspiring words which have been vital in making this research a reality.

I am also very grateful to Prof. dr. Walter Nonneman, chairman of my doctoral committee, for providing encouraging words and for carefully following up on my progress. I also thank him for patiently reading the first draft of my thesis. I also would like to extend my sincerest thanks to the other members of my doctoral committee, Prof. dr. Christiane Timmerman, Prof. dr. Sunčica Vujić, Prof. dr. Sara Salomone and Prof. dr. Simone Bertoli who have spent their precious time to read the earlier draft of this thesis and have provided me with very detailed comments that helped improve my work. I, however, take full responsibility on the remaining errors in this thesis and I look forward to future research where I shall address these flaws.

I also would like to thank all the concerned staff and officials of the different local government units (LGUs) which are covered in this research. I am particularly grateful to those who, at the time of this research, served as local chief executives of their respective LGUs. I thank the following for their support and approval in the use of their existing CBMS data for this research: 1) Hon. Mayor Antonino Calixto (Pasay City); 2) Hon. Mayor Leonila C. Onia (Allacapan, Cagayan); 3) Hon. Mayor Antonio L. Raymundo, Jr. (Orion, Bataan); 4) Hon. Mayor Nilo Villanueva (Mabini, Batangas); 5) Hon. Mayor Benjamin Tria (Looc, Occidental Mindoro); 6) Hon. Mayor Eugenio G. Reyes (Buenavista, Guimaras); 7) Hon. Mayor Alex R. Jajalla (Mahinog, Camiguin); and 8) Hon. Mayor Joselito F. Piñol (M'Lang, North Cotabato). Special thanks to the staff and technical personnel in their respective

offices for coordinating and facilitating the approval of my request to use of their CBMS data, including Mr. Andres Avorque (Orion, Bataan), MPDC Anacetas Dalangin (Mabini, Batangas), Engr. Merlita Lagmay and Ms. Norie (Pasay City), MPDC Louella de Lara (Looc, Occidental Mindoro), Engr. Gerardo V. Guadalupe (Mlang, North Cotabato) and Mr. Rommel Ursua (Allacapan, Cagayan) and the other personnel in other concerned LGUs who helped me in following up my request in their respective LGUs. I also thank the Provincial Government of Batangas through the office of then Hon. Gov. Vilma Santos-Recto for providing support during my fieldwork. The assistance provided by their technical personnel and CBMS-Focal persons, Mr. Medel Salazar and Ms. Marcelina Aguda, helped facilitate the conduct of the fieldwork activities in Mabini, especially during the conduct of field visits, meetings with the barangay and municipal officials and trainings of local enumerators.

I am also grateful for the support of the officials in Barangay Saguing in Mabini, Batangas and Barangay Villa Angeles in Orion, Bataan where the rider questionnaire developed in this research, together with the CBMS Household Profile Questionnaire (CBMS-HPQ), was administered. In particular, I thank the late Barangay Captain Raymundo Atienza of Barangay Saguing whose full support had helped in preparing for the data collection activities in the barangay. I am also very thankful to Barangay Captain Teofila Calangi, who took over his position as she provided constant support during the field survey operations in the barangay. I also thank Barangay Captain Leticia Angeles of Barangay Villa Angeles for the help in facilitating the conduct of the field survey operations their barangay. I also appreciate the assistance provided by their personnel who ensured the safety of all the enumerators and served as our guide as we conduct the household interviews in the barangay. I also wish to thank the 476 households in Barangay Saguing and Barangay Villa Angeles for allowing our team to conduct interviews in their households.

Although I also conducted the household interviews myself, I thank our team of local enumerators whom we trained to help in the data collection activities. I greatly appreciate the perseverance of our local enumerators in Barangay Saguing (*Kapitana* Pila, Luz, Siony, Tina, Lety, Mila, Jonel and Josie) and in Barangay Villa Angeles (Agnes, Jake, Jared, Jenny Vibs, Jhelle, John Benedict, Darleen, Emmanuel, Jenelyn, Judy, Kathlyn, Karen, Kayecee, Kaycee, Lalaine, Liberty, Liezl Joy, Lindsae, Lyca Mariz, Maureen, Melody, Lyfren, Mary Jane, Mary Joyce, Melvilyn, Mia, Rayden, Rebecca, Rejane, Reymart, Robinson, Roxanne and Wella. I also thank Wella, Darleen, Ernest John, Angelica and Robbie for their assistance in field editing of the entries in Barangay Villa Angeles, particularly those responses in the CBMS-HPQ that were encoded directly in the tablets used during the actual household interviews. I really appreciate their tireless effort which contributed to the success of our field survey operations.

I am also thankful to the barangay captains of these two barangays for allowing the conduct of the community validation activities and focus group discussions (FGDs) in their barangay halls. The assistance provided by these local officials in coordinating these activities with the local residents helped ensure successful conduct of said activities. In the conduct of the community validation activities, I thank the all the participants which include not only the community residents but also the officials from the barangay and technical personnel from the planning department of the municipality (and of the province, in the case of Barangay Saguing). I thank all the participants for actively participating in the discussions as I presented the results of the data collection during these community validation activities. The same enthusiasm was observed among the participants of the FGDs in both barangays and I thank all of them for their active participation. To help me in recording and documenting the results of these activities, I asked for the help of some individuals. For this, I thank

Maureen and Christian for providing assistance during the community validation activities in Barangay Saguing and Barangay Villa Angeles, respectively. I also thank Novee and Steffie for helping me in documenting the results of the FGDs in Barangay Saguing and Barangay Villa Angeles. I am grateful to them for spending their precious weekend to assist me in these activities.

I also wish to thank Jun, Novee and Steffie for helping me pre-test the first version of the rider questionnaire in a few households which helped me finalize the questionnaire that will be administered in the first barangay. I thank them also for helping me in the conduct of the training of the local enumerators in Barangay Saguing. I really appreciate their assistance especially since they could have spent their weekend to attend to other important things but decided to go with me and help me with these activities. I also wish to acknowledge Novee, Steffie, Christine, Ate Marilyn and Tita Emma for helping me in encoding some of the accomplished rider questionnaires from Barangay Saguing and Barangay Villa Angeles. I particularly thank Novee, Steffie and Nina for helping me in some aspects of data cleaning and processing which help me in constructing the three-period panel dataset.

I am also grateful to *Ate* Raquel and her husband Barangay Councilor Ismael Atienza for allowing me to stay with them in their house (and even sharing their food with me) in some days of the field work in Barangay Saguing. I thank them for sharing their own experiences in living and working abroad and their reasons for return. I thank also the family and relatives of Barangay Captain Teofila Calangi who were abroad for allowing me to stay in their house for a few days while doing the field work in Barangay Saguing. These experiences allowed me to gain further insights on the local context as I got more time to interact with more people living in their community. Allowing me to stay in their house was also very helpful especially during periods when we had to stay late in the field. In fact, there were days when we needed to complete some household interviews in the latter part of the afternoon and still had to finish our meeting with the enumerators at the end of the day to monitor the progress in the data collection and address any problems encountered, if any. I also thank my friend Christian and his parents for inviting me to stay in their place in Bataan for some days while doing my fieldwork which made my travel to Barangay Villa Angeles (Orion, Bataan) more convenient.

I also thank CBMS-Philippines, headed by Dr. Celia Reyes, for the support given to me as I worked on my research. I thank them for providing me immediate access to the CBMS datasets of selected LGUs with permission from the concerned LGUs. Their commitment to help the local government units and the communities in the Philippines through the CBMS work has also inspired me to work hard on this research. I hope that my research could also significantly contribute to the CBMS work in the Philippines. I also thank CBMS-Philippines for giving me the opportunity to participate in their national conferences during my PhD years, which allowed me not only to get updates on their recent initiatives and the current status of implementation in the Philippines but also to help in my own little ways, for instance, by serving as the program emcee. I am especially grateful to Badette, Jaz, Novee, Steffie, Erica, Jun, Joel, Jeremy and rest of my CBMS family for all their support and encouraging words.

I would like express my sincerest thanks as well to the management, staff and professors at IOB for the support, especially when I am in Antwerp to continue on my research work. I also wish to thank Dennis for the encouraging words and for sharing with me some materials that are very relevant to the topic of my research. I also wish to thank Loresel, Jesenia, Patricia and Utami, for the many fruitful discussions we had while they were also

trying to complete their PhD research. I am also grateful to Kelbesa and Katrien for always providing encouraging words whenever we had an opportunity to talk about our own research. Thanks also to Sara D. for the inspiring words and for putting her confidence in me to serve as an ambassador of IOB and the University of Antwerp in the Philippines through our participation at the annual European Higher Education Fair (EHEF). My wonderful years at IOB and the University of Antwerp, including those years when I took my Masters and worked on this Phd, has convinced me that IOB and the University of Antwerp can provide one of the best environments for Filipino students. Special thanks to An V. for efficiently processing all the financial requirements related to my research and Greet for always being very accommodating whenever I needed her help on some administrative matters. I am also thankful to Katleen, Nicole, Vicky, Joëlle and Karel for their support and to the rest of the IOB staff who, in one way or another, have been part of my wonderful years at IOB. I also thank the staff of the Faculty of Applied Economics (TEW) for their support during my PhD years. Special thanks to Sandra and Esmeralda for efficiently coordinating all the administrative requirements in relation to my PhD. I also wish to thank the Center for Migration and Intercultural Studies (CEMIS) at the University of Antwerp for giving me the opportunity in my first year of PhD to present in a seminar some of the preliminary results of my research.

I also wish to thank the Filipino Catholic Community of Antwerp for being my spiritual family in Antwerp. I thank Father Jorgedy Bago and Father Robert Godding, S.J. whose messages have always inspired me to continue trusting in God. This has helped me go through the many challenges I encountered while on my PhD journey. Special thanks to my Antwerp family and friends *Ate* Mheng and *Kuya* Richard, *Kuya* Francis and *Ate* Che, *Tita* Myng and *Tito* Jan, *Ate* Mai, John-John (Ivanick), Marynel, Isabela, Ryan, *Ate* Virgie, Gunter, Amber, *Ate* Mernalyn and *Kuya* Domeng for all their support. While living in Antwerp, they made me feel that I have a home away from home as they treat me like a member of their family. I thank them for being so generous to me and for sharing with me the many happy occasions and new experiences while I am in Belgium. I will miss the many adventures we have had, including the unplanned travels to a city outside Antwerp after the Sunday mass.

I am also very thankful to my dear friend Loresel who has also made my PhD journey full of happy adventures. With our common interests, I have always enjoyed our time discussing many different topics ranging from econometric modelling issues to wisdom-filled life stories. I am thankful for the many new experiences we shared in exploring life here in Belgium and in Europe, in general. As I finish my PhD this year, I also wish her success in her own PhD research and I look forward to more years of friendship and the opportunity to work with her in the future at the professional level. I am also grateful to my friends, Irene, Tet, Joanne, Aileen, Ghie (Aivee), Trixie, Andrei, Roma and Grachel for the encouraging words which inspired me to finish this research. I also thank all the current and former Filipino students of IOB whom I met in my PhD years for the encouraging words. They also inspired me to work hard on my research as we try to reach our common goal of helping our beloved country through the learnings we have had while studying in Belgium.

I also thank my friends and former colleagues at the Philippine Institute for Development Studies (PIDS) and at the National Economic and Development Authority (NEDA) for providing a great working environment which also motivated me to pursue further studies on development. It is with PIDS and NEDA where my potential on research and development was further honed. I thank PIDS for always being very accommodating whenever I visit their office and access some useful research materials. I am very thankful to my friends whom I met at PIDS more than a decade ago and remain my friends until now, for their unwavering support in all my endeavors, including Christian, Maureen, Sanse (Susan), Mela, *Tita* Emma,

Tita Milet, *Tita* Merle, Jen, Janet, Eden, Jboy, *Ate* Lucy, Ave, Fatima, Gee, Iris, Nina, Au and Bless and the rest of my PIDS family.

There are still many other people I met during this entire journey to PhD who, in one way or another, have challenged my critical and analytical thinking which helped me in finishing this PhD. I thank the organizers of various conferences in the Philippines and in other countries which allowed me to present some of the results of my research and get some useful comments from other experts present during these conferences through the formal and informal discussions I had with them. I thank also the other PhD students I met in difference classes and conferences at the University of Antwerp and in other universities in Belgium and other countries who provided me useful tips regarding doctoral studies.

Last, but not the least, I am extremely thankful to my family for being my inspiration in this entire PhD journey. Given the many challenges that we have gone through these past several years, I am truly grateful for the love and support they have given me. I am very thankful to my siblings, *Ate* Marlen, *Kuya* Joy, *Ate* Procy, *Ate* Loida, *Kuya* Rio, *Ate* Lizel and Sherwin, as well as my nephews and nieces, including Maritoni, Christian, Jay, Katleen, Mark, Johann, Aleia, Aliyah and Dwayne. I also thank my in-laws and other relatives, Kuya Nim, Friendly, Ate Ester and her family and Kuya Ben and his family for always giving support to our family. I thank all of them for their prayers.

Above all, I also dedicate this PhD to God Almighty. I thank Him for all the wonderful blessings that He has been giving me, including this opportunity to pursue a PhD. And as I embark on a new chapter in my life after finishing this PhD, I am looking forward to how God will use me to serve Him and his people.

To God be the glory.

Antwerp, April 2017

Alellie Sobreviñas

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List of Acronyms

ADB	Asian Development Bank
APIS	Annual Poverty Indicator Survey
ATE	Average Treatment Effects
ATENT	Average Treatment Effects on the Untreated
ATET	Average Treatment Effects on the Treated
AusAID	Australian Agency for International Development
BHW	Barangay Health Workers
BNS	Barangay Nutrition Scholars
BSP	Bangko Sentral ng Pilipinas
CBMS	Community-Based Monitoring System
CBMS-APP	CBMS Accelerated Poverty Profiling
CBMS-BPQ	CBMS Barangay Profile Questionnaire
CBMS-HPQ	CBMS Household Profile Questionnaire
CBMS-INCT	CBMS International Network Coordinating Team
CBMS-SCI	CBMS Simple Composite Indicator
CBMS-StatSim	CBMS Statistics Simulator
CFO	Commission on Filipinos Overseas
CIDA	Canadian International Development Agency
CSPro	Census and Survey Processing System
DILG	Department of Interior and Local Government
DSWD	Department of Social Welfare and Development
FIES	Family Income and Expenditure Survey
GPS	Global Positioning System
GSIS	Government Service Insurance System
HDI	Human Development Index
ID	Identification
IDRC	International Development Research Centre
IOM	International Organization for Migration
IV	Instrumental Variables
LFS	Labor Force Survey
LGUs	Local Government Units
MIMAP	Micro Impacts of Macroeconomic Adjustment Policies
MPI	Multidimensional Poverty Index
NAPC	National Anti-Poverty Commission
NELM	New Economics of Labour Migration
NGOs	Non-government organizations
NRDB	Natural Resource Database
NSCB	National Statistical Coordination Board
NSO	National Statistics Office
OCWs	Overseas Contract Workers
OFWs	Overseas Filipino Workers
OLS	Ordinary Least Squares

OWWA	Overseas Workers Welfare Administration
PEP	Partnership for Economic Policy
POEA	Philippine Overseas and Employment Administration
PSA	Philippines Statistics Authority
PSS	Philippine Statistical System
PSM	Propensity Score Matching
PWD	Persons with Disability
QGIS	Quantum Geographic Information System
SOF	Survey on Overseas Filipinos
SSS	Social Security System
SPES	Special Program for Employment of Students
TWG	Technical Working Group
UK Aid	UK Department for International Development
UAE	United Arab Emirates
UNDP	United Nations Development Programme
USA	United States of America

1 Background and Introduction

This research investigates the use of the Community-Based Monitoring System (CBMS) in understanding the relationship between international migration and poverty in the Philippines. CBMS is an organized process of collecting, processing, validating and integrating data in local development planning. It empowers the communities for a more evidenced-based and participatory approach to poverty monitoring and development planning. In the Philippines, it is mainly used by local governments in local planning, program implementation and impact monitoring. Aside from collecting information that allows monitoring of the core poverty indicators that are relevant in the Philippine context, CBMS also gathers other information that are useful for planners and policymakers in addressing many development issues. Given the large incidence of Filipino migration and its significant contribution to the Philippine economy in terms of remittances, the Philippines also provides a compelling context for a migration study. In fact, international migration and remittances data are collected through nationally-representative surveys and administrative records. However, these data cannot be disaggregated down to the local level. To complement the national data and fill the gap, the CBMS can be used as a tool for monitoring not only of poverty but also of migration and their relationship. This research, therefore, provides new perspectives in understanding international migration in the context of the Philippines using household-level datasets collected through CBMS which have not been fully explored in this type of study. It identifies the strengths and limitations of CBMS and proposes some ways of addressing the limitations.

This chapter begins with an overview of CBMS focusing on its key features, the process of implementation and the data collection instruments that are being used to gather information from the households. The second section discusses the context of the Philippines by presenting the recent trends in international migration and poverty in the country. In the third section, the objectives and significance of the study are presented. The fourth section discusses in detail the research design while the last section presents the overall structure of the thesis.

1.1 Overview of the Community-Based Monitoring System (CBMS)

The Community-Based Monitoring System (CBMS) is an "organized process of data collection and processing at the local level and of integration in local planning, program implementation and impact monitoring" (Reyes, et al., 2014a). It was developed in the early 1990s (under the Micro Impacts of Macroeconomic Adjustment Policies: MIMAP Project-Philippines) in order to help policymakers by providing them with a good information which are necessary for tracking the impacts of various economic reforms and policy shocks on the vulnerable groups of the society. The CBMS was developed as it has been recognized that national household surveys have sampling designs that do not

allow disaggregation of data down to the lowest local government unit (LGU)[1]. Given the decentralization policy of the government, the need for support mechanisms and information at the lowest LGU level is deemed to be very important. CBMS addresses this important data gap and hence, is considered a very useful tool for local poverty monitoring and development planning at the local level while strengthening the capacity of planners and program implementers... As such, it is designed to help improve governance and promote transparency and accountability in resource allocation (Reyes, et al., 2014a).

The CBMS International Research Network[2] aims to assist in developing, refining and institutionalizing CBMS in developing countries, as well as in promoting CBMS knowledge and initiatives internationally. Aside from the Philippines, where CBMS was first pilot-tested, other developing countries in Asia, Africa and Latin America have also been adopting the system. These include Bangladesh, Cambodia, Indonesia, Lao PDR, Pakistan and Vietnam in Asia; Burkina Faso, Benin, Ethiopia, Ghana, Kenya, Haiti, Niger, Nigeria, South Africa, Tanzania, Togo, Uganda and Zambia in Africa; and Argentina, Peru and Bolivia in Latin America[3]. Given the increasing number of countries that implement or intend to implement CBMS, the CBMS International Network Coordinating Team (CBMS-INCT, which is based at De La Salle University in Manila, Philippines) serves as the coordinating body of the Network to facilitate the development and utilization of the CBMS for policymaking and governance. The Network is currently part of the Partnership for Economic Policy (PEP) Network with support from the International Development Research Centre (IDRC)-Canada and the Canadian International Development Agency (CIDA). During the period 2007-2012, further developments in the CBMS program of activities were also supported by the Australian Agency for International Development (AusAID), and the UK Department for International Development (UK Aid). The succeeding discussions about the key features of CBMS and the CBMS process are based mainly on Reyes, et al., (2014a).

1.1.1 Key Features of CBMS

One important characteristic of CBMS is that it enhances the capacity of the local government units (LGUs) and promotes community participation. Since the LGU takes the lead in the implementation of CBMS (with technical support from CBMS-INCT and other key partners), it establishes a sense of ownership of the system which helps ensure its sustainability. In implementing the CBMS, the existing LGU personnel are tapped. The members of the community are involved in the process and trained in data collection,

[1] The provinces, cities and municipalities , and barangays are collectively called "local government units" or LGUs. The 1991 Local Government Code Based on the 1987 Constitution of the Philippines, the local governments "shall enjoy local autonomy" while the Philippine President is exercising general supervision over them. (http://www.gov.ph/constitutions/1987-constitution/)

[2] For more information about the CBMS International Research Network, check https://www.pep-net.org/about-cbms

[3] For an updated list of countries that implement CBMS and recent status, see http://www.pep-net.org/programs/cbms/about-cbms/

processing, validation, analysis and use of the collected CBMS data. In this sense, the communities are empowered through their participation in diagnosing poverty and identifying the appropriate interventions.

Based on the collected data from CBMS, the 14 core indicators capturing the multidimensional aspects of poverty are generated to determine the welfare status of the population. These indicators, as presented in Table 1.1, were identified and finalized for national and local poverty monitoring purposes after a series of studies conducted by the CBMS-INCT and after several consultations and meetings with concerned national agencies, LGUs, members of the academic and research community and other stakeholders in the Philippines[4]. Since CBMS is designed to be LGU-based, the indicators identified are such that they are also easy to collect and process at the local level. However, other important indicators can still be generated and monitored by the concerned LGUs, depending on their needs and development concerns. The rich CBMS data can be used by LGUs in designing programs and interventions that will address the problems identified through CBMS.

Table 1.1 CBMS core poverty indicators

Basic Needs	Core Indicators	
Health	1	Proportion of children under 5 years old who died
	2	Proportion of women deaths due to pregnancy-related causes
Nutrition	3	Proportion of children 0-5 years old who are malnourished
Housing	4	Proportion of households living in makeshift housing
	5	Proportion of households who are informal settlers
Water and Sanitation	6	Proportion of households without access to safe water supply
	7	Proportion of households without access to sanitary toilet facilities
Basic Education	8	Proportion of children 6-11 years old who are not in elementary school
	9	Proportion of children 12-15 years old who are not in secondary school
Income	10	Proportion of households with income below the poverty threshold
	11	Proportion of households with income below the food threshold
	12	Proportion of households that experienced hunger due to food shortage
Employment	13	Proportion of persons who are unemployed
Peace and Order	14	Proportion of persons who were victims of crime

Note: CBMS core poverty indicators follow official standard definitions used by the Philippine Statistical System.
Source: Reyes, et al. (2014a)

Another important feature of CBMS is that it involves enumeration of all households (i.e., a census) in a particular community unlike in survey data whereby only a sample of households in a particular area is covered. Given this, it provides a more comprehensive profile of the community. Having a database that contains information on all households and individuals in a particular community also allows better targeting when implementing projects and programs since it can help identify the qualified beneficiaries and where they are.

[4] See Reyes and Ilarde (1998) for more details on the development of the CBMS indicators.

Furthermore, CBMS databases are established at all geopolitical levels (i.e., at the barangay[5], municipal/city and provincial levels) in order to facilitate access of data for local planning and program implementation. At the same time, the Department of Interior and Local Government (DILG) and the National Anti-Poverty Commission (NAPC) serve as national repositories of the CBMS data which can provide data needed for targeting eligible beneficiaries of national programs. CBMS-INCT also maintains a database containing all available CBMS data of all LGUs in the Philippines which are implementing the system.

Although CBMS is mainly used as a local poverty monitoring tool, there are also various initiatives in the past that adopt CBMS as the main instrument to understand many development issues. With support from other development actors including government agencies, non-government organizations and international organizations, some of the earlier initiatives of the CBMS International Research Network cover the following topics:

1. Analyzing the impact of remittances on entrepreneurship and local development
2. Monitoring and mitigating the impact on poverty of the global financial crisis
3. Analyzing the impact of changes in the price of rice and fuel on poverty in the Philippines
4. Monitoring the impact of climate change on poverty
5. Analyzing the impact of climate change on food security in the Philippines
6. Support for local governments for environmental management in Southeast Asia
7. Developing and piloting a gender-responsive community-based planning and budgeting tool for local governments
8. Monitoring the missing dimensions of poverty using the CBMS approach

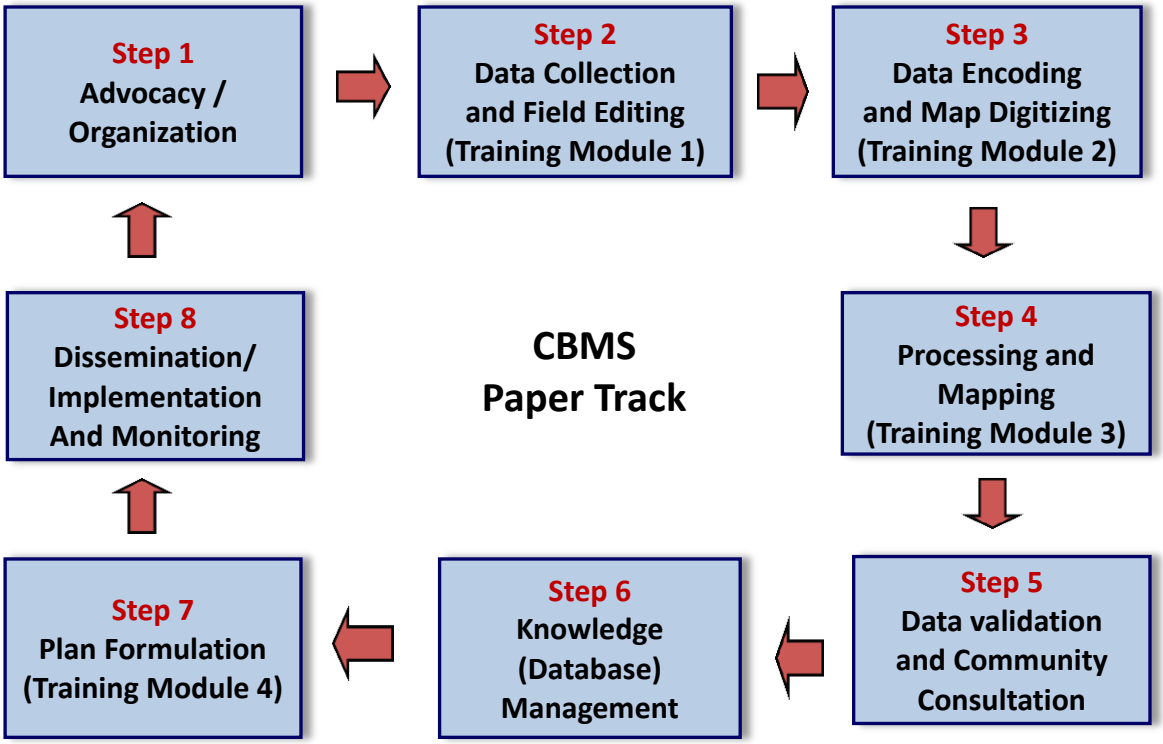
1.1.2 The CBMS Process

The CBMS process, particularly the paper track, comprises of eight (8) key steps (Figure 1.1). The process starts with the preparatory activities which involves orientation and consultation meetings among key LGU stakeholders (*Step 1*). At this stage, the institutional arrangements (e.g., creation of a CBMS Technical Working Group (TWG) within the LGU, preparation of a memorandum of agreement (MOA)) and workplan are set up. In addition, data and training requirements, as well as the resources that will be used in the conduct of CBMS are identified and prepared. It must be noted that the cost of CBMS implementation is borne largely by the LGUs as they acknowledge the usefulness of the system. Cost sharing is very common as different levels of the government provide funds to cover the cost of the implementation. However, non-government organizations (NGOs), donor agencies and other stakeholders have also contributed to the implementation of CBMS in some LGUs. The second step involves the actual data collection by the trained local enumerators whereby all households of a particular LGU are interviewed (*Step 2*). CBMS defines a household as a group of people who live under the same roof and share common food. The household shall also include people who are currently overseas if they lived with the household before departure and have left within

[5] A barangay (or village) is the smallest administrative division in the Philippines.

the five-year period. The respondent can be any adult member of the household who can provide accurate answers to the questions, preferably the household head or the spouse. Field editors and supervisors also play an important role during the data collection activity. Field editing is an important component of the field survey operations as it helps ensure the accuracy and completeness of the collected data. The supervisors also ensure that the enumerators are also properly doing their tasks.

Figure 1.1. The CBMS Process



Source: CBMS International Research Network, 2014

Step 3 entails encoding of accomplished questionnaires and map digitizing while *Step 4* involves data processing and mapping using the free softwares developed for the purpose. The encoding system is developed by the CBMS-INCT using the public domain software package Census and Survey Processing System (CSPro) which is designed to facilitate encoding of the accomplished questionnaires by the trained local encoders, as well as minimize errors in encoding. For instance, the skipping patterns and the acceptable codes in the CBMS-HPQ are accounted for in the encoding system and hence, encoding wrong entries can be avoided. Meanwhile, the CBMS Statistics Simulator (CBMS-StatSim) which is used for data processing also facilitates the generation of tables and reports based on the collected data. Moreover, the system used for map digitizing is developed using the freeware Natural Resource Database (NRDB) and Natural Resource Database Pro (NRDB Pro) as base software. Using this mapping tool, results from the collected CBMS data can be presented in maps to show how the different poverty indicators vary across communities and across households. The poverty maps are found to be very useful in understanding the situation and the problems of the communities

with its spatial representation. The maps can aid in locating the communities or households that need to be prioritize in implementing a specific anti-poverty program. It is noted, however, that CBMS-INCT recently developed the use of Quantum Geographic Information System (QGIS) for CBMS mapping in line with its thrust to further improve and enhance the implementation of CBMS in the Philippines.

The fifth step, which is another important activity in the CBMS implementation, is when the results of the census (in tables and map forms) are presented to the community to validate the collected data (*Step 5*). This is a very useful activity and is a very important advantage of CBMS over other methods of data collection given the involvement of the local people in understanding the results of the census. The community validation activity provides an opportunity to get feedback from the community on the accuracy of the data and to gather some possible explanations for the specific findings of the census. It also provides a venue for community consultation, particularly in terms of identifying possible interventions that will help solve the problems identified based on the CBMS census. The output of this activity can also help in preparing the local plans and budgets of the LGUs. The sixth step involves managing the database (*Step 6*), which basically refers to the storage, modification and extraction of information from a database in order to generate the required outputs, including reports and maps. The seventh step covers plan formulation activities whereby the processed and validated CBMS data are used as inputs in preparing local development plans and budgets (*Step 7*). This includes organizing a writeshop which brings local planners, policymakers and other key stakeholders together in order to produce local development plans and budget in a very short time using the collected CBMS data and the main findings from the census. The eighth step involves dissemination of the results (e.g. through publications and meetings with target audience such as the government, NGOs and donor agencies) and implementation and monitoring of the identified interventions (*Step 8*). For the entire CBMS process, the CBMS-INCT provides for free the necessary instruments, modules and softwares required for data collection, data processing and use of data for preparing local development plans. LGUs follow the abovementioned cycle until they implement another round of CBMS. Ideally, LGUs should implement CBMS every three years coinciding the local chief executive's three-year term of office. Regular conduct of CBMS is deemed very useful in terms of monitoring the changes in the poverty situation of the communities and households over time.

It should be noted that embedded in the process are activities that help ensure successful implementation of CBMS. In particular, the LGUs have to undergo at least four different trainings at different stages of the CBMS implementation. The trainings are being provided by CBMS-INCT or trained CBMS accredited trainers from the Department of Interior and Local Government (DILG)-Bureau of Local Government Development (BLGD) in the Philippines (Reyes, et al., 2014a). Furthermore, CBMS has some important components to help ensure accuracy and completeness of the collected data. For instance, aside from the comprehensive training provided for the implementation of CBMS, the field editing during the conduct of the data collection activity is an important component that will help ensure accuracy and completeness of the collected data. In addition, the

CBMS encoding system, which is based on CSPro, was developed by CBMS-INCT for CBMS to help ensure proper encoding of the accomplished questionnaire and minimize error in encoding. The community validation activity also helps ensure that the findings from the collected data reflect the actual condition of the community.

Recognizing the usefulness of CBMS data and with the continued support of national agencies in the Philippines in promoting the use of CBMS in local planning and poverty monitoring, the number of LGUs which has been implementing CBMS in the Philippines has increased over the years. As of 13 February 2017, CBMS has been implemented in 77 provinces in the Philippines - 32 of which are implementing CBMS province-wide. This includes 903 municipalities and 79 cities covering 24,676 *barangays* (villages). At the same time, there are at least 291 LGUs with more than one round of CBMS implementation, 85 of which have at least three rounds of data collection (CBMS-Philippines, 2017). With the recent initiative of CBMS promoting the adoption of the CBMS Accelerated Poverty Profiling (CBMS-APP) (Reyes, et al., 2014a), more LGUs are expected to improve the efficiency of their data collection process and hence, produce CBMS results that can serve as timely inputs for local planning and budgeting.

1.1.3 The CBMS Data Collection Instruments

CBMS basically uses two important data collection instruments, including the CBMS Household Profile Questionnaire (CBMS-HPQ) and the CBMS Barangay Profile Questionnaire (CBMS-BPQ). Both questionnaires have accompanying enumerator's manual which guide the enumerators in conducting the interviews. At the same time, the CBMS-HPQ has a corresponding field editing manual to guide the field editors in editing the accomplished questionnaires for completeness and accuracy of the entries. The CBMS-HPQ, which is the main focus of this study, is a 12-page questionnaire that collects household- and individual-level information on different socioeconomic characteristics of households. To allow comparability and consistency of the statistics generated by CBMS, the concepts and definitions employed follow those that are being adopted by the Philippine Statistical System (PSS). In recent years, CBMS has been getting the approval of the National Statistical Coordination Board ([NSCB] now part of the Philippine Statistics Authority [PSA][6]) on the design and contents of the CBMS questionnaire. For instance, the CBMS-HPQ versions 06-2009-01, 01-2011-01 and 10-2013-01 were approved for use by LGUs in the Philippines until 31 December 2012, 31 December 2013 and 30 November 2014, respectively.

Over the years, the CBMS-HPQ has undergone several refinements to incorporate the feedback from the LGUs and to address the need to collect information on emerging issues (e.g., climate change). Although the core questions remain in all versions of the questionnaire (particularly those which are necessary to estimate the core indicators of poverty), there are also some slight differences in the structure and phrasing of questions.

[6] The PSA was established after the merging of the major statistical agencies in the Philippines, including the National Statistics Office (NSO), the National Statistical Coordination Board (NSCB), the Bureau of Agricultural Statistics (BAS), and the Bureau of Labor and Employment Statistics (BLES).

In this research, four different versions of the CBMS-HPQ are covered, including versions 11-2004-11 (Annex A), 06-2009-01 (Annex B), 01-2011-01 (Annex C) and 10-2013-01 (Annex D)[7]. Although CBMS-HPQ version 11-2004-11 is available only in Filipino, the other versions have both Filipino and English versions. Although the extent of information may vary depending on the version of the questionnaire, they basically collect information on the following major areas:

A. *Identification*: location of the household (including province; municipality; zone; barangay or village; purok/sitio; street; house number); household identification (ID) number; name of the respondent, date and time of the interview, name of interviewer and supervisor;

B. *Demography*: name of household member (*Note: Overseas Filipino workers [OFWs] are included in the roster of members in CBMS-HPQ versions 01-2011-01 and 10-2013-01*); relationship to the household head; sex; date of birth; birth registration; civil status; religion; indigenous tribe; name of indigenous tribe;

C. *Migration*: residency; length of stay in the village; residence prior to moving in the barangay;

D. *Overseas Filipino Workers*: OFW members; country where the OFW member is working (*Note: Questions referring to the OFW member are included as a separate section in the CBMS-HPQ versions 11-2004-11 and 06-2009-01 and collect limited information about the OFW, including his name, relationship to the household, country of destination and type of occupation. Meanwhile, in the CBMS-HPQ versions 01-2011-01 and 10-2013-01, the questions on OFW is incorporated to the member-level questions and hence, all relevant individual-level questions are asked to the OFW member including those relating to demographic characteristics, education and literacy, community and political participation, and economic activity and other characteristics. Information on economic activity and other characteristics (as listed in item I below) of the OFW are, however, dropped in CBMS-HPQ versions 10-2013-01.*);

E. *Education and literacy*: education status of member, current educational level; type of school (private or public), highest education attainment; literacy;

F. *Community/Political participation*: membership in a community organization; type of community organization; registered voter; able to vote in the last election;

G. *Economic activity*: if member has a job/work- type of job/work; industry/sector; nature of employment; number of hours worked in the past week; desire for longer hours of work; looked for additional work; class of worker; if a member does not have a job -looked for work in the past week; job search method; reasons for not looking for work; last time the member looked for work; current availability for work; willingness to do work; membership in Social Security System (SSS) or Government

[7] The versions examined here are limited to those which are actually used in the sites covered under this study. The other versions not covered include CBMS-HPQ version 01-2000-01 (earliest version), 10-2007-04 (contents are only slightly different from 06-2009-01) and 11-2014-01 (latest version, to date). For CBMS-HPQs with both Filipino and English versions, only the latter is provided in the Annex.

Service Insurance System (GSIS) (*Note: Membership in SSS and GSIS is included in the CBMS-HPQ versions 01-2011-01 and 10-2013-01 but not in the CBMS-HPQ versions 11-2004-11 and 06-2009-01*);

H. *Nutritional status of children*: nutritional status of children 5 years old and below obtained from the weighing report of the Barangay Nutrition Scholars (BNS) or Barangay Health Workers (BHW);

I. *Characteristics of household members*: members who passed the board or bar exam; profession passed in the board or bar exam; solo parents; reason for being a solo parent; members with physical or mental disability; type and cause of disability; ownership and use of a Persons with Disability (PWD) identification (ID); members who are senior citizens; ownership and use of a senior citizen's ID;

J. *Health*: access to medical treatment for illness; type of sickness; facility where the members availed the medical treatment; number and names of married couples; use of family planning method; type of family planning method;

K. *Food adequacy*: frequency of experiencing hunger;

L. *Previous household members*: name, sex and age of previous members who died; main cause of death;

M. *Incidence of crime*: members who are crime victims; types of crime;

N. *Waste management*: system of garbage disposal; who collects the garbage; frequency of garbage collection;

O. *Water and Sanitation*: main source of drinking water; source of water for other purposes; distance of water source from the house; water consumption; type of toilet facility used;

P. *Housing*: tenure status of housing unit and lot occupied; imputed rent of owned and/or rent-free house and lot; access to electricity; source of electricity; electric consumption; ownership of household amenities/assets and number owned; type of construction materials used in walls and roof of the house;

Q. *Sources of Income*: income from entrepreneurial activities (crop farming and gardening; livestock and poultry; fishing; forestry; wholesale and retail trade; manufacturing; community, social and personal services; transportation and communication; mining and quarrying; construction; activities not elsewhere classified) salaries and wages of employed members; other sources of income (income share from households; remittances from OFWs; cash receipts, gift, support, relief and other income abroad; cash receipts, support, assistance and relief from domestic source; rentals from non-agricultural lands, buildings, spaces and other properties; interest; pension and retirement, workmen's compensation and social security benefits; dividends from investment, etc.; other sources of income not elsewhere classified);

R. *Agriculture*: tenure status in agricultural land; area of agricultural land; type and volume of crops harvested; agricultural implements/equipment;

S. *Livestock Raising*: livestock raised and volume of production; insurance for agriculture;

T. *Fishing*: place for fishing; area of fishpond; number and area of fishcage; fishes and aquatic animals cultured or caught; volume of fish harvested; fishing boat; equipment used for fishing; equipment used for fishing;

U. *Climate change* – impact on crop farming, on livestock and poultry and, on fishing, on temperature, on electricity, on sea level, on water supply, on flooding, on occurrence of drought, experiences in evacuation, on occurrence of calamity; disaster preparedness; assistance for calamities; source of assistance; access to evacuation centers; insurance and insurance provider (Note: *Although questions about the natural calamities experienced by the households were added in CBMS-HPQ version 06-2009-01 asks, the CBMS-HPQ versions 01-2011-01 and 10-2013-01 gather more detailed information related to climate change and its potential impact on households and communities*.)

V. *Programs*: access to selected government programs; members who benefitted; effect of the program; program implementor (*Note: Although the general categories of government programs remain in the list for all versions of the CBMS-HPQ, the specific government programs listed vary across different versions of the questionnaire*).

With regard to international migration, it can be noted that CBMS, at the minimum, collects information on the name of OFW members, his relationship to the household head, country of destination and the type of work abroad. These information are collected in the CBMS-HPQ versions 11-2004-11 and 06-2009-01 but other pertinent information on the OFW member are also collected using the CBMS-HPQ versions 01-2011-01 and 10-2013-01, including those relating to demographic characteristics, education and literacy, and community and political participation. Although detailed information on employment and other characteristics (as listed in item I above) of the OFW are collected in CBMS-HPQ versions 01-2011-01, these were dropped in CBMS-HPQ versions 10-2013-01. At the same time, household-level information are also collected using all versions of the questionnaire concerning the amount of remittances they receive from their OFW members.[8]

Meanwhile, the CBMS-BPQ is a 7-page questionnaire that is designed to gather supplementary information to the CBMS-HPQ (Annex E presents a copy of CBMS-BPQ version 09-2013-01)). It collects data on the physical and demographic characteristics and available basic services and service institutions in the barangay. In addition, it gathers information on the following: 1) significant events that happened in the barangay in the last three years; 2) disaster risk reduction and preparedness; 3) different types of crimes reported in the barangay; 4) programs, projects and activities implemented in the

[8] These issues concerning migration-related information collected in CBMS will be discussed again more thoroughly in sections 3.2, 4.2 and 5.2.1 of this thesis.

barangay in the past year; 5) barangay's budget, revenue and expenditure during the last three years. (CBMS International Research Network, 2013)

Compared to other developing countries with CBMS, the Philippines is more advanced in making refinements in the system and in institutionalizing it. Although the important features of the CBMS methodology remained the same, some aspects of the system have undergone some refinements over the years in response to the changing data requirements of the LGUs. For instance, additional questions were added in the recent versions of the questionnaires (including the CBMS-HPQ and the CBMS-BPQ) to capture the emerging issues, such as climate change. In addition, CBMS has also evolved given the recent technological advancements that were adopted. In fact, there was a recent shift from the traditional paper-based to tablet-based data collection, especially for LGUs who can afford the initial costs for the purchase of tablets needed for the data collection. In the traditional paper-based or paper track version, printed copies of the data collection instruments are being used. On the other hand, the tablet-based data collection allowed the use of tablets during the actual interviews. In particular, the *CBMS Scan*[9] application developed by CBMS-INCT and installed in the tablets allowed the enumerators to directly encode the responses while conducting the interviews. Aside from fast-tracking data collection and processing and facilitating census management, the use of tablets allows the enumerator to capture the location of the households (which is needed in poverty mapping). It also helps ensure the confidentiality of the information with its security measures and helps improve data quality. This recent initiative of the CBMS-INCT promotes the adoption of the CBMS-APP track which involves an organized, systematic and efficient combined use of latest information and communication technology tools and the standard CBMS instruments for data collection (i.e., *CBMS Scan* and *CBMS Portal*), processing (i.e., CBMS-StatSim), poverty mapping (*QGIS*[10]) and data management instruments. (Reyes, et al., 2014a)

1.2 International migration and poverty: The Philippine Context

1.2.1 Recent Trends in International Migration in the Philippines

International migration has been an important policy issue in the Philippines, especially since the 1970s when international migration among Filipinos has expanded significantly as the government embarked on labor export policy as a development strategy. During the period, the overseas employment program of the government encouraged Filipinos to work in oil-rich countries in the Gulf region. The rising oil prices in the 1970s, a boom in construction industry and a growing demand for services in the Gulf region increased labor demands for both skilled and unskilled workers from countries like the Philippines. At the same time, countries in East and Southeast Asia increased their demand for foreign

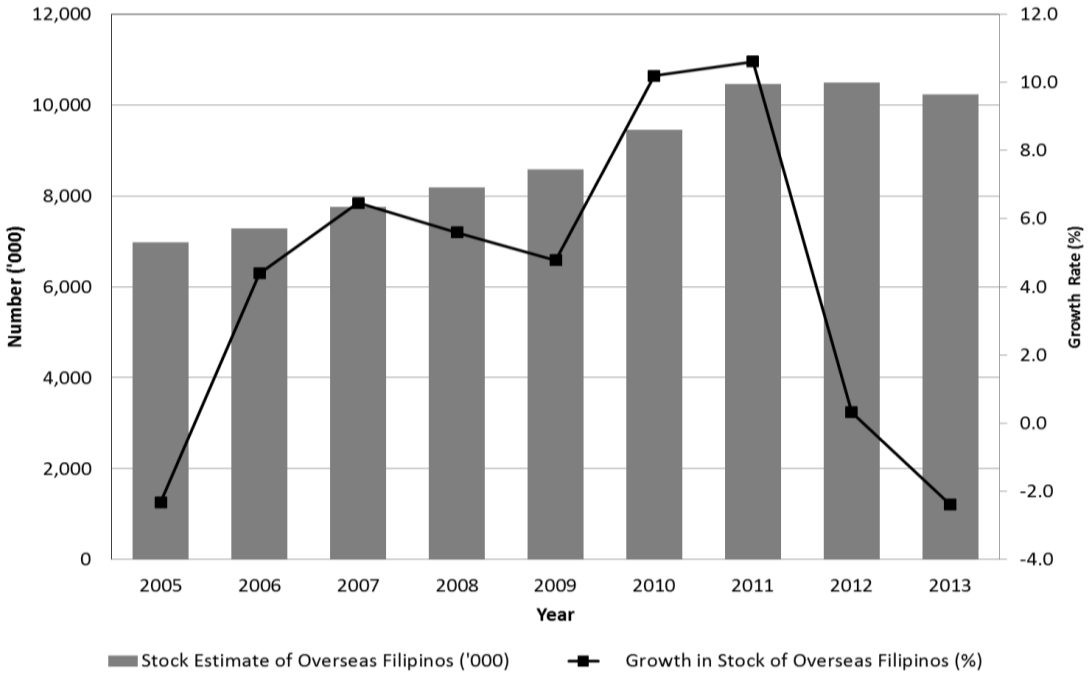
[9] See Reyes, et al., (2014a) for a detailed discussion about CBMS Scan.

[10] QQGIS is an open source geographic information system which can be used in poverty mapping. It was only developed for CBMS recently. For all the sites covered in under this study, the LGUs still used the previous software for mapping which is called the CBMS-NRDB which used the Natural Resource Database (NRDB) and Natural Resource Database Pro (NRDB Pro) as base software. The NRDB and NRDB Pro which were originally developed by Richard Alexander was refined for CBMS application.

workers as their economies rise (Scalibrini Migration Center, 2010). The labor market has also expanded to include not only construction and engineering work but also domestic work, health care and information and communication technology, among others. The expansion in the types of jobs demanded abroad may mean that there are more employment opportunities for overseas work for Filipinos, both for skilled and unskilled workers. The increasing demand for migrant workers worldwide and the preference of some countries for Filipinos (for reasons of language and work attitude) contributed to the increase in the number of OFWs in recent years.

Recent data show that the Philippines has one of the largest number of migrants residing or working abroad. In fact, it ranked seventh among the top emigration countries in 2013 (World Bank, 2016). Estimates from the Commission on Filipinos Overseas (CFO, 2016) in the Philippines indicated that as of 2013, the stock of Filipinos overseas is about 10.2 million accounting for more than 10 percent of the country's total population. The stock of Filipinos overseas grew by an average of 4.2 percent annually during the period 2005-2013 with an annual growth reaching as high as 10.6 percent which was recorded in 2011 (Figure 1.2). While a decline in the stock of Filipinos overseas was recorded in 2009 during the period of the global economic crisis, the growth remained positive. Meanwhile, in terms of destination, records show that Filipinos can be found in more than 200 countries around the world with the most recent data showing that majority of them are living in developed countries, such as the United States of America (USA), Saudi Arabia, United Arab Emirates, Malaysia, Canada, Australia, Italy, United Kingdom, Qatar and Singapore (Commission on Filipinos Overseas, 2016).

Figure 1.2.Recent trend in the stock of Filipinos overseas, 2005-2013



Source of basic data: Commission on Filipinos Overseas (CFO)

It must be noted that not all Filipinos who are abroad can be classified as an OFWs. In fact, Filipinos abroad can fall into three different categories, i.e., permanent, temporary and irregular as defined by CFO (Commission on Filipinos Overseas, 2016). *Permanent migrants* include those who are legal permanent residents abroad or immigrants in the countries where they live, or spouses of foreign nationals living abroad. Meanwhile, *temporary migrants* comprised of those who are properly documented but whose stay overseas is temporary, including contract workers. The OFWs belong to this category. *Irregular or illegal migrants* include those who are not properly documented, or who have no valid residence or work permits, or who are overstaying worker, tourists, pilgrims or other visitors in a foreign country. They are also referred to as the "undocumented migrants" or "TNT" (i.e., *tago nang tago*, which means always hiding) in Filipino international migration jargon. Strictly speaking, OFWs should belong to the category *temporary migrants* based on the definition of CFO.

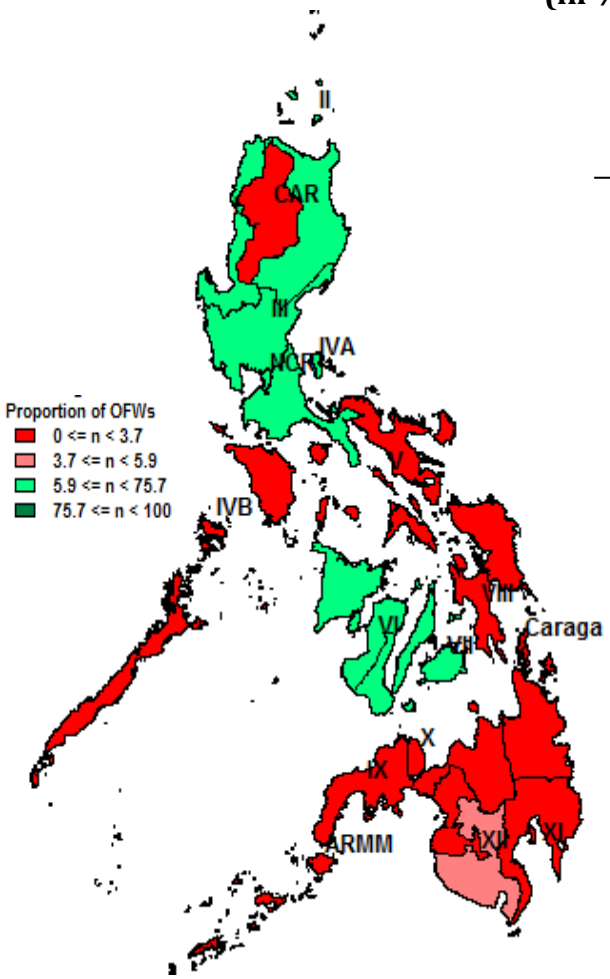
As defined in the Survey on Overseas Filipinos (SOF), a survey conducted by the PSA (formerly the National Statistics Office: NSO) to collect information on migrant workers, OFWs include the following who left within the given five years (Philippine Statistics Authority, 2005):

1. "Filipino Overseas Contract Workers (OCWs) who are presently and temporarily out of the country to fulfil overseas work contract for a specific length of time or who are presently at home on vacation but still has an existing contract to work abroad. They may be land-based or sea-based.
    a. Land-based workers are OCW who are hired either by direct hiring of an employer abroad; or through the assistance of the Philippine Overseas Employment Administration (POEA); or through a private ad licensed recruitment agency. They may have returned to the Philippines for a vacation (annual or emergency leave), or have transferred to other employers, or were rehired by their employer; and
    b. Sea-based workers are OFWs who worked or are working in any kind of international fishing/passenger/cargo vessels. Included also are OCWs who worked or are working for a shipping company abroad.
2. Other Filipino workers abroad with a valid working visa or work permits. Included also are crew members of airplanes such as pilots, steward, stewardess, etc.
3. Filipinos abroad who are holders of other types of non-immigrant visa such as tourist/visitor, student, medical and others but are presently employed and working full time."

Data from the PSA showed that there were around 2.3 million OFWs in 2013 (Figure 1.3). These include those overseas Filipinos whose departure occurred within the last five years and who are working or had worked abroad during the specific reference period of the survey. The three regions which recorded the highest incidence of migration include

CALABARZON, Central Luzon and National Capital Region. These three regions together accounted for 45.1 percent of the total number of OFWs in the country. Note that all of these regions are located in the main island of Luzon, which implies that those living in areas near the capital appear to have more access to international migration opportunities compared to those living in the countryside. Furthermore, the data revealed different patterns between male and female OFWs in terms of their occupation. In particular, most men are "trade and related workers" or "plant and machine operators and assemblers" while majority of the women are "laborers and unskilled workers" (including domestic workers). Nevertheless, the international shipping industry remains to be an important employer of Filipino seamen. The type of work an OFW does could affect how international migration, through remittances and other transmission channels, will impact on the well-being of the member left-behind. For instance, one would expect that an unskilled migrant worker can send less remittances to their origin households compared to highly skilled migrants who are earning higher abroad and therefore, can generate less impact to their household.

Figure1.3. Distribution of Overseas Filipino Workers (OFWs) by region, 2013 (in %)



Region	Proportion
Philippines *(In thousands)*	**2,295**
National Capital Region (NCR)	12.8
Cordillera Administrative Region (CAR)	2.2
I - Ilocos Region	8.2
II - Cagayan Valley	6.6
III - Central Luzon	13.9
IVA - CALABARZON	18.4
IVB - MIMAROPA	2.2
V - Bicol Region	3.3
VI - Western Visayas	9.4
VII - Central Visayas	6.5
VIII - Eastern Visayas	1.6
IX - Zamboanga Peninsula	1.7
X - Northern Mindanao	2.7
XI - Davao Region	2.6
XII - SOCCSKSARGEN	4.1
Caraga	1.5
Autonomous Region in Muslim Mindanao (ARMM)	2.3

Source of basic data: Philippine Statistics Authority (PSA), 2013 Survey on Overseas Filipinos

Note: The map showing the distribution by region is generated by the author using the CBMS-NRDB software.

The policies of the Philippine government played an important role in facilitating and regulating overseas employment. In fact, more Filipinos are encouraged to work abroad

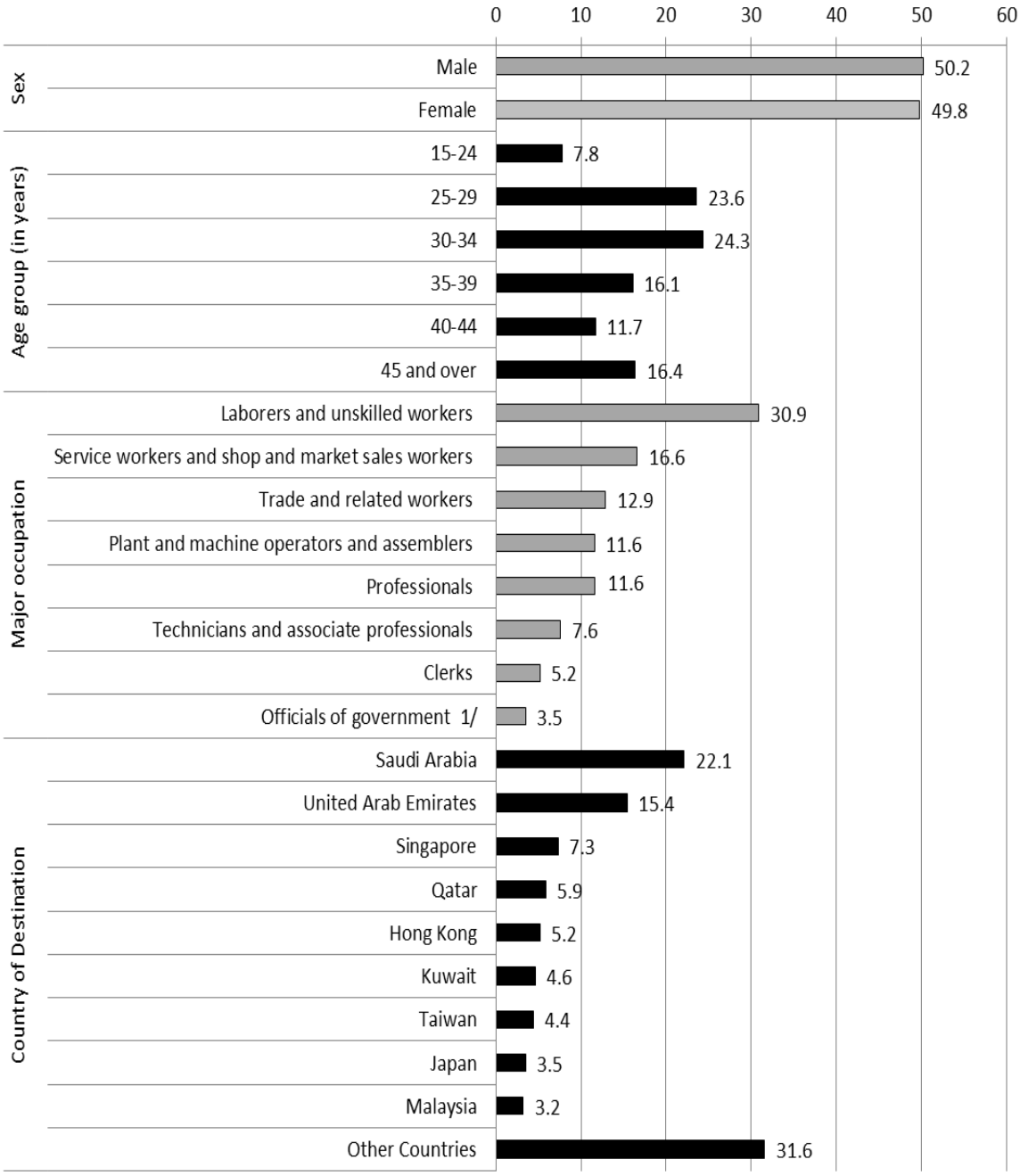
as reflected in the continuous increase in the number of deployed OFWs. Recent estimates from POEA showed that the number of deployed OFWs increased by 88.8 percent in 2014 when compared to 2005 figures. Although the growth in deployment slowed down after the global economic crisis in 2009, it continued to achieve positive growth in the succeeding years. With the lack of better employment opportunities in the Philippines, many Filipinos still opted to work abroad.

Meanwhile, the distribution of OFWs by sex, age group, major occupation and country of destination in 2014 is shown in Figure 1.4. Data showed that the proportion of male OFWs is only slightly higher than the figure recorded for women. This suggests the increase in the participation of Filipino women in labor migration, which is partly due to the increase in the demand for Filipina domestic helpers and caregivers in many developed countries. This is also linked to the increasing role of women in their families as breadwinners unlike in many decades ago when they cross borders as mere dependents (United Nations International Research and Training Institue for the Advancement of Women (UN-INSTRAW) and United Nations Development Program , 2010). Meanwhile, data also show that most of the OFWs are between 30 to 34 years old (24.3%) and 25 to 29 years old (23.6%). The largest chunk of the OFWs during the period are laborers and unskilled workers (30.9%) which can also be linked by the type of work that is in demand abroad (e.g., domestic work). The two most common destinations for OFWs are countries in the Middle East, particularly Saudi Arabia and United Emirates where 22.1 percent and 15.4 percent of the OFWs work, respectively.

Although the impact of migration can be transmitted through various mechanisms (e.g., transfer of knowledge, skills and beliefs), one of the most direct and recognizable channels is the remittances sent by migrants to their origin houseolds. Remittances have also been recognized as an important source of income for a significant number of households in the Philippines for many years. In fact, the large remittance flows from Filipinos abroad (including OFWs) has also been an important feature of the Philippine economy for many decades. As of 2015, World Bank (2016) estimates show that the Philippines has the third largest volume of international remittances among all countries in the world, behind India and China, amounting to about US$29.7 billion in 2015 (which is more or less US$294 per capita). These inflows are generally seen to have contributed significantly to the Philippine economy. The Bangko Sentral ng Pilipinas (BSP) reports that while the growth in cash remittances has declined since 2005, especially during the global crisis in 2009, the total amount has continued to increase (Figure 1.5). This continuous growth is attributed to the increased demand for skilled OFWs in many countries and to the presence of large bank networks in the destination countries. Although the remittance estimates produced by BSP are generally lower than the World Bank estimates, they exhibit quite similar patterns and trends. In 2015, cash remittances accoding to BSP reached US$25.8 billion, which is about 7.3 percent of the country's gross national income. These estimates do not include yet the large share of unrecorded

remittances which are transferred through informal channels[11]. Because of their significant contribution to the country's economic development, OFWs are called by Filipinos as the "bagong bayani" or modern-day heroes.

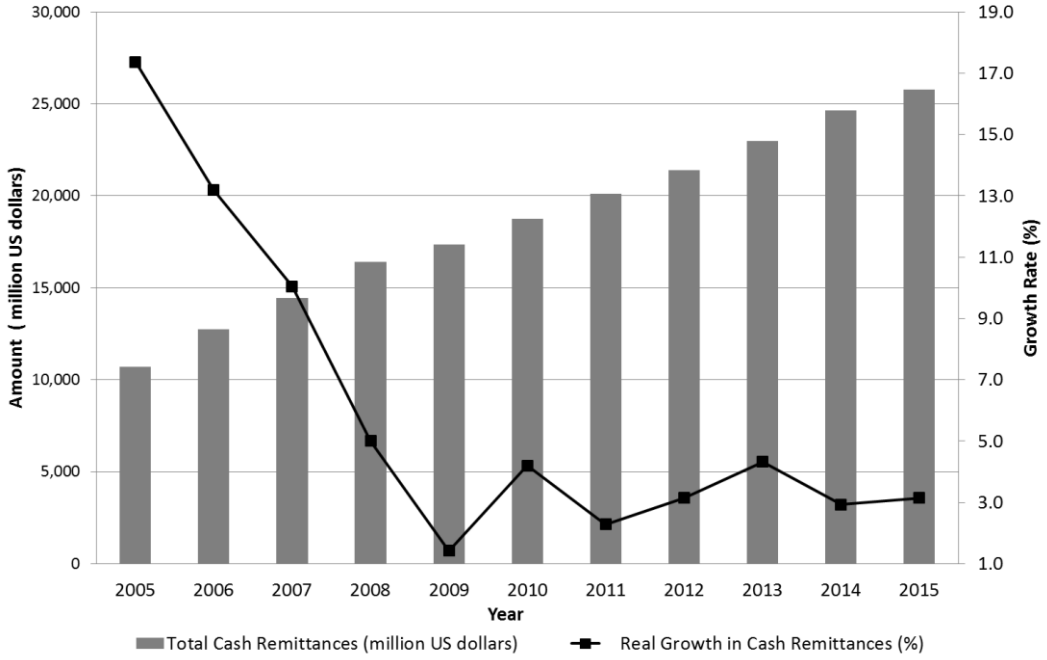
Figure 1.4. Distribution of OFWs by sex, by age group, by major occupation and by country of destination: Philippines (2014)



Note: 1/Officials of government and special-interest organizations corporate executives, managers, managing proprietors and supervisors
Source of basic data: Philippine Statistics Authority (PSA), 2012 Survey on Overseas Filipinos

[11] BSP has recently included (i.e., starting 2012) a measure of remittances sent through informal channels. It has started to work back on the data series to make the data consistent over time.

Figure 1.5 Recent trend in international remittances in the Philippines, 2005-2015

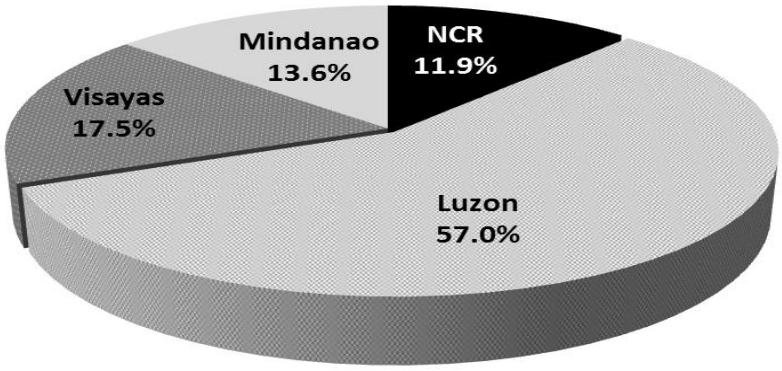


Source of basic data: Bangko Sentral ng Pilipinas

In terms of distribution, Figure 1.6 shows that the largest chunk of the remittances are received by households living in Luzon. In fact, more than half of the recorded remittances based on the SOF data are sent to those residing in Luzon. The proportion will still be higher if the share of the National Capital Region, which is also located in the same island of Luzon, is added to this figure. Based on available information, regions in Luzon exhibited better welfare conditions as reflected in the generally lower poverty rates compared to those in Visayas and Mindanao. The island region of Visayas came next to Luzon in terms of the share to total remittances and with Mindanao receiving the smallest share. Nevertheless, it is also recognized that Filipino households could gain from international migration not only in terms of the direct benefits (eg., remittances) but also through spillover effects due, for instance, to the increased spending of migrant households. For instance, there may be an increase in the local demand for consumption goods from migrant households[12] or an increase in investments in productive activities given their increased income from remittances. This could potentially generate more employment and livelihood opportunities for the members of the community.

[12] The term "migrant household" for this study is used to refer to a household that has at least one OFW member. In other words, the household has sent at least one member to work abroad.

Figure 1.6 International remittances sent by area, 2014



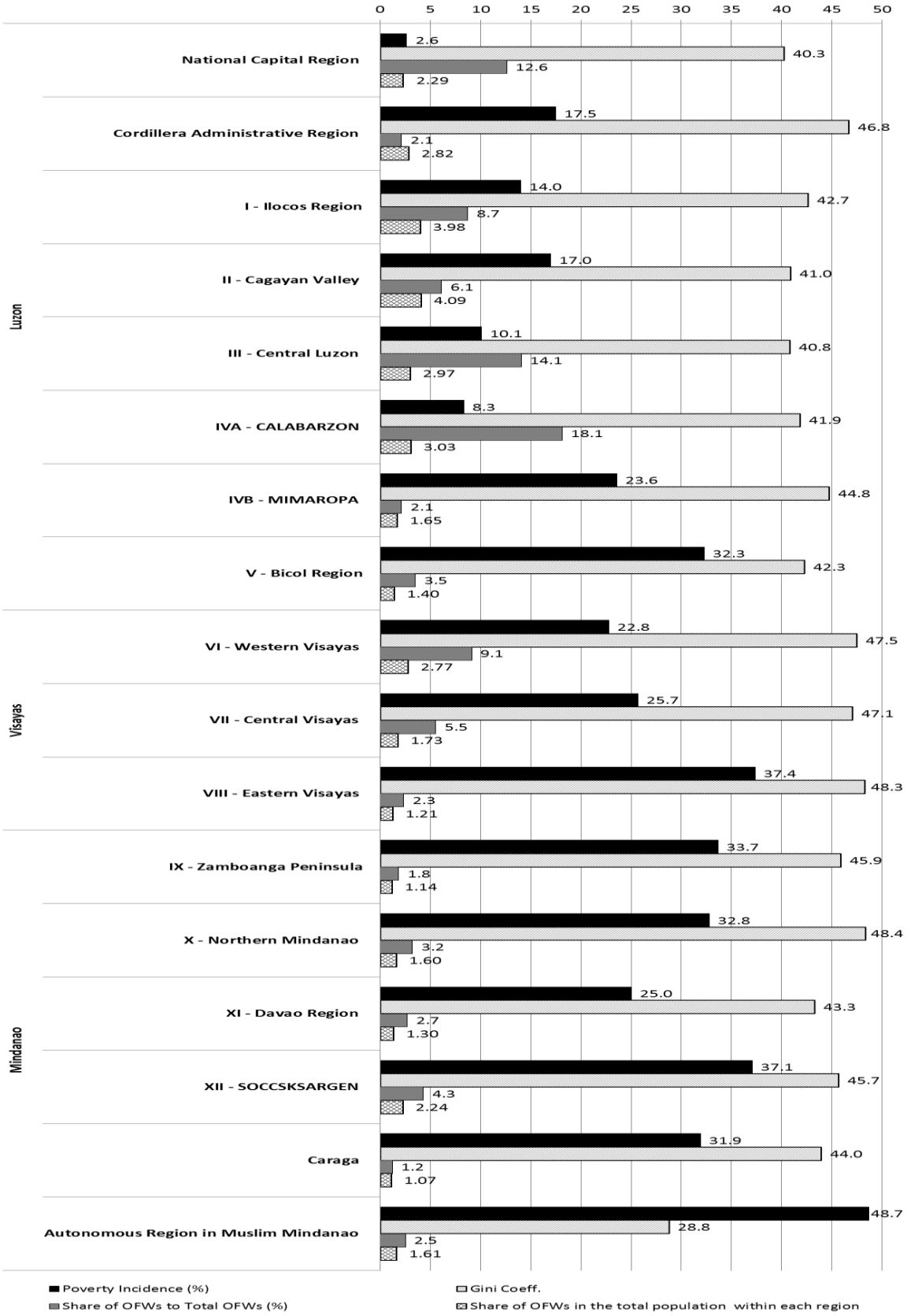
Source of basic data: Survey on Overseas Filipinos, Philippine Statistical Authority

Figure 1.7 shows the pattern as to where the OFWs are coming from which, in some ways, may be linked to how poverty is distributed across regions in 2012. Interestingly, it can be noted that most of the OFWs are generally coming from regions in the Philippines which are located in Luzon and whose poverty incidences are relatively low compared to the rest of the regions, particularly CALABARZON, Central Luzon and the National Capital Region. This pattens may give an initial impression that those who are able to migrate abroad are not necessarily from the poor regions and hence, migration may not necessarily reduce poverty and even worsen inequality across regions. However, because of the issue of the reverse causality (i.e., poverty may affect migration decisions but at the same time, migration may affect poverty situation), it is not possible at this stage to infer about the impact of international migration on the poverty situation in the regions with this information alone. Meanwhile, inequality in these three regions, as measured by the Gini coefficient[13] is also less compared to other regions[14], in general. Given the large number of OFWs recorded in this three regions, this pattern seems to support the claim that migration tends to decrease inequality within the regions as levels of migration increase, which is also found by McKenzie and Rapoport (2007) in the case of Mexico. However, in terms of share of OFWs to total population in the region, it can be noted that CALABARZON and Central Luzon ranked only third and fourth, respectively, next to Cagayan Valley and Ilocos Region, while the National Capital Region ranked seventh. It appears that the large number of OFWs CALABARZON, Central Luzon and National Capital Region recorded in these regions is mainly due to the large population size in these regions.

[13] The Gini coefficient measures the extent to which the distribution of income among families deviates from a perfectly equal distribution, with limits 0 for perfect equality and 1 for perfect inequality.

[14] The Autonomous Region in Muslim Mindanao is a unique case characterized by low inequality but high poverty incidence.

Figure 1.7. Poverty incidence, Gini coefficient and distribution of OFWs, by region (2012)

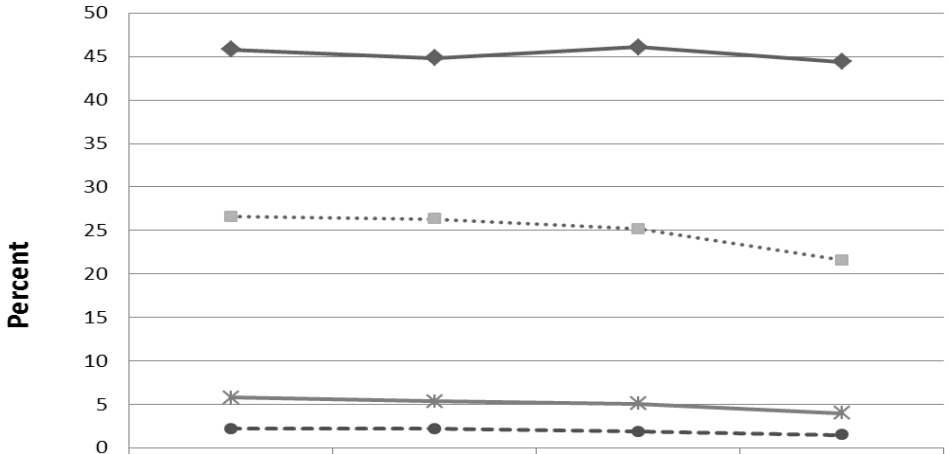


Notes: The estimated total number of OFWs in 2012 is 2.22 million. Gini coefficients are expressed in percent for this graph. The population data for 2012 used in the estimation of the share of OFWs in the total population in the region was estimated based on the official 2010 Census data and inflated using the estimated annual growth rate in the population for each region for the period covered. Source of basic data: Philippine Statistical Authority (www.psa.gov.ph)

1.2.2 Poverty Estimates in the Philippines

The unidimensional poverty indicator remains to be the most popular measure used in identifying the poor and measuring poverty. The common approach is to use money-metric measures based on the assumption that a person's well-being is largely dependent on the material standard of living as measured by income (or expenditure). The poor are identified as those whose per capita income (expenditure) is below the poverty threshold. In the Philippines, the official poverty threshold released by the Philippine Statistics Authority (PSA) is the annual per capita income which can be disaggregated down to the provincial level with urban-rural classification. At the aggregate level, although it is acknowledged that remittances have contributed significantly to the growth in the Philippine economy, income poverty rates remain high in recent years based on the official estimates released by the PSA. For instance, the proportion of income poor Filipino families in 2015 is recorded at 21.6 percent, which is only 5 percentage points lower than the 2006 figures (Figure 1.8). Nevertheless, poverty gap and severity continue to decline during the period reaching their lowest levels in 2015 at 4.0 percent and 1.5 percent, respectively. While the poverty gap considers the distance separating the poor from the poverty line, the poverty severity takes the square of that distance into account, thereby putting more weight to the poor and taking into account inequality among the poor. Furthermore, in terms of inequality, the lowest Gini coefficient during the period is recorded in 2012 with an estimate equivalent to from 44.4 percent, implying that the distribution of income became more equal during this period.

Figure 1.8. Recent trends in poverty incidence, gap, severity and inequality in the Philippines, 2006-2015.



	2006	2009	2012	2015
Gini Coefficient	45.8	44.8	46.1	44.4
Poverty Incidence	26.6	26.3	25.2	21.6
Poverty Gap	5.8	5.4	5.1	4.0
Severity of Poverty	2.2	2.2	1.9	1.5

Note: The official poverty statistics for the Philippines are computed every three years . The Gini coefficient presented in the graph is expressed in percent. A value equal to 0 means perfect income equality among households, while a value of 100 percent indicates absolute income inequality.
Source of basic data: Philippine Statistics Authority

Although poverty based on income is the most common poverty indicator being used, it is widely recognized that the other dimensions of poverty are also important in understanding poverty. Multidimensional measures of poverty can complement the monetary measures and provide a more holistic view of the poverty situation. To determine multiple deprivations and measure poverty, the Multidimensional Poverty Index (MPI) was developed through the Oxford Poverty and Human Development Initiative (OPHI). The index captures the non-income based dimensions of poverty which also allows a more comprehensive assessment of the extent of poverty. In particular, it determines the overlapping deprivations across the three dimensions as the Human Development Index (HDI), including health, education and living standards. (Alkire & Santos, 2010). Based on the most recent Human Development Report (United National Development Program, 2015), the Philippines recorded an MPI of 0.033[15], which basically measures the share of the population that is multidimensionally poor, adjusted by the intensity of the deprivation. The estimates show that about 6.3 percent of the population are classified as multidimensionally poor while 8.4 percent are near multidimensional poverty. The intensity of poverty as measured by the average deprivation scores is 51.9 percent, which means that the average poor household in the Philippines is deprived in 51.9 percent of the weighted indicators.

At the local level, many local government units (LGUs) in the Philippines has been adopting the Community-Based Monitoring System (CBMS)[16] as a poverty-monitoring tool to capture the multidimensional aspects of poverty. In particular, CBMS is being used to monitor the different dimensions of poverty, including health, nutrition, housing, water and sanitation, basic education, income, employment, and peace and order. The indicators under each dimension were identified and finalized for national and local poverty monitoring purposes after several consultations and meetings with concerned national agencies, LGUs and other stakeholders in the Philippines. The multidimensional measure of poverty, which is called the CBMS Simple Composite Indicator (CBMS-SCI), basically summarizes the characteristics of each household by simply counting the number of unmet needs or unattained core poverty indicator under each dimension. This indicator is mainly used by the LGUs in identifying households and communities which are most deprived which helps in improving the targeting beneficiaries of a specific poverty reduction program.

[15] To put this in perspective, it is useful to compare the MPI estimate with other countries in Asia. For instance, the estimated MPI for the Philippines (i.e., 0.033) is higher than the estimates for Thailand and Indonesia. In particular, the MPI for Thailand in 2005/06 is 0.004 while the estimated MPI for Indonesia in 2012 is 0.024. This translates to headcount poverty of 1.0 and 5.9 percent for Thailand and Indonesia, respectively and intensity of poverty of 38.8 percent and 31.3 percent for Thailand and Indonesia, respectively (United National Development Program, 2015).

[16] A detailed discussion of CBMS is provided in section 1.1.

1.3 Objectives and Significance of the Study

This study aims to explore the usefulness of the Community-Based Monitoring System (CBMS) in examining the relationship between international migration and poverty situation among households in the Philippines. Although CBMS is not primarily aimed for migration statistics but for local poverty monitoring, it offers some migration-related information that can be used in understanding migration, especially at the local level. As such, this research aims to determine how CBMS data can be used to examine the profile of migrant households (in comparison to non-migrant households) and the profile of people who work abroad and how international migration is linked with the poverty situation of households. It is deemed that CBMS data can complement and fill the gap in migration data in the Philippines since national data cannot be disaggregated down to the local level.

Based on the available information, this is the first attempt to extensively use CBMS data to examine international migration and its impact on poverty in the Philippines. As such, this research aims to demonstrate how the CBMS data, which is available in several LGUs in the Philippines, can be used to gain insights on this very relevant topic in the Philippines. Utilizing both cross-section and three-period panel data from the existing datasets, it aims to identify the strengths and limitations of the CBMS data. The cross-section data consists of combined dataset of eight LGUs with more than 126,000 households while the constructed panel data consists of 4,299 matched households in each period. To our knowledge, there is no study yet in the Philippines which used such a large cross section dataset in examining migration and poverty[17]. Meanwhile, the construction of the CBMS panel dataset by matching the same households over the three periods for one municipality and its analysis has not been previously done in other CBMS-implementing LGUs. At present, very few studies in the Philippines drew on panel data to understand the impact of international migration. Therefore, through the use of the generated panel data, this research provides another possibility by which CBMS data can be used to further enrich the understanding not only in terms of the changes in the poverty situation of households but also in terms of how it is being affected by international migration. Meanwhile, given the complexity of migration, it is also acknowledged that the information collected through CBMS is also limited. To address some of the identified limitations of existing CBMS, this research also proposes the collection of additional data and information which are necessary in order to have a more comprehensive understanding of the link between international migration and poverty. In particular, it aims to develop a new data collection instrument that can complement CBMS in order to address the migration data gaps in the existing CBMS questionnaires, together with some qualitative techniques in collecting information.

[17] For instance, the recent Survey on Overseas Filipinos (SOF) which is used in some studies covers only around 41,000 households but are considered representative samples of private households in all provinces in the Philippines. Meanwhile, the 2006 Family Income and Expenditures Survey (FIES), which in some studies that determine at the impact of remittances, includes more than 38,000 households.

The use of the data from CBMS in understanding international migration is an important contribution of this research in the literature. In particular, the research provides empirical evidence on the topic by using census data as opposed to survey and administrative data used in many earlier studies in the Philippines. Having information on all households in a particular LGU is an important strength of CBMS data since it provides information on all migrant and non-migrant households in a particular community. Given the richness of the CBMS datasets and the possibility of expanding the questionnaires to cover other relevant issues given the local context, other LGUs may be encouraged to use CBMS in understanding the relationship between international migration and poverty, especially at the local level. Extending the techniques employed in this research to other LGUs can help maximize the full potential of CBMS as a tool in understanding these relevant issues.

Meanwhile, the results of the analysis using the CBMS data can be useful in guiding the planners and policy makers in identifying important key concerns and problems that need to be addressed. This research, therefore, provides various insights on migration in the context of the Philippines and offers some possibilities as to how LGUs can use CBMS in understanding the migration phenomenon. This can eventually help them in designing appropriate interventions that can enhance the quality of life of Filipino migrants, their families, their origin communities, in general.

1.4 Research Design

Given the motivations and the objectives discussed earlier, two sets of data from existing CBMS of selected LGUs are utilized to first examine and determine the strengths and limitations of CBMS. The first dataset is a combined cross-section CBMS data of eight local government units (LGUs) in the Philippines consisting of more than 126,000 households while the second dataset is a three-period CBMS panel data constructed by the author for LGU-Orion in Bataan with 4,299 households in each period. To gain access to these datasets, the researcher contacted directly the local officials in each LGU to explain the purpose of the research and the intention to use their datasets in this study. As soon as the researcher receives their written approval, the researcher was able to get a copy of their CBMS raw datasets, which is available in text format (i.e., with *.txt* or *.hpq* file extensions). The raw datasets may be accessed through the LGUs or through CBMS-INCT as they maintain a repository of CBMS datasets of all LGUs in the Philippines that are implementing the system.

The raw CBMS datasets can be exported to the CBMS-StatSim, Stata, SPSS or other statistical software. However, since the researcher used the Stata software in the analysis, the raw datasets were exported to Stata format, thereby producing several records and data files. The three most relevant records generated using the CBMS datasets and were used in this study include the following: 1) household record, which contains relevant household-level information; 2) member record, which contains information on individual members of the household; and 3) OFW record, which contains information on

OFW members of the households. The third record was generated separately for datasets which adopted the CBMS-HPQ version 06-2009-01 since questions pertaining to the OFW are contained in a separate section in the questionnaire as mentioned earlier in section 1.1.3. On the other hand, information on the OFW member is included in the members' record for datasets that used the CBMS-HPQ versions 01-2011-01 and 10-2013-01 since all relevant member-level information are collected for each OFW in the household.

Given the different structures in the generated records out of the CBMS raw datasets, the author had to prepare the combined datasets of eight LGUs by merging the different records and ensuring consistency in the variable names and definitions across LGUs. In addition, some household-level variables (e.g., dependency ratio, number of employed members 15 years old and above, share of female working members aged 15 years old and above, number of members who reached tertiary education, and average years of schooling of members 15 years old and above) were generated using information from the member record before adding se variables to the household record.

While CBMS has incorporated some techniques that will help ensure accuracy and completeness of the collected data (e.g., comprehensive training, field editing, use of efficient encoding system and conduct of community validation activities), data cleaning techniques are still necessary to ensure that the datasets are ready for processing. During the process of data cleaning, some checks were made on duplicate households and missing responses. As necessary, households which are exact duplicates of another were dropped, together with households with assigned household ID in the encoded data but with all the rest of the information missing. Data cleaning involves checking if the data values are correct and conform to the set of rules. The responses and codes provided for each relevant item in the dataset are checked guided by the corresponding CBMS-HPQ and manuals used in the collection of data. One of the common errors in the datasets for all the LGUs covered in this study is with regard to the codes used for the type of occupation and sector of employment. Since the specific occupation and sector of employment in text format are also provided in the dataset, this helps in editing and cleaning the datasets[18]. Furthermore, another point of data cleaning is that which concerns the category "Others" in the list of possible answers. Many of the questions contained in the CBMS-HPQ include a code for "Others" as possible answers in case the response provided by the respondent is not in the pre-identified list of possible answers. If the respondent provides "Others" as an answer, he has to indicate the specific answer (in text) to that particular question. Upon checking of the CBMS datasets of the LGUs covered in this study, some of the specific answers provided for "Others" category can actually be classified in any of the pre-identified list of possible answers. This means that cleaning will involve recoding of the answers for these particular questions. Generating crosstabulations for the key variables in the dataset helped in checking and cleaning the datasets. For instance, the appropriate codes for the type of occupation and industry were checked to see if they matched the reported job and sector of employment of the

[18] This concern, however, can be minimized with the adoption of the CBMS-APP of many LGUs which has been developed recently by CBMS-INCT. More details about CBMS-APP is provided by Reyes, et al. (2014a)

member. Given the large datasets used in this study (i.e., consisting of 126,812 households for the cross-section dataset and 4,299 matched households for the three-period panel dataset) a lot of effort was exerted in cleaning the datasets to prepare them for further processing and analysis. The fact that the different LGUs administered different versions of the CBNS-HPQ (and hence, producing different data records and structures) also adds to the challenge in merging the datasets of all LGUs when cross-section datasets of eight LGUs are combined. The same challenged is faced when constructing the panel datasets since different versions of the CBMS-HPQ were used in the different periods of CBMS implementation.

Meanwhile, regarding the construction of the panel dataset, CBMS-INCT encourages LGUs to assign the same household ID (*hcn*) as in the previous round to the same household during their field survey operations based on the CBMS definition of the same household. Although there was an attempt on the part of LGU-Orion to adopt this CBMS definition in their 2012 round of CBMS, it appears that it was not fully implemented in the entire municipality. Because of this, the *hcn* assigned for each particular unique household is different for every round of data collection and therefore, it is not possible to use *hcn* as one of the key variables for matching. Given this, the panel dataset was generated by the researcher by matching the same households in the three rounds of CBMS implementation. The same households were matched based on the available information on individual members (e.g., name, age, sex, etc.) In particular, a household with at least one common member (excluding housemaid or houseboy) in both reference periods is considered the same. This definition is a more relaxed definition compared to the CBMS definition which requires, in addition, that the household lives in the same dwelling unit in both periods. Section 4.3 discusses in detail on how the panel dataset was generated.

Acknowledging the limited migration-related information contained in the existing CBMS datasets, this research also develops a questionnaire that collects additional information on various migration-related issues which are not captured in the standard CBMS-HPQ. This questionnaire serves a rider to the standard CBMS-HPQ and collects additional information on the following areas: 1) return migrants; 2) more information about current migrants, including migration history and changes in their family structure and relationship due to migration; 3) role of migration networks; 4) individual remittance sending pattern and household remittance spending pattern; 5) household's living conditions prior to first migration experience; 6) investments made by the migrant households; 7) access to programs that specifically target OFWs and their families; 8) opinions on various migration issues and 10) some measures of illegal migration. To complement the quantitative data, qualitative information were collected through direct observation, informal interviews with residents and local officials and focus group discussions (FGDs). The CBMS-HPQ, together with the rider questionnaire and complemented by some qualitative techniques, was administered in two selected villages in the Philippines.

Given the above, this research basically used the following four different sets of data and information in investigating the relationship between international migration and poverty in the Philippines:

1. CBMS datasets for selected one (1) city and seven (7) municipalities in the Philippines covering 126,812 households
2. Panel data generated by the researcher by matching the same households in the three rounds of CBMS implementation in the municipality of Orion consisting of 4,299 households
3. Primary data collected in two villages (Barangay Saguing in Mabini, Batangas and Barangay Villa Angeles in Orion, Bataan) covering a total of 476 households, using the standard CBMS Household Profile Questionnaire (CBMS-HPQ) and the rider questionnaire developed for this research which includes additional relevant questions on international migration
4. Qualitative information collected through direct observation, informal interviews with the community residents and local officials, focus group discussions (FGDs) and community-validation activities in the two villages, i.e., Barangay Saguing and Barangay Villa Angeles

Using these sets of data and information, a detailed examination of the migration and poverty profile of households is conducted. At the same time, the impact of international migration on poverty is estimated. For the combined cross-section dataset of eight LGUs, the instrumental variable (IV) method is adopted to address the problem of endogeneity of migration. Meanwhile, using the panel dataset, aside from examining the patterns in migration and poverty over time, some panel data techniques are also employed to estimate the impact of international migration on poverty while accounting for attrition bias. The panel data analysis allows us to control for variables that cannot be observed or measured (e.g., beliefs and cultural factors) or variables that change over time but not across entities (e.g., national and local policies and regulations).

1.5 Overall Structure

This thesis consists of six (6) major chapters. This Chapter (**Chapter 1**) has provided an overview of the Community-Based Monitoring System (CBMS) focusing on its important features, the process of implementation and the instruments used. The topic of international migration and poverty in the Philippines has also been discussed to provide the context. This chapter also presents the objectives and the significance of this research and explains the research design adopted.

Chapter 2 reviews the literature highlighting the important contributions on the topic of international migration and poverty. In particular, it provides a general background by defining international migration and presenting the key concepts and theories surrounding these topics. It also discusses the important challenges in migration studies, focusing on data and methodological issues facing migration scholars. It, then, examines

the links between international migration and poverty and welfare at different levels (i.e., international/national level; community level; and household/individual level). As this research focuses on the case of the Philippines, it provides more detailed discussion on international migration research in the country. The review covers issues concerning data and methodologies, while highlighting the agreements and disagreements among different studies. This allowed the identification of the gaps and limitations in migration research in the Philippines.

The succeeding two chapters present how the existing CBMS data can be used in understanding the relationship between international migration and poverty. **Chapter 3** utilized the cross-section data for eight LGUs and explored the usefulness of these datasets in understanding the patterns in migration. The CBMS-HPQs used to collect these datasets were examined to identify the migration-related questions that are available in the instruments. After preparing the datasets for further processing, the analysis of the cross-section data proceeds by examining the relationship between migration and poverty status of households based on income, SCI and MPI. To addresses one important challenge in measuring the impact of international migration, i.e., the endogeneity of migration, this chapter employed the instrumental variables (IV) method in estimating the impact.

Since some LGUs in the Philippines has also implemented CBMS for more than one round, it is possible to generate a panel dataset. To incorporate the time dimension in the analysis, **Chapter 4** demonstrates how panel dataset can be generated and be used in examining the relationship between international migration and poverty among households. A detailed discussion on how the three-period panel dataset for the LGU-Orion was constructed is discussed based on the definition adopted in identifying the same household. In line with this, the limitations of the panel data are presented while the attrition is checked to help ensure that the estimates will not be biased. The constructed three-period panel dataset is, then, used to examine the changes in the poverty and migration status of households over time. In estimating the impact of international migration on poverty, some panel data techniques were employed, including the estimation of the fixed effects model and the panel IV model.

Since it is acknowledged that the existing CBMS datasets contain limited migration-related information, additional data were collected in two selected barangays in the Philippines using a questionnaire that serves as a rider to the standard CBMS-HPQ as discussed in **Chapter 5**. The data collection strategies and the instruments used in the pilot census are discussed. The motivations for including the additional migration-related questions in the rider questionnaire are also explained. The collected data are used to understand the poverty and migration profile of households in the two barangays, as well as gain insights on the key migration issues. In particular, a detailed discussion is provided on issues relating to the role of migration network, illegal migration, return migration, remittance receipts and spending, changes in family structures and relationships and impact on children. The impact of international migration on poverty is also estimated based on both objective and subjective measures that are collected

through the household interviews. In terms of the objective measures, similar to the method employed in the previous chapters, the IV approach was implemented in order to estimate the impact while addressing the endogeneity of migration. On the other hand, the subjective measures capture the opinions of the household respondents on the different migration-related issues.

In addition to the quantitative data collected through household interviews, some qualitative information were collected in order to have a much deeper understanding of the link between international migration and poverty among the households. In addition to the community validation activities[19] which is part of the standard CBMS process, qualitative information were obtained through direct observation, informal interviews with the community residents and local officials and focus group discussions (FGDs) in the two barangays. The qualitative analysis covers issues relating to perceived changes at the community and at the household level, effects of migration on education of children left behind, relationships among members of the households, particularly between couples and between parents and children and opinions about relevant migration issues, among others. Findings from these qualitative information are incorporated in the discussion in this Chapter.

Chapter 6, then, presents a summary and conclusion based on the results of the previous chapters. In particular, it highlights the usefulness of the CBMS data in understanding the relationship between international migration and poverty situation of households. It summarizes the key issues based on the main findings of the earlier chapters and proposes some recommendations on how to address the limitations that have been identified. Furthermore, this chapter tackles some important limitations of this study and recommends some possible areas for future research.

[19]Recall that a community validation activity is part of the standard CBMS process as discussed in section 1.1.2.

2 A Review of Literature on International Migration and Poverty

Migration is "a process of moving, either across an international border, or within State" (International Organization for Migration, 2004). With globalization and freer movement of people across borders, international migration becomes easier for people. This, however, may not always be true since individual decisions are still constrained by socio-economic factors and the immigration policies of the potential country of destination. For instance, given the high cost of migration, poor people who lack resources (including financial and social networks) find it difficult to move, especially to farther distances. At the same time, difficulties in fulfilling the many legal requirements associated with migration limits people's mobility. People who are successful in overcoming these financial and legal barriers[20] are able to migrate with expectations of large returns from migration.

People move for various reasons. For instance, some people migrate to seek for asylum, for family reunification or for more attractive culture or environment abroad. Todaro (1969) argued that migration is the outcome of individual utility maximization although other authors extended the model to include household utility maximization. Economic models assume that a person's decision to migrate abroad is dependent on the international differences in the returns to labor. As such, a person maximizes his utility by selecting the location where he can gain the highest net income. It is deemed that migration patterns are mainly shaped by the differences in economic opportunities across countries. For instance, the potential gain that people can achieve in migrating, given their education and skills level, is an important factor for their migration decision.

Stark (1991) also emphasized that relative deprivation is an important determinant of migration as potential migrants compare themselves with other people within their relevant social settings. Their position relative to others and their hope of improving their relative positions are important elements in their migration decisions. In general, those who are more relatively deprived tend to have more incentive to migrate than those who are less relatively deprived. At the same time, those who belong to a group with higher income inequality (which tends to generate more relative deprivation) have higher propensities to migrate (Stark & Bloom, 1985). However, income inequality may not cause massive international migration if people expect that disparities will narrow later on (Lucas, 2005)

Meanwhile, according to the New Economics of Labour Migration (NELM) theory, migration is a decision made jointly by the migrant and the wider social entity, including his household (Stark, 1991). Households view labor migration of a member as one way of reducing the risk of reducing household income since having a family member abroad can provide greater economic security for the family. Although migration decision can be done by the individual migrant, the decision is also made with some degree of altruism

[20] It is acknowledged that there are some people who try to move abroad illegally by not going through the legal process.

towards the interest of their family or household. Hence, the remittance income derived from migration of a household member is expected to be shared with those who do not migrate.

The traditional migration theories (i.e., push-pull, neo-classical and historical-structural models) which focus on economic differentials between receiving and sending countries and historical dependency relations is now being challenged given their failure to understand why, despite having similar characteristics, some people migrate while others do not. Castles, De Haas, & Miller (2014) , in fact, argued that migration should be conceptualized as an "intrinsic part of broader process of development, social transformation and globalization." They maintained that migration is likely to be driven by development process by increasing capabilities and aspirations to move. Migration aspirations can actually be an important step that can lead to actual migratory behavior. In their study of Ukranian migration towards the European Union, for instance, they found that international family networks are strongly related to migration aspirations (Van Mol, Snel, Hemmerechts, & Timmerman, 2016). In relation to this, it appears that the presence of relatives abroad may increase the likelihood of people to migrate in that particular country of destination. While potential migrants may have various concerns about living in a foreign country, their network abroad can facilitate their transition, as well as ease social and economic assimilation in the destination country. Meanwhile, there also other factors that may influence the likelihood of migrating in a particular destination country, such as distance, common language between origin and destination countries, colonial connections, religious and ethnic structures, among others (Lucas, 2005). However, Bertoli, Fenandez-Huertas Moraga, & Keita (2016) found that migrants can also be very responsive to the wages that are being offered by employers in the different countries of destination, as in the case of Filipino migrants. This suggests that they can decide on the destination country based on the competing offers in these potential countries of destination. The wages that Filipino migrants received in their destination country are also not affected by economic shocks while the flow of migrants to a particular destination is significantly affected (McKenzie, Theoharides, & Yang, 2014).

2.1 Relationship between International Migration and Poverty

In economic theory, the consequences of international migration to the source countries is one of the important concerns. However, empirical research on the impact of migration on poverty in the country of origin has only been extensive in the recent decades. So far, there seems to be no consensus in the literature with regard to the impact of migration and remittances on poverty in these origin countries with some of the studies showing positive effects while others demonstrating a negative impact. Among those studies that revealed improvements in the poverty situation in migrant sending countries, estimates of the potential impact vary and are yet to be examined further. The differences in the estimates perhaps arise because of the differences in the definitions, coverage and more importantly, in the analytical methods employed. The succeeding discussions presents a review of relevant studies that look at the various issues surrounding international

migration, remittances and poverty, highlighting the results at different levels, i.e., country, community and household/individual levels.

2.1.1 Macro Level

A number of researchers used datasets of several countries to determine the impact of international migration and remittances at the macro level using data for a number of countries. For instance, in a study of 100 countries for the period 1975 to 2002, Guiliano and Ruiz-Arranz (2009) were able to show that international remittances promote GDP growth in less financially developed countries as they provide alternative way to finance development and serve as a substitute for inefficient or non-existent credit markets. Indeed, the diaspora of developing countries can be a source of capital, trade, investment, knowledge, and technology transfers (World Bank, 2011). Remittances can also act as a cushion for economic shocks, can reduce vulnerability to oil shocks and can play an important role in the development of a country (Lueth & Ruiz-Arranz, 2007). Income from migration stimulates economic activity, both directly and indirectly and leads to significantly higher levels of employment (Durand, Kandel, Parrado, & Massey, 1996).

Meanwhile, both international migration and remittances are found to significantly reduce the level, depth and severity of poverty in developing world as highlighted in many studies. Adams and Page (2005) found a 3.5 percent decline in the share of people living in poverty ($1.00/person/day) as a result of a 10 percent increase in per capita international remittances in developing world. Meanwhile, in a study of 10 Latin American countries, Acosta, et al. (2008) showed evidence of a positive, albeit "modest" impact of international remittances on poverty. In particular, poverty headcounts declined by 0.4 percent for each percentage point increase in remittances to gross domestic product (GDP) ratio in Latin America, on average. Meanwhile, among developing Asia-Pacific countries, Jongwanich (2007) found a significant reduction in poverty by increasing income, smoothing consumption and easing capital constraints of the poor although impact on growth operating through domestic investment and human capital is marginal. In particular, a one percent increase in the amount of remittances is associated with a reduction in poverty by 0.43 percent and an increase in economic growth by only 0.03 percent. At the same time, several country studies have also shown the positive impact of international migration. In the case of Ecuador, Bertoli and Marchetta (2014) found that migration resulted in a decline in poverty incidence among migrant households of between 17.4 and 20.8 percent. Moreover, Taylor et al. (2005) found a 0.77 and 0.53 decrease in poverty headcount and poverty gap indices, respectively, as a result of a 10 percent increase international remittances in Mexico. Moreover, they found evidence of favorable spillover effects to non-migrant households.

On the other hand, several studies also revealed the negative impact of migration and remittances. For instance, Chami, Fullenkamp and Jahjah (2005) found that international remittances have negative and significant effect on economic growth, as reflected by the real growth in per capita GDP in a study covering up to 113 countries over the period 1970 to 1998. They concluded that remittances do not serve as a capital for economic

development, but rather as a type of compensation for countries with poor economic conditions. In addition, using a panel of 13 Latin American countries, Amuedo-Dorantes and Pozo (2004) confirmed the negative effect on competitiveness as remittances appreciates real exchange rate over the time period 1970-98. Large-scale remittances can actually lead to significant exchange rate appreciation and loss of competitiveness of tradabale goods as evidenced by the cross-national study of eight Latin American countries covering the period 1990 to 2003 (Lopez, Maurizio, & Molina, 2007). At the same time, the economy's growth may be restricted if more skilled people migrate and less skilled workers are left behind[21]. The lost of skills as a result of migration can hinder development as well as delivery of basic services in source countries (World Bank, 2011).

2.1.2 Community Level

At the community level, the remittances sent by migrants abroad could play an important role in developing local level capital markets and productive infrastructure. It could increase disposable income and effective demand for local goods and services (Keely & Tran, 1989). The benefit of migration could also extend to those who are not members of the origin household of the migrant. The increase in the local demand for consumption goods from migrant households given their increase income from remittances may create more livelihood opportunities for the non-migrant households as well. Migrant households benefit from remittances at it cushions the risks involved in engaging in more productive activities (Murrugara, Larrison, & Sasin, 2011). At the same time, remittances helps households in overcoming credit constraints allowing them to invest more in local entrepreneurial activities (Adams R. , 2007). Furthermore, migration promote technology transfer, tourism and charitable activities (DFID, 2007).

On the other hand, some studies showed negative results. In particular, some authors (Quisumbing & Mcniven, 2010) concluded that migration nor remittances affects current credit constraints status of households. Other findings also revealed that remittance-receiving households are not more likely to own a family business than households not receiving remittances (Amuedo-Dorantes & Pozo, 2006) and hence, the potential multiplier effect that can be generated with the establishements of these businesses may be very minimal. At the same time, international migration can result in an increase in income inequality, creating some social tensions between migrant and non-migrant households in a particular community. However, McKenzie and Rapoport (2007), using large household surveys from rural Mexico, showed that although the initial effect of migration in communities with low levels of international migration is an increase in income inequality, migration tends to decrease inequality as levels of migration increase.

[21] Many earlier studies have looked at the issue of high-skilled migration and the so-called "brain drain" effect. Focus was given on "brain drain" in the earlier years while the role of migration in spreading knowledge and incentivizing the acquisition of skills was highlighted in the recent years.

2.1.3 Household and Individual Level

At the household and individual level, international migration and remittances could lead to changes in the patterns of investments in health and education. Remittances can potentially improve the health status of household members by providing them with more money to invest in health. A positive impact on child health was observed in a study in Mexico whereby a 10 percent increase in the share of remittance-receiving households reduced infant deaths by 12 lives (Lopez-Cordova, 2006). Using a nationally-representative survey in the same country, Hildebrant and McKenzie (2005) also found improvements in health outcomes of children in terms of lower infant mortality and higher birth weights as a result of the Mexico-US migration. The health improvement is due to the increase in income, as well as increase in the mothers' health knowledge associated with having a migrant member. An increase in the levels of maternal health knowledge of mothers was also found by McKenzie (2006) not only in migrant families but also in non-migrant households because of spillover effects. In the case of Nicaragua and Guatemala, Acosta, Fajnzylber, and Lopez (2007) found improvements in children's health but mainly for those in low-income households.

The overall economic activity may also be negatively affected when international migration and remittance income discourages recipients to work. In fact, some remittance-receiving households could experience reduced incentives to generate their own income and employment (Siddiqui, 2012). This is related to the culture of dependence among those members who are left behind which may be caused by migration. In economic theory, higher remittance income will increase not only the demand for consumption goods but also the demand for leisure (since leisure a normal good). However, in some cases, migration of a husband may cause a wife to drop out of the labor force to take care of their children. While this may lead to a reduction in labor participation, it can also be viewed as welfare-improving developments. At the same time a child who drops out of the labor force in order to return to schooling may have a reducing effect on labor force participation but could lead to improvement of welfare in the long run.

In terms of education, benefits may accrue both to the migrant worker and to the children left behind. For instance, the acquisition of new skills and education of migrants at the country of destination could benefit the origin households and their communities upon their return (Murrugara, Larrison, & Sasin, 2011). Meanwhile, the remittances sent by migrants can also increase the ability of households to pay for school fees and ease the liquidity constraints that normally prevent parents from achieveing the level of education they desire for their children (McKenzie D. , 2006). In fact, remittances are found to have a significant positive effect on school retention rates in El Salvador mainly because of the higher propensity to spend on education out of the remittances as compared to other sources of income (Cox-Edwards & Ureta, 2003). Many migrant households also decide to invest in education of their children since they believe that the skills and knowledge can gain from school increases their chances of finding a job abroad. However, based on a sample of 11 Latin American countries examined by Acosta, Fajnzylber and Lopez (2007)

the positive effect on educational attainment of children is generally limited only to children with low levels of parental schooling.

Due to long period of separation between the migrant worker and their families, children's education may also suffer. Results of a study conducted by McKenzie and Sasin (2007) showed that children of migrant parents have less supervision and may experience emotional stress as they are forced to take up more household work. McKenzie and Rapoport (2011) also found evidence that migration causes a significant negative effect on schooling, attendance and attainments of children, particularly 12-18 year-old boys and 16-18 year-old girls in Mexico. Overall, their study concluded that living in a migrant household lowers the probability of completing high school by 13 percent for males and 14 percent for females. According to McKenzie (2006), children aged 16-18 in migrant households have lower level of schooling compared to those in non-migrant households, which is mainly because there is less incentive in education among children who anticipate migrating. The disincentive for investing in schooling, particularly for older children, was also supported by the results of a study conducted by Lopez-Cordova (2006) in Mexico.

The impact of remittances may also depend partly on the propensity of the recipient households to consume or invest. Although some argue that remittances which are invested on productive activities can contribute to output growth, remittances which are simply consumed can also generate positive multiplier effects (Burgess & Haksar, 2005). Meanwhile, the size of the multiplier effect depends on whether the remittances are received by rural or urban households as demonstrated by Adelman and Taylor (1990). In particular, the former group of households is more likely to consume more domestically produced goods than the latter and therefore, generates a higher multiplier effect. Adams (2007) found that households that received international remittances spend less at margin on consumption goods (e.g., food) and more on investment goods (e.g., education and housing). At the same time, the heterogeneity in the intrahousehold allocation of remittances also determines how remittances will benefit households. For instance, male heads spend more on alcohol and tobacco while a household with a female decision-maker is more likely to increase allocation to goods that improve the welfare of children (Pajaron, 2016).

2.2 Data and Methodological Challenges in Migration Studies

There are several challenges in determining the impact of migration and remittances ranging from practical data issues to complex concerns measuring the impact. In general, although the importance of migration and remittances is widely recognized, relevant data on migration and remittances are quite limited. In many developing countries, censuses and other official data collections may be irregular and unreliable or even lacking in some cases. This makes reliance on official data problematic in migration research. For some countries where migration statistics are available, particularly for more developed countries, data are collected based on different definitions and categories that reflect national policies and ideologies (Castles, 2012) and therefore, remains a challenge.

In general, there are very few detailed and representative surveys of migrant households making it difficult for researchers to study the effects of international migration and remittances on sending households. While some public use files from national surveys or censuses are available, they also offer a limited set of variables and little information about migration. Given these, many studies would require specialized surveys in order to answer various migration questions. As McKenzie and Mistiaen (2007) summarized, majority of these specialized surveys are based on non-probability sampling without representativeness making it difficult to make general conclusions.

Meanwhile, studies focusing on techniques and methods of assessing the impact of migration and remittances on poverty are also rather limited. A useful research conducted by McKenzie and Sasin (2007) and Adams (2011) identified several empirical challenges in measuring the impact of international migration and remittances[22]. The succeeding discussions are largely based on McKenzie and Sasin (2007) and Adams (2011). *Endogeneity* is one important challenge identified since migration decisions may be done simultaneously with many of the household decisions such as labor participation, school attendance, consumption and other household decisions. In fact, the characteristics that explain migration may also explain labor participation, education, consumption, etc. For example, a household may, at the same time, decide to send a member to work abroad and a child to go to school. An important relevant problem is the *reverse causality* which can occur when the outcome of interest influences migration and remittances. For instance, although migration and remittances may help reduce poverty, poverty may also affect migration decision and the amount of remittances received. There can also be a problem of *selection bias* since migrant households may differ fundamentally from their non-migrant counterparts. In particular, migrant households are likely to have particular (unobserved) characteristics that distinguish them from non-migrant households. Since migrant households cannot be treated as a random selection, the observed differences obtained through simple comparisons between the two groups are not necessarily due solely to migration. Furthermore, there can also be a bias due to omitted variables. For instance, households may produce a migrant or received remittances based on unobservable characteristics (e.g., risk averseness) which is difficult to gather data on and hence, omitting this variable in the estimation of the impact will lead to biased results.

There are various solutions proposed in the literature to address the abovementioned issues in measuring the impact. One of the solutions, which may be considered as the best solution, is the use of a well-designed randomized experiment. In this method, potential migrants are randomly denied the right to migrate (e.g., through a lottery system), which allows the creation of a control group having the same profile as migrants but without the opportunity to migrate (McKenzie, Stillman, & Gibson, 2010) By comparing the outcomes of interest between the two groups, the impact of migration can be accurately estimated. However, in reality, it is very difficult to conduct such randomized experiments, and hence, this method is rarely employed by researchers. Another possible solution is to adopt a natural experiment whereby an exogenous shock from nature is used (e.g.,

[22] The succeeding discussions are largely based on McKenzie and Sasin (2007) and Adams (2011).

exchange rate shocks, weather shocks, etc.). This method was employed by Yang (2008) and Yang and Martinez (2006) in the Philippine case study wherein changes in exchange rates before and after the 1997 Asian financial crisis were used as the exogenous shock on income of migrants. However, one important limitation of natural experiments is that they are generally difficult to replicate.

Another possible solution is to use panel data to eliminate many of the methodological problems because it allows control for time-invariant unobservable characteristics. If panel data is available only for migrant households, the single difference can be estimated to compare the post-migration income with the pre-migration income. If panel data for both migrants and non-migrants are available, the difference-in-difference estimator can be employed. However, the problem is that panel data is rarely available, especially in developing countries.

Meanwhile, a solution which is prevalent in the study of the impact of migration is the use of instrumental variables as it addresses the biases that arise from endogeneity, omitted variable and selection bias and therefore, provide consistent estimates. However, the challenge in this method is finding a good instrument variable that is correlated with the explanatory variable (in this case, migration or remittances) but exogenous to the outcome variable. In fact, selecting good instruments for migration is considered a big challenge in the whole literature on migration. It is noted that for instance, selecting weak instruments could even worsen the bias compared to ordinary least squares (OLS), particularly if those instruments are correlated with omitted variables or unobserved characteristics that affect outcome. One of the more popular instruments for migration is "past migration streams" (e.g., (Lokshin, Bontch-Osmolovski, & Glinskaya, 2007; Hildebrandt & McKenzie, 2005; Woodruff & Zenteno, 2007) which can have network effects that facilitate current migration streams. Other instruments used in the literature include: 1) historical distance to railroad lines (Adams & Cuecuecha, 2010); 2) employment creation rates in labor receiving countries; 3) distance between migrant-sending and destination countries (Adams & Page, 2005); 4) level of education; and 5) governmen stability; and 6) percentage of households that receive remittances in the respective country of residence; and 7) rainfall patterns (Adams & Cuecuecha, 2010; Woodruff & Zenteno, 2007; McKenzie & Rapoport, 2007). While some of these instruments may also be used as instrument for remittances, other variables are more appropriate such as exchange rate shocks (e.g., (Yang D. , 2008; Yang & Choi, 2007; Yang & Martinez, 2006) and distance between remittance-sending and receiving countries, etc.).

Another method used in the literature to address the methodological challenges in the study of migration and remittances is the construction of a counterfactual scenario. The counterfactual income approach was first used in the migration and remittances literature by Adams (1989) and then, refined by Barham and Boucher (1998)[23] and other

[23] Barham and Boucher (1998) refined the method not only by adding a stochastic term component to predicted incomes but also employing the Heckman self-selection model which incorporates migration choice and labor-force participation. The same method of bootstrap prediction was adopted by Acosta, et al (2007) in determining the impact of migration and remittances on poverty in 11 Latin American countries.

researchers. In this approach, the income of a migrant household were estimated by imputing the value of that migrant member had he stayed and worked at home. In Adams (1989), the mean regression of incomes of non-migrant households was estimated and then, the resulting parameters were used to estimate the counterfactual income of migrant households. The predicted incomes are then used to estimate the poverty rates. However, this method could also lead to biased estimates due to self-selection, especially since migrant households cannot be treated as a random selection of the population. Some modifications in the methodology were employed by Rodriguez (1998) in his study of international migration and income distribution in the Philippines. In particular, he assumed that the differences between households with and without migrants are observable and can be reduced in a constant term. However, it is deemed that the estimates can still be biased since it assumed no difference in the productivity of factors between these two groups of households. Hence, supplementing this approach with a sample selection procedure, particularly the Heckmand two-step approach, can help address this bias. The main challenge in the Heckman selection model, however, is identifying the exogenous variable that causes migration or the receipt of remittances in the first-stage equation which, at the same time, has no direct effect on the dependent variable in the second-stage equation. This problem is especially true in most cross-sectional datasets. In adddition, it has one important weakness such that it may lead to biases in the counterfactual estimators because of its strong distributional assumption (Deaton, 1997).

Meanwhile, since it is generally difficult to impute income of migrants at home, employing propensity score matching technique is also another way of generating a counterfactual. This allows comparison of migrant with an "identical" non-migrant based on observed characteristics. However, it still has a limitation such that it ignores the problem of selection and therefore, it is not clear whether this method can produce the best results.

Given the various concerns and limitations above, it is deemed that qualitative studies can complement quantitative studies by providing more in-depth analysis of the socio-economic impact of migration, particularly on those who are left behind. Relevant information and opinions shared by migrant households themselves offer useful information in understading the effects of having a migrant member abroad and receiving remittances.

2.3 International Migration Research in the Philippines

There is a limited number of quantitative studies that focused on the links between international migration and poverty in the Philippines. Migration researchers are challenged by some data issues and limitations. At the same time, given the difficulties in measuring the impact of international migration on poverty, researchers have adopted various estimation methods, which also have their own limitations. Although a few quantitative studies examined the macro level impact, others focus on the micro level effects of international migration. Some studies analyzed the impact of international migration and/or remittances on poverty and inequality while others determine the

impact on employment, on welfare of children left behind and on various household outcomes. Although the results of these studies reveal interesting patterns, results also vary given the limitations in the data and differences in the definitions and methods used in the analysis. This section focuses on the review of earlier studies in the Philippines which examined the impact of international migration on poverty and other household outcomes.

2.3.1 Data Issues and Limitations

Compared to other developing countries, the Philippines is more advanced in terms of the availability of information and datasets on migration and remittances. For instance, existing national surveys included some relevant questions on migrants and remittances. At the same time, many national agencies are involved in monitoring migration and remittances-related data and information, including those at the aggregate level. Despite the availability of these data and information, the Philippines faces several challenges especially in terms of the varying conceptual definitions in these data.

One important challenge that arises when one attempts to understand and measure Filipino migration is that data and information can be sourced from various sources adopting different conceptual definitions. In fact, data on the number of Filipinos overseas can be obtained from three different sources, which basically used conceptually different estimates. The first major source of migration data is the Philippine Overseas Employment Administration (POEA)[24] which estimates the number of overseas contract workers and focuses on the flow data for a given period. POEA is able to collect the data since overseas contract workers are required to register with their office prior to departure. The second source of migration data is the Commission on Filipinos Overseas (CFO) which collects stock estimates not only of overseas workers but of all Filipinos overseas and whose main sources of information are the diplomatic missions. Meanwhile, the third main source of data on migration is the former National Statistics Office-NSO (now part of the Philippine Statistical Authority-PSA)[25] which estimates migration data through its Survey on Overseas Filipino (SOF)[26] capturing information on the migrant workers who left during the last five years. The SOF was designed to collect national estimates of the number of overseas workers, their socio-economic characteristics and other relevant information on overseas workers who worked or have worked abroad during the reference period of the survey (April to September). Given the differences in the conceptual definition and the way data are collected, the different data sources mentioned above produce different migration estimates.

[24] Aside from the total number of overseas contract workers, the following information are also collected by POEA: name of the individual, sex, date of birth, marital status, occupation, destination country, employer, recruitment agency, salary, contract duration and date employed.

[25] The PSA was established in 2013 after the merging of the major statistical agencies in the Philippines, including the National Statistics Office (NSO), the National Statistical Coordination Board (NSCB), the Bureau of Agricultural Statistics (BAS), and the Bureau of Labor and Employment Statistics (BLES). The PSA serves as the central statistical authority on primary data collection in the Philippines.

[26] The SOF is a rider survey to the October round of the Labor Force Survey (LFS) in the Philippines conducted by NSO (now PSA).

Focusing on temporary migrants, there were obvious differences in the estimates from the three main data sources mentioned above (Table 2.1). It can be noted that the estimates from PSA are consistently higher than the POEA estimates but lower than the CFO estimates. It must be noted that PSA and CFO figures are stock estimates while POEA estimates are flow figures. Although both stock and flow of overseas/temporary reveal a generally increasing trend, there are still periods of negative growth. At the same time, the growth patterns are not consistent among the three data sources for some periods. For instance, there was a period when there was an increase in the estimates from POEA and CFO but the figures reported by NSO/PSA revealed a decline, particularly in 2009. The higher figures recorded by NSO/PSA occurred despite the shorter reference period used in SOF, i.e., past six months prior to the survey, as compared to CFO and POEA estimation. Again, one of the important factors that explain the differences is the differences in the conceptual definitions used in generating the estimates.

Table 2.1 Estimates of OFWs by sources of data, 2005-2013

Year	NSO/PSA [a]		POEA [b]		CFO [c]	
	in thousands	% growth	in thousands	% growth	in thousands	% growth
2000	978		842		2,991	
2001	1,029	5.2	868	3.1	3,050	2.0
2002	1,056	2.6	892	2.8	3,168	3.9
2003	983	-6.9	868	-2.7	3,385	6.9
2004	1,180	20.0	934	7.6	2,900	-14.3
2005	1,327	12.5	989	5.9	2,943	1.5
2006	1,515	14.2	1,063	7.5	3,094	5.1
2007	1,747	15.3	1,078	1.4	3,413	10.3
2008	2,002	14.6	1,236	14.7	3,626	6.2
2009	1,912	-4.5	1,423	15.1	3,864	6.6
2010	2,043	6.9	1,471	3.4	4,324	11.9
2011	2,158	5.6	1,688	14.8	4,513	4.4
2012	2,220	2.9	1,802	6.8	4,221	-6.5
2013	2,295	3.4	1,836	1.9	4,207	-0.3

[a] Based on the Survey on Overseas Filipinos and covers overseas Filipinos whose departure occurred within the last five years and who are working and had worked abroad during the past six months (April to September) of the survey period

[b] Flow figures and include both new hires and rehires and both land-based and sea-based workers

[c] Although the Commission on Filipinos Overseas (CFO) collects information on the stock of all overseas Filipinos, the figures presented here are the stock estimates overseas workers on temporary contracts

Sources: PSA website (www.psa.gov.ph); POEA website (www.poea.gov.ph); CFO website (www.cfo.gov.ph); Data for NSO/PSA and POEA for the period 2000-2004 were obtained from Ducanes (2015)

Similar issues exist with regard to the estimates of remittances since data for the Philippines can be sourced from three major institutions, including the World Bank, the *Bangko Sentral ng Pilipinas* (BSP-Central Bank of the Philippines) and the National Statistics Office (NSO- now part of PSA). The World Bank estimates[27] are computed based on the International Monetary Fund (IMF) balance of payment statistics. The IMF reports only the workers remittances which are transmitted through official banking channels

[27] The World Bank/IMF estimates are usually used in cross-country studies (e.g., Chami, Fullenkamp and Jahjah, 2005; Jongwanich, 2007).

and does not capture those which are transmitted through informal channels and therefore, underestimates the actual flow of remittances. Meanwhile, the BSP releases data on total cash remittances which were channeled through formal financial channels (e.g., commercial and thrift banks) although it has also recently included a measure of remittances sent through informal channels. For NSO, estimates of the total remittances are generated using the results of the Family Income and Expenditures Survey (FIES)[28] and at the same time, collects remittance data through the SOF with the six months reference period.

Table 2.2 presents the estimates of international remittances by source of data for the period 1997-2013. It can be seen that the estimates from NSO is lower compared to the other sources, particularly the BSP and the World Bank estimates, mainly because the reference period used in the Survey on Overseas Filipinos (SOF) is six months prior to the survey (i.e., April 1 to September 30). It must be noted that NSO's estimates of the remittances based on the SOF data include not only cash sent but also cash brought home and in-kind remittances. Assuming that the pattern and amount of remittances did not change for the entire year and the amount of estimated remittances is doubled to correspond to annual figures, the estimates are still significantly lower than the estimates from BSP and The World Bank. Moreover, the reference period used in SOF ignores the remittances sent by OFWs to their families in the latter part of the year, which usually include additional amount because of the Christmas holidays. The lower remittances figures based on SOF is also due to the fact that Filipinos with immigrant visas, although they are working abroad, are not captured given the definition of OFW's adopted in the survey and therefore, their remittances are not included in the estimates.

Furthermore, the amount of annual remittances based on FIES is also found to be underestimated as put forward by Ducanes (2010). In fact, the figures are significantly lower than the estimates from BSP and from World Bank. He identified some of the possible reasons for the so-called "missing remittances" including the rise in electronic banking, the increase in the amount of remittances that are used to purchase real estate, and the undercounting of overseas workers in household surveys. Meanwhile, in terms of growth patterns, an increasing trend is observed for remittance figures based on NSO/PSA's FIES and SOF, BSP and the World Bank. However, the SOF estimates show a decline in some of the years (i.e., in 2004, in 2009 and in 2013) although positive growth was reported by both BSP and The World Bank in those periods.

[28] The FIES is a nationwide survey of households undertaken every three years and provides mainly information on the spending patterns of Filipino families, their levels of living, as well as disparities in income.

Table 2.2 Estimates of international remittances by source of data, 2005-2013

Year	NSO/PSA				BSP	World Bank
	SOF [a]		FIES [b]		in million USD	in million USD
	in million Pesos	in million USD [b]	in million Pesos	in million USD [b]		
1997	24,458	830	118,642	4,026	5,742	6,800
2000	55,133	1,248	187,706	4,247	6,050	6,957
2003	70,400	1,299	239,829	4,425	7,578	10,244
2004	64,713	1,155	---	---	8,550	11,473
2005	85,148	1,546	---	---	10,689	13,733
2006	101,964	1,987	344,629	6,716	12,761	14,988
2007	109,806	2,379	---	---	14,450	15,853
2008	141,904	3,191	---	---	16,427	18,064
2009	138,481	2,907	---	---	17,348	19,078
2010	141,232	3,131	---	---	18,763	20,563
2011	156,336	3,609	---	---	20,117	21,922
2012	165,628	3,922	---	---	21,391	23,352
2013	163,169	3,844	---	---	22,968	25,369

[a] Note: The estimates are based from the data collected through the Survey on Overseas Filipinos (SOF) and cover remittances during six months prior to survey of overseas Filipinos whose departure occurred within the last five years and who are working or had worked abroad during the past six months (April to September) of the survey period. The remittances include cash sent, cash brought home and in-kind remittances.

[b] The FIES is conducted by PSA/NSO every three years. The actual estimates of international remittances were reported in million pesos. The average exchange rate for the year as sourced from the Bangko Sentral ng Pilipinas was used to convert the amount to million US dollars.

Sources: PSA website (www.psa.gov.ph);Bangko Sentral ng Pilipinas website (www.bsp.gov.ph);The World Bank website (www.worldbank.org). Data for FIES for the period 1997-2006 were obtained from Ducanes (2015)

Table 2.3 presents earlier studies that estimated the impact of international migration and remittances in the Philippines and the corresponding datasets used in the analysis. A number of researchers focused on macro level impact of international migration and remittances (Burgess & Haksar, 2005; Goce-Dakila & Dakila, 2006; Ang, 2007; Bayangos & Jansen, 2011)and therefore, utilized macroeconomic data mainly sourced from various institutions, including the Bangko Sentral ng Pilipinas (BSP), National Statistics Office (NSO) and National Statistical Coordination Board (NSCB). Goce-Dakila and Dakila (2006) even used the Social Accounting Matrix (SAM)[29] to model the impact of OFW remittances on the Philippines economy. One unique and original dataset that was used in the study of international migration in the context of the Philippines is that constructed by Theoharides (2014). In particular, she merged the POEA records of all new contract hires with the OWWA membership database of new hires and rehires in order to obtain a consistent sample of new hires with information on the origin and destination. However, since this dataset is based on administrative records, illegal migrants are not captured.

[29] The SAM is a square matrix that provides a comprehensive and detailed quantified description of the macro-economic and financial interrelationships in the country (http://www.nscb.gov.ph/products/sam.asp)

Table 2.3 Datasets used in the literature in examining international migration and/or remittances in the Philippines

Authors	Main Datasets Used in the Analysis
Macro level data	
Burgess and Haksar (2005)	Macroeconomic time series data (1973-2002) (e.g., GDP per capita, investment to GDP ratio, workers remittances to GDP ratio)
Goce-Dakila and Dakila (2006)	A Five-Region Social accounting matrix (SAM)
Ang (2007)	Macro level data BSP (1988-2004); National level and regional level data from NSCB (2000; 2003)
Bayangos and Jansen (2011)	BSP datasets on macroeconomic variables (1999-2009)
Administrative Records/Database	
Theoharides (2014)	POEA records of all new contract hires and OWWA membership database of new hires and rehires
Survey and Census Data	
Rodriguez (1998)	FIES (1991)
Rodriguez and Tiongson (2001)	Merged sample from SOW (1991) and LFS (1991)
Ravanilla and Robleza (2005)	FIES (1985, 1998, 19911994, 1997 and 2000)
Cabegin (2006)	Merged LFS, FIES and SOF (2003)
Yang (2006b)	Merged LFS (July 1997 and October 1998), SOF (October 1997 and October 1998), FIES (1997; for January-June 1997 income and expenditures) and APIS (1998; for April-September 1998 income and expenditures); panel household survey data
Yang and Martinez (2006)	Merged LFS (July 1997 and October 1998), SOF (October 1997 and October 1998), FIES (1997; for January-June 1997 income and expenditures) and APIS (1998; for April-September 1998 income and expenditures)
Capistrano and Sta. Maria (2007)	Panel data on the 16 regions in the years 1997, 2000 and 2003 from NSO and NSCB (Labor migration and remittances data from SOF; Poverty and GRDP data from NSCB; Gini coefficients from FIES)
Tabuga (2007)	FIES (2003)
Pernia (2006)	For regional-level analysis: Panel data on 15 regions for the years 1994, 1997, 2000, and 2003: SOF (Data on remittances); National Income Accounts (gross regional domestic product); FIES (expenditures)
Pernia (2008)	Merged FIES, SOF, and LFS (2000 and 2003); For regional-level analysis: Panel data on 15 regions for the years 1994, 1997, 2000, and 2003; Linked FIES, SOF, and LFS (data on remittances and household expenditures); National Income Accounts (gross regional domestic product)
Benedictis, Calfat, Rivas and Salvador (2008)	Merged FIES (2003) and SOF (2003)
Ducanes and Abella (2008a)	LFS (1988- 2004), the FIES (1988-2003), and the APIS (1998); Panel data of 27,321 households from the period July 1997 to October 1998 constructed from the 1997 FIES, the 3rd quarter 1997 LFS, the 4th quarter 1998 LFS, and the 1998 APIS.
Ducanes and Abella (2008b)	Merged LFS (1988-2004) and FIES (1988-2003)
Edillon (2008)	FIES (2003), LFS (January 2004) and SOF (2003); Primary data collected through key informant interviews (including the barangay captain, barangay secretary and health worker); interviews of household respondents; and collection of data for children from the sample OFW households through physical examination by a qualified physician, group interview of 3-4 children of the same age group and one-on-one interview of a child selected from each group

Authors	Main Datasets Used in the Analysis
Semyonov and Gorodzeisky (2008)	Survey of households and children of overseas workers covering Manila City (National Capital Region), Davao City (in Mindanao), Iloilo City (in Visayas) and Pangasinan (in Luzon) consisting of 1056 households which sent an overseas worker and 1,218 households which have not sent an overseas worker
Yang (2008)	Merged LFS (July 1997 and October 1998), SOF (October 1997 and October 1998), FIES (1997; for January-June 1997 income and expenditures) and APIS (1998; for April-September 1998 income and expenditures); panel household survey data
Ang, Sugiyarto and Jha (2009)	FIES (2000, 2003, 2006)
Quisumbing and McNiven (2010)	Longitudinal data set from Bukidnon, Philippines; 295 households interviewed in 1984/85 and 2003
Murata (2011)	FIES (1988, 1994, 2000 and 2006)
Cortes (2015)	Philippines Census (1990, 1995, 2000 and 2007) and SOF (1993 to 2000)
Reyes, et al. (2014b)	Merged data from FIES (2003), LFS (2003), and SOF (2003); Data collected from 76 households in selected communities in Carmona, Cavite and Mabini, Batangas based on a purposive sampling method using the CBMS Household Profile Questionnaire, and the Remittance and Entrepreneurship module which served as a rider questionnaire
Ducanes (2015)	A panel 8,010 households from the merged 2006 FIES, the 2007 and 2008 APIS and the January 2007, July 2007 and July 2008 LFS (FIES-APIS-LFS panel)

Notes: NSO- National Statistics Office; NSCB- National Statistical Coordination Board; FIES- Family Income and Expenditures Survey; LFS- Labor Force Survey; SOF- Survey on Overseas Filipinos; SOW (Survey on Overseas Worker, now SOF); APIS- Annual Poverty Indicators Survey. The FIES, LFS, SOF and APIS are nationally-representative surveys conducted by NSO. Both NSO and NSCB has been part of the Philippine Statistics Authority (PSA) since 2013 after the merging of the major statistical agencies in the Philippines. Since one particular household survey dataset does not include all the variables or information needed by the researchers in their analysis, some of them linked several household survey datasets.

Meanwhile, several studies estimated the impact of international migration and remittances in the Philippines utilized the datasets generated through household surveys mentioned earlier. Since the information collected by CFO and POEA are rather limited for the purpose of their studies, many researchers used data generated through the nationally-representative surveys conducted by NSO and NSCB, including the Family Income and Expenditures Survey (FIES), Labor Force Survey (LFS), Survey on Overseas Filipinos (SOF), Annual Poverty Indicators Survey (APIS) and the Philippine Census of Population. For instance, Rodriguez (1998), Tabuga (2007), Ducanes and Abella (2008a), Edillon (2008), Ang, Sugiyarto and Jha (2009) and Murata (2011) employed a cross-sectional analysis of the FIES. Meanwhile, Cortes (2015) used the Philippine Census data. However, since the Census data is designed primarily to collect inventory of the population in the Philippines and contains only information that provides a general picture of the migrants and their families and lacks information on the migration characteristics, she complemented her analysis with the data from SOF. In many cases, researchers had to link the different datasets from the nationally representative surveys since the variables needed in the analysis are not necessarily contained in one single dataset. The merging of the difference datasets is possible since these national surveys used the same master sample for a particular survey period. This merged datasets were utilized by Rodriguez and Tiongson (2001), Cabegin (2006), Pernia (2008), Benedictis,

Calfat, Rivas and Salvador (2008), Ducanes and Abella (2008a) in their own research. The analysis was expanded even more by some authors by using a panel dataset in order to eliminate the biases that arise from endogeneity, selection and omitted variables in estimating the impact of international migration and remittances, including Yang (2006a), Pernia (2006), Yang and Martinez (2006), Ducanes and Abella (2008b), Pernia (2008), Yang (2008) and Ducanes (2015). While Pernia (2006) and Pernia (2008) used almost similar datasets, the remittance data in the latter is much larger than the former since it used remittances data from the linked FIES, SOF and LFS instead of mere SOF data.

A limited number of studies incorporated primary data collection (through the conduct of actual interviews) in their research in order to quantify the impact of migration. One relevant study is the one conducted by Quisumbing and Mcniven (2010) which employed a unique longitudinal dataset for the province of Bukidnon in the Philippines which includes 295 households interviewed in 1984/85 and 2003. Another research which employed primary data collection is the study conducted by Edillon (2008) which, aside from using the datasets from nationally-representative surveys (particularly, FIES, LFS and SOF), also utilized primary data that were collected through interviews. In particular, they interviewed key informants (barangay captain, barangay secretary and health worker), household respondents and children from the sample OFW households and came up with a total of 130 children who were interviewed, 24 of which were interviewed individually. Semyonov and Gorodzeisky (2008) also used data from a survey of households and children of overseas workers covering Manila City (National Capital Region), Davao City (in Mindanao), Iloilo City (in Visayas) and Pangasinan (in Luzon) consisting of 1056 households which sent an overseas worker and 1,218 households which have not sent an overseas worker.

Meanwhile, measurement issues can also be an important concern in understanding Filipino migration and receipt of remittances. It has to be recognized that estimates based on survey-based datasets mentioned above are subject to sampling error. Given this, census datasets with the required information and variables can be explored in order to have more accurate estimates. In addition, because of the differences in the conceptual definition adopted by different sources of data as mentioned above, some results may lead to underestimation or overestimation of the actual figures. For instance, the nationally representative SOF (as a rider to LFS) captures only those OFWs who have left the country in the past five years prior to the survey and hence, could also underestimate the stock of OFWs.

Since it was noted that many of the earlier studies utilized the FIES dataset in their analysis, it is also important to highlight some of its limitations. For instance, although it provides information on the migrants' remittances, it does not contain detailed information on migrants. This means that FIES can help identify remittance-recipient households but not the number of actual migrants since some of these remittance-recipient households may have multiple migrants. At the same time, some households who reported receiving remittances from abroad may not actually have a migrant member. Moreover, the public use files of the FIES, which what is used in many of the

earlier studies (except Tabuga, (2007)), does not include detailed information for the category "cash receipts, gifts, support and other forms of assistance from abroad" which actually includes: (1) cash received from family members who are contract workers; (2)cash received from family members who are working abroad; (3) pensions, retirement, workmen's compensation and other benefits; (4) cash gifts, support, relief, etc. from abroad and (5) dividends from investment abroad. Using the aggregate figure, high income households would appear to receive large amounts of remittances from abroad Given this limitation and in order to have more accurate estimate of remittance impact, Tabuga (2007) explicitly requested for disaggregated data under the general category which allowed her to sum up only the relevant items, particularly items (1), (2) and (4). Nevertheless, her remittance variable may still be underestimated if the interest is on total remittances given the fact that in-kind remittances and cash brought home by the migrants themselves are not taken into account. The issue of "missing remittances" in FIES estimates as highlighted by Ducanes (2010) can also invalidate the inferences based on this survey data and can have serious implications in the results of many studies that estimated the impact of remittances using said dataset.

Meanwhile, the income data (which can be used as basis in determining the poverty status of households) from household surveys such as the FIES may be underestimated since some households, especially the rich ones, may under-report their income (Rodriguez, 1998). In addition, majority of the poor households, especially in developing countries like the Philippines, are still part of the informal sector or are engaged in agricultural activities making it more difficult to obtain reliable estimates of their income. As acknowledged by Murata (2011), although FIES contains a wealth of information about the households, one important limitation is that it contains member-level information (e.g., educational attainment) only for the household head and not for the rest of the family members, which limits the analysis that can be done by the researcher.

Although Reyes (2014b) used merged data from FIES, LFS and SOF, they also collected data from 76 households in selected communities in Carmona, Cavite and Mabini, Batangas (based on a purposive sampling method) to examine the behavior of households with OFW member toward business creation. This study conducted recently by the CBMS International Research Network (Reyes, et al., 2014b) in collaboration with the Asian Development Bank (ADB) and Commission on Filipino Overseas (CFO) examined the behavior of households with OFW members towards business creation and focused on determining the factors that facilitate or prevent households to engage in or in growing their business. Although the study is not directly looking at the impact on poverty, the study was able to demonstrate the use of data from nationally-representative surveys complemented by the CBMS data in selected LGUs to understand the link between remittances and engaging in an entrepreneurial activity.

2.3.2 Different Methodologies Employed in Estimating the Impact of International Migration

Earlier studies employed different methods in determining the impact of international migration and/or remittances. This section focuses on studies that utilized quantitative techniques in estimating the impact (Table 2.4). At the macro level, Burgess and Haksar (2005) employed an instrumental variables method to estimate the relationship between per capita growth in real income and growth in remittances while dealing with the endogeneity problem. In particular, three instruments were used as follows: 1) ratio of per capita GDP in the Philippines to that in the US; 2) a measure of migration from the Philippines in the form of deployment of OFWs; and 3) ratio of real interest rates in the Philippines to those in the US (with US treated as a proxy for all host countries). Nevertheless, the fact remains that measurement issues and finding adequate instruments to address the endogeneity problem complicate the estimation of the impact of remittances on growth. Given these, Burgess and Haksar (2005) highlighted that micro-level studies can provide an alternative way and possibly more useful analysis of the effect of remittances. Meanwhile, Ang (2007) followed the same framework as Burgess and Haksar (2005) but included in the model the variables representing sources of foreign exchange inflows and at the same time, used real change in the economy instead of growth per capita income. While the two authors show contradicting results, one important limitation of Ang (2007) is that it failed to consider the endogeneity between the main variables of interest by simply adopting OLS in the estimation of the macroeconomic impact of remittances on the Philippine economy. Meanwhile, the three-stage least squares (3SLS) estimation procedure was employed by Pernia (2006; 2008) to estimate the impact of international migration and remittances on regional development (particularly through increased spending for consumption and investment in human capital and housing and consequent multiplier effects). The method was employed to take into account not only of the endogeneity of the three variables (expenditure of the poor, remittances and regional income) but also the interaction between equations through the covariance matrix of the equations' disturbances.

Moreover, Goce-Dakila and Dakila (2006) estimated a spatial computable general equilibrium model (SCGE) to determine the impact of OFW remittances on the Philippine economy focusing on inter-regional and economy-wide approach. While the applied general equilibrium framework can be an import tool in understanding the impact of the instability of remittances (as a source of foreign exchange), the authors also acknowledged that further refinements may be necessary for the quantitative results they presented. It is also noted that estimates based on CGE models can be considered as rough estimates and although they can be useful policy tools, they are highly calibrated making it difficult to verify empirically the model specifications and results. Meanwhile, in order to estimate the impact of workers' migration and remittances on the competitiveness of the home country, Bayangos and Jansen (2011) used a system of simultaneous equations consisting of 67 equations consisting of 29 simultaneous equations, 32 recursive equations which are largely estimated using ordinary least squares and 6 identify

equations. The 29 simultaneous equations are estimated using single-equation methods: generalized method of moments-GMM (4 equations), two-stage least squares-2SLS (13 equations) and ordinary least squares-OLS (12 equations). The choice of instruments for the 2SLS is assumed to be all the lagged endogenous variables and all current and lagged exogenous variables in the whole system. As many authors recognized, these macro level estimations should be complemented by micro-level analysis in order to have a complete picture of the impact of international migration and remittances.

Table 2.4 Different quantitative methods employed in estimating the impact of international migration and/or remittances in the Philippines

Authors	Quantitative Methods Employed in the Analysis
Macro/Regional Level Analysis	
Burgess and Haksar (2005)	Instrumental variable (IV) technique to estimate the relationship between per capita growth in real income and growth in remittances; Instruments used: 1) ratio of per capita GDP in the Philippines to that in the US; 2) a measure of migration from the Philippines in the form of deployment of OFWs; 3) ratio of real interest rates in the Philippines to those in the US (with US treated as a proxy for all host countries)
Goce-Dakila and Dakila (2006)	Spatial computable general equilibrium (SCGE) model which is the first model to offer spatial dimension to model the impact of OFW remittances on the Philippine economy focusing on the inter-regional and economy-wide approach
Pernia (2006, 2008)	Three-Stage Least Squares (3SLS) procedure to estimate the impact of international migration and remittances on regional development
Ang (2007)	OLS regression to estimate the relationship between economic growth and remittances growth; Panel data models (random or fixed effects) to determine the relationship between number of OFWs per region and the following: regional labor productivity, regional percentage of labor force in agriculture and gross regional domestic product
Bayangos and Jansen (2011)	A system of simultaneous equations consisting of 67 equations, with 29 simultaneous equations (estimated using single equation methods: generalized method of moments-GMM (4 equations), two-stage least squares-2SLS (13 equations) and ordinary least squares-OLS (12 equations)), 32 recursive equations which are largely estimated using ordinary least squares and 6 identity equations to estimate the impact of workers' migration and remittances on competitiveness of the home country
Micro Level Analysis	
Regression Models	
Rodriguez and Tiongson (2001)	Probit analysis to determine the impact of international migration and receipt of remittances on the probability of non-migrant relatives in the household to participate in labor markets
Yang (2006a)	OLS to determine the impact of migrant income shocks (manifested in part via changes in remittances) on human capital accumulation and entrepreneurship; Considered the foreign exchange rate shock as a natural experiment
Pernia (2008)	OLS to estimate the impact of international migration and remittances on household income and savings, on education spending, on health care spending; on the proportion of employed members; Logit regression to estimate the impact on the likelihood of moving out of poverty
Ducanes and Abella (2008a)	Logistic regression to determine the impact of having an OFW in the household on the probability of being unemployed
Edillon (2008)	Regression and Chow's test for the secondary data obtained from FIES, LFS and SOF to test the significance of structural change on spending habits of OFW families and non-OFW families; Mainly cross-tabulations for the primary data

Authors	Quantitative Methods Employed in the Analysis
Semyonov and Gorodzeisky (2008)	OLS to estimate the impact of remittances on income level and standard of living (both objective and subjective standards of living)
Yang (2008)	OLS to estimate the impact of household exchange rate shocks on remittance receipts, migrant return rates, household income, consumption and other disbursements, including education expenditures, household durable good ownership, child schooling and child labor, household labor supply by type of work and specific types of entrepreneurial activities.
Ang, Sugiyarto and Jha (2009)	Logistic regression to determine whether remittances are significant in pulling households out of poverty
Cortes (2015)	OLS to estimate the impact of a mother's migration on her children's well-being (also combined with the use of IV method)
Counterfactual Income Approach	
Rodriguez (1998)	Two procedures to estimate incomes and to draw some comparisons between a "migration" regime and a "no migration" regime: 1) Income under "migration" regime is the actual household income reported in the survey (which includes international remittances) while income under the "no migration" regime refers to the amount of income after subtracting international remittances; 2) Regression analysis to estimate what household incomes would be according to household characteristics with a dummy indicating whether the household has income from migrants and indicating that the household has at least one remitting migrant variable as one of the explanatory variables
Benedictis, Calfat, Rivas and Salvador (2008)	Imputed the prior-migration income using the coefficients from the estimation of the determinants of per capita income of households who are not engaged in migration following the Heckman two-step estimation framework.
Instrumental Variables(IV) Method	
Yang and Martinez (2006)	IV method to estimate the impact of remittances on poverty; Instrument for remittance: foreign exchange shock arising from the Asian financial crisis
Ang, Sugiyarto and Jha (2009)	IV method to estimate the impact on expenditures; Instrument for remittance: household asset holdings such as ownership of cars, televisions and refrigerators and the ratio of entrepreneurial income to total income
Quisumbing and McNiven (2010)	IV method to estimate the impact of migration and remittances on assets, consumption and credit constraints; Instruments for migration and remittances: number of sons and daughters aged 21 and over, their completed years of schooling, village characteristics affecting migration and shocks experienced by migrants; For international migrants, the migrant shocks are the average percentage deviation (of destination) national GDP in 2002 from trend national GDP.
Murata (2011)	IV-Tobit method to estimate the impact of remittances on education expenditures; Instruments for remittances: ownership of washing machine and of a television set for the model with "share of education expenditures" as a dependent variable; presence of a refrigerator, of a washing machine, and of a television set for the model with the "absolute amount of education expenditures" as a dependent variable
Theoharides (2014)	Used migration demand index (which exploits the destination country-specific historic migration networks across provinces) to instrument for migration rate at the provincial level when estimating the effect of migration on secondary enrollment in the Philippines
Cortes (2015)	IV methods to estimate the impact of a mother's migration on her children's well-being; Two instruments used for mother's migration: 1) province-level share of female migrants going to each of the top five destinations interacted with year fixed effects and aims at capturing all potential shocks to destination countries; 2) expected salary for a female migrant constructed using her province's distribution

Authors	Quantitative Methods Employed in the Analysis
	of destination countries and data on migrant wages by occupation and destination.
Panel Data Analysis	
Capistrano and Sta. Maria (2007)	Panel regression method using the generalized least squares (GLS)- random effects approach to determine the impact of international labor migration and OFW remittances on poverty
Ducanes and Abella (2008b)	Grouped the households into four types depending on the presence or absence of an OFW in a particular period and traced how welfare levels (as measured by percentile ranking and by relative poverty) changed over the two time periods to determine the impact of international migration on poverty
Ducanes (2015)	Fixed effects panel regression to determine the impact of overseas migration on various household outcomes: per capita income and expenditure; total income and expenditure; percentile ranking (in per capita income and expenditure, as well as in total income and expenditure); wages and salaries
Quantile Regression	
Tabuga (2007)	Quantile regression (QR) to address heteroskedasticity and to determine the effects of remittances at various segments or quantiles of the observation
Murata (2011)	Conditional quantile regression, conditional interquantile regression and unconditional quantile decomposition approach to investigate the effect of remittances on household expenditure inequality
Other Methods	
Rodriguez (1998)	Decomposition analysis to examine the changes in average total household incomes and inequality assuming a small increase in international migrants' remittances (i.e., a small increase in emigration)
Ravanilla and Robleza (2005)	Decomposition analysis to isolate the impact of international remittances on total income inequality
Cabegin (2006)	Switching regression model of labor force participation and supply and multinomial probit model of husband migration-wife labor participation and supply to estimate the effect of overseas migration on the non-migrant spouse's market participation and labor supply behavior
Tabuga (2007)	Tobit model techniques to determine the effect of remittances on spending behavior while taking into account the zero expenditures for the identified expenditure categories

Notes: Studies which determined the impact of international migration/remittances using different estimation methods appear more than once in the Table.

Earlier studies in the Philippines that utilized household survey data estimated the micro level impact of international migration and remittances by employing different methods of estimation. While some research studies adopted simple estimation models, other employed more advanced techniques. For instance, several authors (e.g., (Yang D. , 2006a; Pernia, 2008; Yang D. , 2008; Cortes, 2015) employed ordinary least squares (OLS) methods in determining the impact on various household outcomes. Yang (2006a) conducted a regression analysis in estimating the migrant income shocks (manifested in part via changes in remittances) on human capital accumulation and entrepreneurship with all dependent variables (except migration rate) being the first-difference variables. He also employed the same technique in 2008 (Yang D. , 2008) and took advantage of the unusual natural experiment in order to identify the impact of migrant income shocks on various outcomes, including remittance receipts, migrant return rates, household income, consumption and other disbursements (i.e., education expenditures, household durable good ownership, child schooling and child labor, household supply by type of work and

specific types of entrepreneurial activities). OLS was also employed by Pernia (2008) in examining the effects of international migration and remittances on household incomes and savings, on education spending, on health care spending, on the proportion of employed members. Semyonov and Gorodzeisky (2008) also estimated the impact of remittances on income level and standard of living (both objective and subjective standards of living) by employing OLS. Meanwhile, to determine the impact of mother's migration on the well-being of her children, Cortes (2015) also employed OLS methods although her analysis was complemented by an IV method. While Edillon (2008) simply presented cross-tabulations of the collected primary data, she also conducted a Chow's test using the secondary data obtained from FIES, LFS and SOF to determine if there is a significant structural change on the spending habits of OFW families and non-OFW families.

Furthermore, given the dichotomous nature of the outcome variables, several authors conducted logistic regression or probit regression analysis in their studies. A logistic regression model was estimated by Pernia (2008) and Ang, Sugiyarto and Jha (2009) to determine the impact on the likelihood of moving out of poverty. In addition, Ducanes and Abella (2008a) estimated a logistic regression model to determine the impact of having an OFW in the household on the probability of being unemployed while Rodriquez and Tiongson (2001) employed a probit analysis to determine the impact of international migration and remittances on the probability of participating in labor markets. While the abovementioned studies are able to provide insights on the potential impact of international migration and/or remittance receipts, one of the important limitations of the regression models and tests employed above is that they fail to consider the fact that international migration and remittances and not randomly assigned across households. At the same time, there exists the problem of endogeneity which were not taken into consideration in the estimations.

Meanwhile, other earlier research works also attempted to estimate the impact of international migration and remittances by adopting the counterfactual income approach. In this method, the researcher attempts to estimate what would have been the income of the household (or the counterfactual income) if migration did not happen. For instance, Rodriguez (1998) estimated the incomes in "migration" and "no migration" regimes using two procedures. In the first procedure, income under "migration" regime is the actual household income in the survey (which includes international remittances) while the "no migration" regime refers to the amount of income after subtracting international remittances. This is a very simple procedure and possibly underestimates the no migration average income, especially if the migrants contributed to the household income prior to migration. The estimation also poses a concern since remittances are treated simply as an exogenous transfer. In the second procedure, regression analysis is used to estimate the household incomes based on household characteristics with a dummy variable, indicating whether the household has income from migrants and has at least one remitting migrant, as one of the explanatory variables. While this second procedures addresses the serious underestimation as in the first procedure, it also has a rigid assumption such that the migrant members contributed to the household income as much

as the non-migrant members did prior to migration. Both procedures used by Rodriguez (1998) in estimating the counterfactual income failed to completely address the endogeneity problem. To address the problems of endogeneity and selection bias, Benedictis, et al. (2008) adopted the counterfactual income approach but employed the Heckman estimation framework in estimating the counterfactual income. In particular, they impute the prior-migration income using the coefficients that were estimated for non-migrant households following the Heckman two-step estimation model.

As mentioned earlier, one of the most common methods used in the literature in an attempt to eliminate the biases that arise from the endogeneity of migration and remittances is the instrumental variables method. A number of authors employed this method in the case of the Philippines, particularly in determining the impact of migration and/or remittances on poverty, on household expenditures, including education expenditures, on assets and on credit constraints. Different instruments were also used depending on the variables under study. Yang and Martinez (2006) used the foreign exchange rate shock arising from the Asian financial crisis as an instrument for the remittance variable in determining the impact on poverty. Since remittances are also considered endogenous to household expenditures, researchers identified different instruments for remittances. Ang, Sugiyarto and Jha (2009) found that the suitable instruments include household asset holdings such as ownership of cars, televisions and refrigerators and the ratio of entrepreneurial income to total income. Meanwhile, Murata (2011) identified two sets of instruments for the remittance. In particular, for the model with "share of education expenditure" as dependent variable, the valid instruments are ownership of washing machine and of a television set. On the other hand, for the model with the "absolute amount of education expenditures" as dependent variable, the suitable instruments are ownership of a refrigerator, of a washing machine and of a television. Although Murata (2011) mainly used household assets as instruments for remittances, Ang, Sugiyarto and Jha (2009) also considered entrepreneurial income to total income ratio as an instrument, in addition to household asset holdings. It is also noted that one important limitation of Ang, Sugiyarto and Jha (2009) is that it did not take into account the censored nature of educational expenditures. Therefore, Murata (2011), through the estimation of the IV-Tobit model, has an important strength such that the zero educational expenditures were considered in the estimation while addressing endogeneity problem.

Moreover, to estimate the impact of migration and remittances on assets, consumption and credit constraints, Quisumbing and McNiven (2010) used the following instruments: number of sons and daughters aged 21 and over, their completed years of schooling, village characteristics affecting migration and shocks experienced by migrants. For international migrants, the migrant shocks are the average percentage deviation (of destination) national GDP in 2002 from trend national GDP. To address the problem that migration of female is not randomly allocated across households or regions, Cortes (2015) adopted two empirical strategies. The first strategy compares the children of migrant mother with children of migrant fathers and considers demand shocks as a random source of variation which affects the likelihood that a mother instead of the father

decides to work overseas. The second strategy used the province's destination distribution of female migrants to construct to sets of instruments. The first instrument is the province-level share of female migrants that go to each of the top five destinations interacted with year dummies in order to model the net effect of all types of shocks to destination countries. The second instrument, which captures the economic shocks, is the expected salary for the female migrant constructed using the distribution of destination countries of the province of origin and annual data on wages by occupation and destination. Meanwhile, Theoharides (2014) developed the migration demand index to instrument for migration rate at the provincial level in estimating the effect of migration on secondary enrollment in the Philippines. The index is a Bartik-style instrument which exploits the destination-country specific historic migration networks across provinces.

Some researchers also took advantage of the availability of datasets that can be matched to generate panel data. The use of panel data in the analysis can also address the problems with bias and reverse causality when estimating the impact of international migration and remittances. Although Ducanes and Abella (2008b) used a panel dataset, the analysis focuses mainly on grouping households into four types, i.e., no OFW in both periods; with an OFW in both periods; with OFW in July 1997 but without OFW in October 1998; and no OFW in 1997 but with OFW in October 1998. In their study, they simply traced how welfare levels (as measured by percentile ranking and by relative poverty) changed over the two time periods. It must be noted that simple comparisons of the welfare levels of the different groups of households, which was done by Ducanes and Abella (2008b) do not provide causal impact of international migration on poverty. This limitation was addressed by at least two other studies conducted in the Philippines by estimating panel regression models to determine the impact of international migration and/or remittances. Capistrano and Sta. Maria (2007) used the generalized least squares (GLS)- random effects approach to determine the impact of international migration and OFW remittances on poverty while Ducanes (2015) estimated a fixed effects panel regression to estimate the impact of overseas migration on various household outcomes, including per capita income and expenditure, total income and expenditure, percentile ranking (in per capita income and expenditure, as well as in total income and expenditure), wages and salaries. Capistrano and Sta. Maria (2007) admitted that while their study also attempted to employ a fixed effects panel estimation approach, the results show inconsistent signs for the explanatory variables which lead them to rely solely on random effects approach. It should be noted that employing a fixed effects panel regression estimation has an important strength over OLS or even random effects regression such that it leads to a consistent estimate of the main parameter of interest even if international migration is correlated with unobserved (but time-invariant) factors (e.g., motivation or inherent ability) (Ducanes, 2015). However, it also has one important limitation. Although it can control for unobserved but time-invariant household factors, it cannot control for unobserved but time-varying factors.

Considering the inequality between the rich and the poor, a quantile regression analysis can also be more helpful than simply estimating the average impact. Tabuga (2007) employed quantile regression techniques to address heteroscedasticity and to determine

the effects of remittances at various segments or quantiles of the observation. Murata (2011) also adopted the quantile regression framework (by employing conditional quantile regression, conditional interquantile regression and unconditional quantile decomposition approach) in investigating the effect of remittances on household expenditure inequality. Although employing quantile regression techniques can address some of the problems in using a large cross-sectional data that OLS cannot (e.g., heteroscedasticity and susceptibility to outliers), it does not necessarily mean that it is superior over the other methods since there are still many other challenges in obtaining reliable results aside from heteroscedasticity and outliers (Tabuga, 2007). In addition, one important limitation of the quantile regression techniques employed by both authors is that they failed to address the sample selection bias related to measuring the impact of international remittances. Murata (2011), however, explained that that his research did not deal with the selection problem mainly because the sample selection procedures are not well-developed in the quantile regression framework and because of the lack of information in the dataset he used (particularly the FIES) on factors influencing the remitting decision which can actually be used as instruments in trying to address the selection bias.

There are a few other methods used by researchers in estimating the impact of international migration and/or remittances on various outcomes. For instance, Rodriguez (1998) and Ravanilla and Robleza (2005)employed decomposition analysis to examine the impact on inequality. Both studies decomposed income into four major categories to determine the impact of remittances on inequality. Although the former focused its analysis on one time period (i.e., 1991), the latter extends the analysis by examining the impact of international remittances on inequality over time. In addition, Cabegin (2006) estimated a switching regression model of labor force participation and supply and a multinomial probit model of husband migration-wife labor participation in order to estimate the impact of overseas migration on the non-migrant spouse's market participation and labor supply behavior. Another method which was used by Tabuga (2007) is the Tobit model technique to take into account the zero expenditures for the identified expenditure categories in estimating the effect of remittances on spending behavior. However, her estimation neglected the potential endogeneity or reverse causality between education and remittances. This limitation, however, was addressed by Murata (2011) by estimating the IV-Tobit model mentioned earlier.

2.3.3 Results of Impact Studies

An earlier study by Chami et al. (2005) for a sample of 113 countries (including the Philippines) showed that remittances tend to be negatively correlated to the growth in GDP. Although initial analysis by Burgess and Haksar (2005) using macroeconomic time series data demonstrated a negative correlation between the growth in remittances and the per capita GDP growth in the Philippines since the mid-1980s, the estimation failed to address the endogeneity problem (Table 2.5). However, adopting the instrumental variable estimation to address this issue of endogenety still gave them inconclusive results as they found no compelling evidence that remittances result in a lower growth in

the Philippines which leads them to suggest the adoption of microeconomic-based studies as an alternative way of understanding further these issues. Contradicting further the results of these earlier studies, Ang (2007) found positive and significant correlation between economic growth and remittance growth based on the 1988-2004 data for the Philippines. Although Ang's (2007) estimation, unlike Burgess and Haksar (2005), failed to account for the endogeneity that exists between the two variables, his findings are supported by Bayangos and Jansen (2011) who highlighted that an increase in remittance flows will increase consumption, investment, labor productivity and economic growth. Despite these positive effects of remittances, however, they also found a loss in competitiveness which can have long-term negative effects for the country.

Table 2.5 Results of earlier research works that estimate the impact of international migration and/or remittances in the Philippines

Authors	Results
On Economic Growth and Regional Development	
Burgess and Haksar (2005)	• There is no evidence that remittances lead to lower growth due to incentive problems.
Pernia (2006; 2008)	• Remittances contribute to regional development mainly through increased spending for consumption as well as investments in human capital and housing, and consequent multiplier effects. • Remittances may cause regional divergence instead of convergence since regions which are more advanced are likely to get larger shares of the total remittances. • The overall regional development appears to benefit more the higher income households than the lower income households.
Ang (2007)	• There is positive and significant correlation between economic growth and remittance growth (based on OLS). • The number of OFWs per region has no significant impact on the gross regional domestic product (GRDP) across regions (although the sign, as expected, is positive)
Bayangos and Jansen (2011)	• An increase in remittance flows will increase consumption, investment, labor productivity and economic growth • There is a significant labor market effect of emigration and remittances on competitiveness going beyond the traditional exchange rate effect.
On Income, Poverty and Inequality	
Rodriguez (1998)	• International migrants' remittances worsen income distribution in the country, especially in the rural areas. • Inequality rises with emigration.
Ravanilla and Robleza (2005)	• Remittances increase inequality, especially in rural areas. • Remittances become less inequality-increasing over time.
Goce-Dakila and Dakila (2006)	• The middle-income classes are the main beneficiaries of remittance increases in absolute terms across all regions. • Low income households are the second major beneficiaries across all regions, except the National Capital Region where the high-income households are the second highest beneficiaries of remittances.
Yang and Martinez (2006)	• A 10 percentage point increase in remittance receipts (as a fraction of initial household income) results in a reduction in the household's likelihood of being poor by 2.8 percentage points. • Increases (favorable changes) in the mean exchange rate shock across a region's migrants lead to declines in the incidence and depth of poverty.

Authors	Results
Pernia (2006)	• Remittances contribute significantly to poverty alleviation, as shown by the higher family expenditure per capita of the bottom 40% of households, while controlling for the effects of other variables including physical infrastructure and human capital in the regions. • The benefit increases monotonically up to quintile 4, then diminishes for quintile 5, which is consistent with the expectations since the richest 20% of families are unlikely to have OFWs or to need remittances.
Capistrano and Sta. Maria (2007)	• A 10 percent increase in per capita remittance and number of labor migrants leads to an approximately 0.4 percent and 0.2 percent reduction, respectively, in the proportion of poor families.
Benedictis, Calfat., Rivas and Salvador (2008)	• Those who are better-off prior to migration are more likely to benefit from remittances than those who are relatively poor. • There is an increased income inequality as the rich became richer and the poor remained poor or even poorer. • Dependence on remittances does not necessarily translate to alleviation of poverty.
Ducanes and Abella (2008b)	• Having an OFW member allows families to move up the income ladder quite rapidly (i.e., by about 6 percentile points, on average, in the income distribution in about one year period). • A significant number of those who are able to move up come from the poor households, especially those with more educated migrants.
Pernia (2008)	• Although remittances increased the average incomes of all income groups, the impact is larger for the higher-income households than for the lower income households; Remittances help the poor move out of poverty.
Ang, Sugiyarto and Jha (2009)	• Remittances help households move out of poverty.
Semyonov and Gorodzeisky (2008)	• Compared to households without overseas workers, households with overseas workers have higher income and better living standards due to remittances • Based on subjective measures, households with overseas worker tend to assess their standard of living as significantly higher than respondents in households without and overseas worker. • Overseas remittances increase economic inequality.
Murata (2011)	• Based on OLS and conditional quantile regressions, receipt of international remittances increases the livelihood of the households and its effect increased from 1994-2000 at any selected point on the welfare distribution. • Based on the conditional interquantile regression, remittances contributed the most to the rich and hence, increased welfare inequality. The receipt of international remittances increased the gaps between the rich and poor, mainly between the middle and the rich groups. • Based on the unconditional quantile decomposition approach, receipt of remittances changed household expenditure patterns causing expenditure gaps to widen between 1994 and 2000. Unlike in conditional quantile regressions, the receipt of international remittances contributed to an improvement in the welfare of the middle class the most, followed by the rich and widens the welfare differences between poor and middle welfare households. • The receipt of international remittances appears to have significant and positive effect on household welfare but since the effect is greater among the rich, it would cause expenditure inequality among households to widen over time.

Authors	Results
Ducanes (2015)	• Although households which send a member abroad may incur losses in domestic wages, they also experience a windfall in income transfers which help them move up the income ladder and reduce their poverty. • Because most of the OFWs come from higher income deciles, the absolute number of households that are actually lifted out of poverty by overseas migration is likely to be much lower than in other countries. • Bulk of the remittance-receiving households belongs to the top two quintiles.
On Household Employment Decision, Labor Supply and Entrepreneurship	
Rodriguez and Tiongson (2001)	• Households with migrant workers tend to have lower labor supply; An increase in remittances resulted in a reduction in working hours of both men and women, with the effect slightly higher for men than for women.
Cabegin (2006)	• Migration significantly affects the labor supply decision of the non-migrating spouse of prime age (i.e., 25-54 years old) through mechanisms that are different for the wives compared to the husbands; The presence of children affects more the decisions of the former while the larger remittances affects more the latter.
Yang (2006a)	• Favorable exchange rate shocks result in increased hours worked in self-employment and likelihood to start relatively capital-intensive household enterprises.
Ducanes and Abella (2008a)	• Labor force participation rates of member of households with and without OFWs are virtually the same. • The labor force participation of households with OFWs is consistently higher than those without OFW if those members who are going to school are dropped from the sample. • Having an OFW in the household has no significant direct impact on the probability of being unemployed, controlling for income, sex, age, education and marital status of labor participants.
Pernia (2008)	• Remittances tend to reduce labor force participation of household members who are left behind.
Yang (2008)	• Positive migrant shocks make it more likely for household members to work for more hours in self-employment and to start relatively capital-intensive household enterprises).
Reyes (2014b)	• Based on the results from the merged FIES, LFS and SOF data, the number of dependents, food expenditure, level of wages and salaries received by the household and construction of shelter are inhibiting factors for business creation. On the other hand, the age of OFW members, number of members with job, and specific occupation of household members facilitate entrepreneurship. • Based on the collected CBMS data in selected communities (using the CBMS-HPQ and a rider questionnaire) household size, number of members in school, having a household member with an illness, number of dependents, debt payment, and asset accumulation are inhibiting factors while age, educational attainment and skills of OFW members as well as length of sending OFWs are the facilitating factors in a household's decision to engage in an entrepreneurial activity.
On Children Left Behind	
Yang (2006a; 2008)	• Favorable exchange rate shocks result in greater child schooling, reduced child labor and increased education expenditures in migrants' origin households.
Pernia (2008)	• Remittances enhanced spending on education.

Authors	Results
Tabuga (2007)	• Remittance induces households to spend more on education.
Edillon (2008)	• The proportion of children who received academic and non-academic awards is significantly higher among children of OFWs compared to children of non-OFWs • Majority of OFW children are not protected against economic shocks, more vulnerable to psycho-social shocks brought about by splitting up of families, with less participation in family-decision making and in community and civic organizations. • Some of the children of OFWs aged 13-16 years old receive less than average money inputs but all receive less than average adult attention. • There is no structural difference in the spending habits between OFW families and non-OFW families on education.
Ang, Sugiyarto and Jha (2009)	• Remittances do not have a significant influence on investment spending on education
Cortes (2015)	• Children of migrant mothers are more likely to lag behind in school compared to children with migrant fathers which supports the hypothesis that a mother's absence has a stronger detrimental effect than a father's. • Remittances explain a significant fraction of the lower college attendance rate of children with migrant workers. • There is much larger and statistically significant negative effect on the educational outcomes of boys, regardless of age. • Lower educational outcomes for teenage children with migrant mothers might result from added responsibilities in the household. • Maternal absence is associated with worse educational outcomes for younger children.
Quisumbing and McNiven (2010)	• Remittances have a positive impact on educational expenditures, enabling asset accumulation and investment in human capital.
Murata (2011)	• The receipt of remittances from abroad would increase the budget share for education as well as its absolute value.
Theoharides (2014)	• Secondary school enrollment increases by 3.5 percent in response to an average increase in province-level migration. Private enrollment increases by 11.9 percent.
Ducanes (2015)	• The international remittances received by the households support their increased consumption, including spending on education.
On Other Household Expenditures/Outcomes	
Tabuga (2007)	• Remittance induces households to spend more on housing, durable goods, consumer goods and leisure but do not induce household to spend more on vices, like tobacco and alcohol. Households also allocate less on food which are regularly eaten outside.
Edillon (2008)	• Having an OFW parent does not have an impact on their health-seeking behavior (i.e., remains poor). • There is no structural difference in the spending habits between OFW families and non-OFW families on food, medical care, non-durable furnishings and savings.
Pernia (2008)	• Remittances enhanced household savings and health care.
Ang, Sugiyarto and Jha (2009)	• The share of expenditure on food is on average lower for households receiving remittances. • The marginal propensity to consume food is higher for remittance-receiving households. • Remittances do not have a significant influence on investment spending on

Authors	Results
	health care and durable goods.
Quisumbing and McNiven (2010)	• Having a larger number of migrant children reduces the values of non-land assets and total expenditures per adult equivalent. • Remittances have a positive impact on housing, consumer durables, non-land assets, total expenditures (per adult equivalent). • Neither migration nor remittances affects current credit constraint status.
Ducanes (2015)	• The international remittances received by the households support their increased consumption, including spending on medical care, real property and equipment, food, clothing and recreation and allow them to increase inter-household transfers.

Notes: Studies which determined the impact of international migration/remittances on several household outcomes appear more than once in the Table. Although some household outcome groupings may overlap, the groups were identified simply to capture some similarities.

At the regional level, Pernia (2006; 2008) found that remittances contribute to regional development mainly through increased spending for consumption as well as investments in human capital and housing and consequent multplier effects. However, remittances may also cause regional divergence since the larger shares of the total remittances are more likely to go to the more advanced regions. At the same time, increases in regional income appear to benefit the richer households than the poorer households. The results of Ang (2007), however, contradict the findings of Pernia (2006; 2008) In particular, Ang's (2007) estimation showed that the number of OFWs per region has no significant impact on the gross regional domestic product across regions. The difference in the results may have arise from the differences in the data and variables used as well as in the methods of analysis employed. While Ang's (2007) specification basically follows Pernia (2006), the former used number of OFWs instead of remittances. In addition, the former estimated random and fixed effects model while the latter employed three-stage least squares method to take into account the endogeneity of expenditures of the poor, remittances and regional income.

Although there exists a number of studies which looked at the impact of international remittances on poverty in the Philppines at the micro level, results vary because of the differences in the data and methods used in the analysis. While Ducanes and Abella (2008b) focused on simple comparisons of households' living conditions with and without an OFW, they highlighted that having an OFW helped migrant families move up the income ladder quite rapidly (especially the poor) based on the panel data generated from exisiting national surveys in 1997-1998. It should be noted, however, that simple comparisons presented in their paper does not give the the causal impact of remittances. Pernia (2008) also found positive impact of remittances on household income (and hence, reduction in poverty) after employing a quintile analysis to examine the distribution of households incomes with and without remittances. However, the two methods of generating the counterfactual incomes employed in the paper (i.e., by treating remittances as an exogenous transfer and by simple adjustments of household income to foregone domestic earnings) may not give a good estimate of the impact of remittances. At the same time, based on the logit regression model, he confirmed that the share of remittances to total household income increases the likelihood of a household moving out

of poverty. An increase in household income and and improvement in the living standards among households with overseas workers were also found by Semyonov and Gorodzeisky (2008) in a study of a sample of households in four primary sending areas in the Philippines (including Manila City, Davao, Iloilo City and Pangasinan). In addition, the results based on subjective measures also revealed a significant improvement in the living standards of housheolds with overseas workers. It should be noted that the estimations in the abovementioned studies failed to consider the endogeneity of remittances and hence, may yield biased estimates of the coefficients because of the bidirectional causality between the dependent variable and the remittance variable.

Significant impacts were also found by a number of researchers after employing different techniques that address the limitations of some of the earlier studies. For instance, employing an IV method to address the endogeneity of remittances, Yang and Martinez (2006) found that 10 percentage point increase in international remittances results in a 2.8 percent decline in the likelihood that a migrant household will be in poverty. The impact is lower based on the findings of Capistrano and Sta. Maria (2007) although they used a 10 percent increase in per capita remittance instead of total international remittances received by the households and employed a random effects approach instead of an IV method. Their estimation revealed that a 10 percent increase in per capita remittance results in a 0.42 percent reduction in the proportion of families living below the poverty threshold. At the same time, a 10 percent increase in the number of labor migrants leads to a 0.2 percent decline in the proportion of poor families. This improvement in the poverty situation among migrant households is also supported by Ducanes (2015) who found, based on panel data analysis, that households who have an overseas member have two-fold to three-fold greater odds of climbing out of poverty compared to those who do not have a member overseas. Ang, Sugiyarto and Jha (2009) also confirmed that remittances help households move out of poverty based on the IV estimation method they employed in their study. Meanwhile, aside from a decline in poverty incidence, the same research by Capistrano and Sta. Maria (2007) mentioned earlier revealed a 0.20 percent reduction in the depth of poverty and a 0.11 percent decline in the welfare of those located far below the poverty line for every 10 percent increase in per capita remittance. The decline in the depth of poverty resulting from having migrant worker or receiving remittances is also confirmed by Yang and Martinez (2006) and Ducanes (2015).

Although international migration and remittances appear to reduce poverty in general as highlighted by the studies mentioned earlier, it may not necessarily benefit all poor households. Goce-Dakila and Dakila (2006), by adopting the SCGE framework, found that across regions, middle income households are the main beneficiaries of the increase in remittances, followed by those in the low income group. This pattern is true for all regions except the National Capital Region (NCR) where the second highest beneficiaries are the high-income households. Although CGE model can be a useful policy tool, one of its limitations is that it is usually heavily calibrated and at the same time, has model specifications and results which are not easy to verify empirically. However, micro-based studies using household survey data have confirmed almost similar patterns in terms of

the impact of international migration and remittances. In fact, several studies have shown that international migration and remittances benefitted more the richer households and hence, worsen inequality. For instance, Rodriguez (1998) concluded that international remittances worsen income distribution in the Philippines based on a comparison of the inequality measures generated for "migration" and "no migration" regime. While he acknowledged that his model does not correct for the endogeneity and may provide biased estimates, the decomposition analysis he conducted in the same paper confirmed an increase in income inequality, especially in the rural areas. Similar results were found by Ravanilla and Robleza (2005) who adopted the same method of decomposition but, unlike Rodriguez (1998) used survey datasets for several time periods. Although they also confirmed an increase in inequality, they found that remittances become less inequality-increasing over time. The more recent study conducted by Semyonov and Gorodzeisky (2008) also concluded that overseas remittances increase economic inequality although the estimation method employed seems to ignore the issues of selection bias and endogeneity of migration decisions.

While employing a counterfactual income analysis and adopting the Heckman two-step estimation framework, Benedictis, et al. (2008) actually found that receipt of remittances does not necessarily translate to alleviation of poverty. In fact, those who are better-off prior to migration are more likely to benefit from remittances than those who are relatively poor. These results were further supported by Ducanes (2015) and Murata (2011). In particular, Ducanes (2015) highlighted that bulk of the remittance-receiving households belong to the top two quintiles. Adopting the quantile regression framework, Murata (2011) concluded that while the receipt of international remittances appears to have significant and positive effect on household welfare, the effect is greater among the rich and hence, would cause expenditure inequality among households to widen over time. There are, however, distinct differences in the factors explaining the increased inequality depending on the method of analysis he employed. For instance, based on the conditional interquantile regression, the rich benefitted the most and the inequality is explained mainly by the gaps between the middle and the rich households. On the other hand, based on the unconditional quantile decomposition approach, the middle class households benefitted the most, followed by the rich and a wider gap is observed between the poor and the middle income households. It is noted that Murata's (2011) estimation failed to address the selection bias problem since selection correction procedure are not well-developed in the quantile regression framework that is adopted in the study. His research is also limited by the fact that the FIES, which is the dataset used in the study, lacks information on the factors that influence the remitting decisions and hence, finding a valid instrument is not possible.

Meanwhile, a different pattern was observed by Pernia (2006) and Pernia (2008) in terms of who actually benefit from remittances. After employing the three-stage least squares method, both studies confirmed that the benefits increases with income quintile up to a certain point only. Pernia (2006) highlighted that the benefit increases monotonically up to quintile 4, then diminishes for quintile 5 while Pernia (2008) confirmed that the positive impact on household well-being continues to increase for quintile 3 but becomes

insignificant for the next higher quintiles. The author explained that the decline in the benefits from remittances for the higher income quintiles is consistent with the expectations since the richest households are unlikely to have OFWs or need remittances.

The relative productivity of household members who are left behind may also be affected by migration and hence, the total income of the household. In some cases, employment decisions of left-behind members of the households are influenced negatively by the fact that a member of the household is working abroad. For instance, some members, especially women who used to participate in the labor market, may decide to quit their jobs and focus on taking care of the children and their home. Rodriguez and Tiongson (2001), based on a probit analysis, found that households with migrant workers tend to have lower labor supply. In addition, an increase in remittances resulted in a reduction in working hours of those who are left behind, with a slightly larger effect for men than for women. While a lower labor supply is also supported by Cabegin (2006), she explained that the mechanisms through which migration affects labor supply decision of the non-migrating spouse are different for husbands and wives based on the switching regression model and multinomial probit model estimation. In fact, the presence of children affects more the decisisions of wives while the larger remittances affects more the husbands. For instance, wives with school-aged children (7-14 years old) in migrant household s are less likely to hold a full-time job and more likely to be unemployed as compared to those in non-migrant households. On the other hand, an increase in the amount of remittances received by the households decreases the participation of husbands in full-time employment. The reduction of labor force participation among household members who are left behind was also found by Pernia (2008) although estimation was based simply on OLS methods. These results are, however, contrary to Ducanes and Abella (2008a) who argued that the labor force participation rates of households with and without an OFW in the Philippines are virtually the same. If those going to school are removed from the sample, they found that the labor force participation of those with OFWs is consistently higher. Furthermore, household members who are left behind are more likely to work for more hours in self-employment and to start relatively capital-intensive household enterprises (Yang D. , 2006a; 2008). The differences in the results of Cabegin (2006) and Ducanes and Abella (2008a) also arise from the differences in the data and methods of analysis employed. The former estimated a switching regression model and multinomial probit model using the merged data from LFS, FIES and SOF for the year 2003 while the latter employed logistic regression using the LFS (1988-2004) and FIES (1988-2003).

A number of studies also looked at the effects of international migration of parents and their remittances on the children they left behind, especially on their education. Having a migrant parent could have long-term implications on the well-being of these children and their households. In the literature, there were evidences that show the positive impact of remittances on the education of children who are left behind. This positive impact is reflected in the increase in child schooling and educational expenditures among remittance-recipient households in the Philippines, coupled with a decline in child labor as demonstrated by Yang (2006a; 2008). Using foreign exchange shock arising from the Asian financial crisis as a natural experiment, he found positive impact of remittances on

education expenditures with an elasticity of 0.55. This result is also supported by Tabuga (2007), Pernia (2008), Quisumbing and McNiven (2010), Murata (2011) and Ducanes (2015) who all found that remittances significantly increase education spending of households despite the differences in the methods and data used in the analyses. Their findings were, however, contradicted by Ang, Sugiyarto and Jha (2009) who clamied, through the results of the IV estimation method, that remittances to the Philippines do not have a significant effect on items of consumption or investment, including education. At the same time, the negative effect on education of children was demonstrated by Cortes (2015) who found, using both OLS and IV methods, that having a migrant mother makes it more likely for the children to lag behind in school compared to having the father as the migrant, especially for younger children. This suggests that the absence of a mother have a more detrimental effect than the absence of a father. It also appears that there is much larger and statistically significant negative effect on boys, regardless of age. While, maternal absence is associated with worse education outcomes for younger children, the lower educational outcome for teenage children with migrant parents may also be linked to their added responsibilities in the household. However, Edillon (2008) claimed against the negative effect on education by highlighting that the proportion of children who received academic and non-academic awards is significantly higher among children of OFWs compared to children of non-OFWs based on the interviews they conducted. At the same time, the Chow's test employed for the secondary data obtained from FIES, LFS and SOF revealed no structural difference in the spending habits between the OFW families and non-OFW families on education.

In terms of other household expenditures, Tabuga (2007) found that remittances induced households to spend more on housing, durable goods, consumer goods and leisure but did not induce household to spend more on vices, like tobacco and alcohol, and on food which are regularly eaten outside. These results are supported by Quisumbing and McNiven (2010) but in addition, the latter provided evidence on the positive impact of remittances on non-land assets. Aside from increased spending from food, clothing, and recreation, Ducanes (2015) also found an increased spending on real property and equipment and interhousehold transfers. However, Ang, Sugiyarto and Jha (2009) contradicted the results of Tabuga (2007) Quisumbing and McNiven (2010) and Ducanes (2015) as they found that remittances do not have a significant influence on investment spending on durable goods. With regard to health expeditures, although Pernia (2008) and Ducanes (2015) concluded that remittances enhanced spending on health or medical care, their results are contradicted by Edillon (2008) and Ang, Sugiyarto and Jha (2009) who found that remittances do not have significant influence on spending on health care.

2.4 Summary and Conclusion

This chapter reviewed and summarized the literature on the topic of international migration and its link to poverty. It discussed how international migration is affecting poverty at the macro level, at the community levels, as well as at the household- and individual level. In addition, it presented the important data and methodological challenges in estimating the impact of international migration on poverty. Reviewing the relevant data and literature in the Philippines, it identified some of the important issues and limitations that need to be addressed. At the same time the different methodologies employed in earlier studies in estimating the impact of international migration on poverty and the results of these studies were examine.

The review showed that different migration studies in the Philippines utilized different datasets. Although there are a few studies that analyzed macro level data (e.g., Burgess & Haksar, 2005; Goce-Dakila & Dakila, 2006; Ang, 2007; Bayangos & Jansen, 2011), most studies used data from national-representative surveys, including the FIES, LFS, and SOF. Data from these surveys, however, contained limited number of migration-related variables and hence, limits the analysis that could be done in order to have a more thorough understanding of the relationship between international migration and poverty. Among these surveys, SOF contains the most number of relevant data and information since it is particularly designed to collect information on the number of overseas workers, their socio-economic characteristics and other relevant information. Since one particular household survey dataset does not include all the variables or information needed by the researchers in their analysis, some of them linked the different datasets to be used in their research (Rodriguez & Tiongson, 2001; Cabegin, 2006; Yang, 2006; Yang & Martinez, 2006; Pernia, 2008; Benedictis, Calfat, Rivas, & Salvador, 2008; Ducanes & Abella, 2008b). However, one important limitation is that the surveys employed different conceptual definitions and reference period for the questions making it more challenging to use the merged datasets, for instance, in estimating the impact of international migration on poverty. More efforts should be exerted in terms of coordinating the various agencies to be able generate consistent international migration data that are needed by the policymakers in making informed decisions. Meanwhile, a limited number of studies employed primary data collection by conducting interviews in a selected sample of households or individuals (e.g., Edillon, 2008, Semyonov and Gorodzeisky, 2008). The limitations of the abovementioned survey-based datasets should also be acknowledged as they can be subjected to sampling error. Given this, the use of census datasets containing the required information and variables could be explored in order to increase the accuracy of the estimates. Although the data generated by the Philippine Census of Population (for example, as used by Cortes, 2015) can also be used, it also contains limited information that are needed to understand international migration as it is designed primarily to take an inventory of the population in the Philippines. At the same time, these existing data from these national census and surveys have less frequent updating and have estimates that cannot be disaggregated down to the local level given their sampling design. Given this, there is a need for a tool that can complement these

existing data and address these limitations, particularly in terms of providing migration data down to the local level, such as the CBMS.

Based on the review, it was found that earlier studies employed different methods in determining the impact of international migration and/or remittances. While there are many studies which adopted simple regression models to determine the impact of international migration, there are also several studies which attempted to address some of the methodological challenges in migration studies, including endogeneity, reverse causality and selection bias. For instance, some of the methods adopted by the authors include instrumental variables (IV) method, counterfactual income approach following the Heckman estimation framework, panel data analysis, quantile regression and other methods. It is noted, however, that although a number of earlier studies have also tried to estimate the impact of international migration in the Philippines, only few focus on their impact on poverty *per se*.

Meanwhile, the results of the earlier studies on migration in the Philippines provide a few emerging patterns with most of the authors showing positive impacts of international migration, particularly in terms of economic growth, regional development, poverty reduction and expenditures on education and health. However, some studies also demonstrate some negative effects, especially in terms of increased inequality. For instance, although majority of the studies demonstrated a decline in poverty due to international migration, there are studies which found that higher income households appear to benefit more from migration (e.g., Benedictis, et al, 2008; Pernia, 2008; Murata, 2011) and hence, contributes to greater inequality. In addition, while many studies demonstrated some benefits to children left behind, particularly in terms of increased spending on education due to the remittances received from a migrant member abroad (e.g., Yang, 2006a, 2008; Pernia, 2008; Tabuga, 2007; Quisumbing and McNiven, 2010; Murata, 2011; Ducanes, 2015), other found negative effects children in terms of education spending of households or school performance of children (e.g., Ang, Sugiyarto and Jha, 2009; Cortes, 2015). Aside from the limitations in the data, the differences in the methods used could be another factor that explains the differences in the results.

Interestingly, the CBMS International Research Network (Reyes, et al., 2014b) has conducted an earlier study on remittances, the main focus of which is not on its impact on poverty but rather on examining the behavior of households with a migrant member towards business creation. Nevertheless, the study was able to demonstrate the use of CBMS data (in addition to nationally-representative survey data in the Philippines) in selected sites identifying the factors that facilitate and inhibit households to engage in or to grow their business. The lack of study in the Philippines which has extensively used the existing CBMS datasets in understanding the relationship between international migration and poverty situation of households is also one of the important gaps that should be addressed.

3 Examining the Cross-Section CBMS Data to Understand the Relationship between International Migration and Poverty: The Case of Eight Local Government Units in the Philippines

In the Philippines, CBMS has been implemented in 77 provinces, 32 of which are implementing CBMS in the entire province as of 13 February 2017. This includes 903 municipalities and 79 cities covering 24,676 barangays (CBMS-Philippines, 2017). Given this rich dataset and the relevance of international migration for the Philippines, this Chapter explores the cross-section CBMS data and demonstrates how it can be used to understand the relationship between international migration and poverty in the Philippines. In particular, it examines the combined CBMS datasets of eight local government units (LGUs) in the Philippines with relatively high incidence of migration, coupled with sufficient economic activities. Although there are earlier research works in the Philippines that look at this important issue of migration, this Chapter provides empirical evidence on the topic by using datasets which are not yet fully explored in this type of study, particularly datasets containing household- and invidual-level data collected through CBMS. Although CBMS is designed primarily as a poverty-monitoring tool and not a tool to collect migration statistics, it offers a wealth of information that can be useful in examining international migration and its impact on poverty.

This Chapter begins by introducing the sites covered in the study and explaining how they were selected. The second section discusses in detail the two versions of the CBMS-HPQ that were administered in the LGUs covered in this study, focusing on migration-related questions that are being asked. The third section discusses how the CBMS datasets were prepared for further processing while the fourth section proceeds with the examination of the relationship between migration and poverty. The fifth section presents the results of estimation on the impact of international migration on poverty by employing the instrumental variable (IV) method. In this section, a detailed discussion on the methods of analysis and the selection of the instruments for migration is presented before discussing the empirical results. The last section presents a summary and conclusion highlighting the strengths and weaknesses of the CBMS data for exploring the relationship between international migration and poverty situation among households.

3.1 The Study Sites

The selection of the sites for this study is based on a set of criteria. Since the study aims to investigate the usefulness of CBMS data in understanding migration and its relationship to the poverty situation of households, the selection of sites was limited to those LGUs with available CBMS data. Aside from having a relatively high concentration of OFWs compared to the rest of the LGUs within their province and region, sites with sufficient economic activities were preferred. The selection process starts by accessing the list of LGUs in the Philippines which have completed their CBMS implementation for at least one round which is available from CBMS-INCT. The ranking of regions in the Philippines with the

highest concentrations of OFWs as presented earlier in Figure 1.3 guided the prioritization in terms of the regions that need to be covered in the study. The intention is to cover at least one municipality for each region which recorded the highest incidences of OFWs. The willingness of the LGU to become part of the study is also an important criterion in the selection of the sites. In fact, in some cases, given the delay in the response and difficulty in coordinating with some of the LGUs that were initially identified to become part of this study, they had to be replaced by another LGU that belongs to the next region based on the ranking in Figure 1.3. The list of sites for the study was not finalized until all concerned LGUs confirmed their approval on the use of their CBMS data in this research through written letter.[30]

Given the above criteria, the final list of sites for this study includes municipalities that belong to the top three regions in the Philippines with the largest number of OFWs based on the ranking of regions as presented in Figure 1.3 including (1) Mabini, Batangas in CALABARZON; (2) Orion, Bataan in Central Luzon; and (3) Pasay City in the National Capital Region, which are all located in the island of Luzon. Aside from these, two other municipalities in Luzon were covered, including (4) Looc, Occidental Mindoro and (5) Allacapan, Cagayan. Meanwhile, the remaining three municipalities are located in the islands of Visayas and Mindanao. These include (6) Buenavista in Guimaras (Visayas); (7) Mahinog in Camiguin (Mindanao); and (8) M'Lang in North Cotabato (Mindanao). Figure 3.1 shows the location of each of the sites covered in this study. Although the study covers sites across different regions in the Philippines, it does not claim to be representative of the entire Philippines. It must be noted that the Philippines is an archipelagic country consisting of more than 7,640 islands, each of which can have their own unique characteristics, in terms of economic, social, cultural and other aspects. Nevertheless, it is deemed that including the eight LGUs in this study with different economic, social and demographic settings is useful enough given the purpose of this research. Based on the combined CBMS data, the eight sites consist of 126,812 households[31], of which 12,073 are households with at least one OFW member, representing 9.5 percent of the total households.

Although the municipalities selected for this study are characterized by a relatively higher concentration of OFWs as compared to the rest of the municipalities within their provinces and region, data showed that the share of migrant households vary across the sites. The municipality of Mabini in Batangas (which is located in the region in the Philippines with the largest number of OFWs as of 2013, i.e., Region IV- CALABARZON) recorded the highest incidence of migrant households with 34.6 percent. Next to Mabini is the municipality of Orion in Bataan where 16.6 percent of the households have a migrant member abroad. Recall that Orion belongs to the region in the Philippines which ranked second in terms of number of OFWs (i.e., Region III- Central Luzon). Although the City of Pasay has the smallest proportion of migrant households, it recorded the largest number

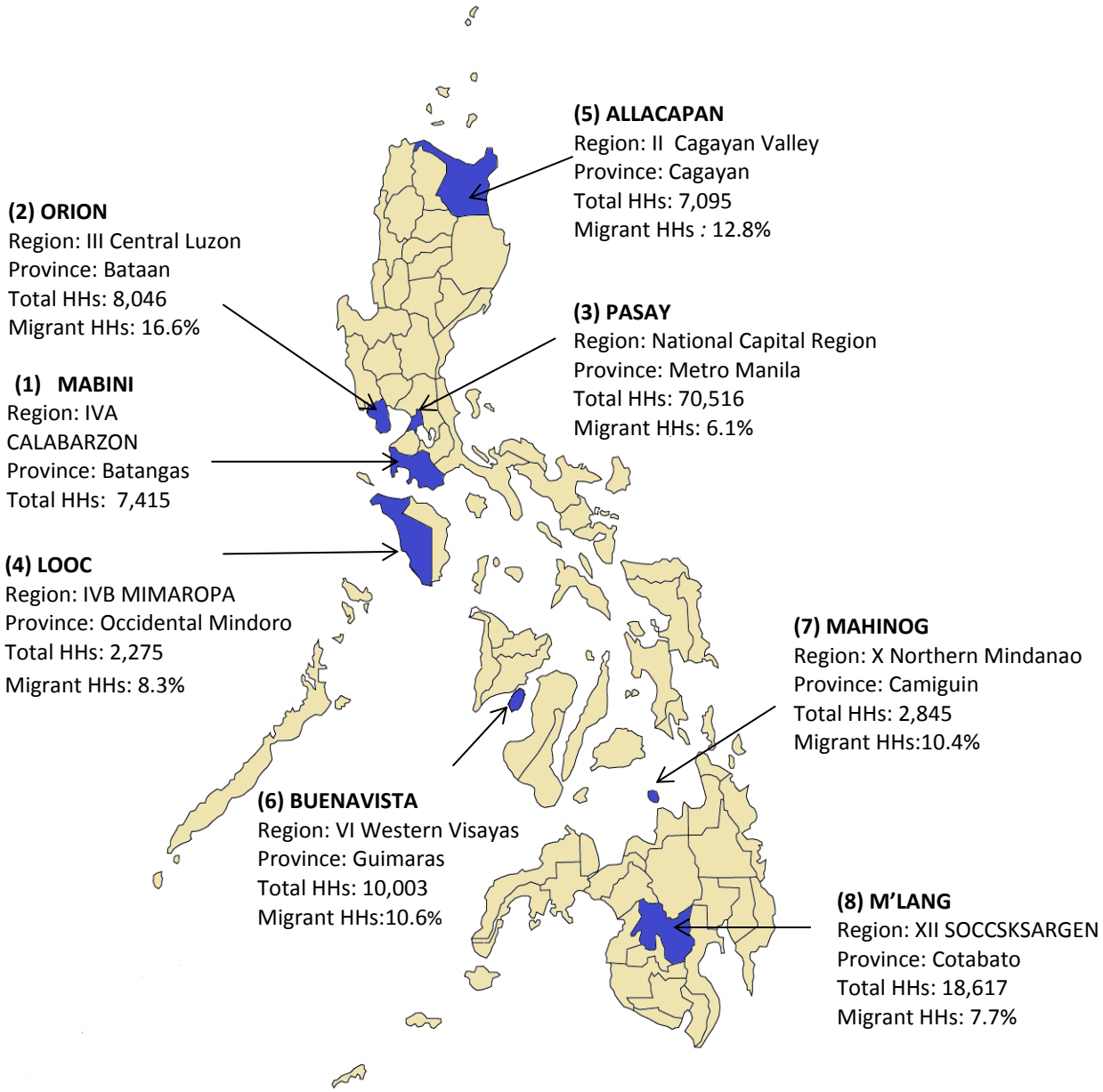
[30]The author is grateful to the local officials for their support and approval on the use of their CBMS datasets in this research.

[31] Some households in the raw CBMS dataset were dropped in the process of data cleaning, including, for instance, duplicate households.

of migrant households (more than 4,000) among all the sites covered, which is mainly due to its large population size. The City of Pasay also belongs to the region in the Philippines with the third largest number of OFWs (i.e., National Capital Region).

Figure 3.1 Location of CBMS sites covered

TOTAL HOUSEHOLDS (HHs) FOR 8 LGUs: 126,812 HHs
TOTAL MIGRANT HHs: 12, 073
PROPORTION OF MIGRANT HHs: 9.5%



Note: Areas in blue color indicate the province where the municipality/city is located.

Sources of basic data: CBMS Census: Mabini (2009); M'Lang (2009); Mahinog (2010); Allacapan (2011); Pasay City(2011); Buenavista(2011); Orion (2012); Looc (2012)

Aside from varying geographical locations, the sites covered have different population sizes and densities. Population sizes range from more than 10,000 residents in Looc (Occcidental Mindoro) to more than 271,000 in Pasay City (Metro Manila) (Table 3.1). Meanwhile population density ranges from as low as 101 residents per square kilometer in the case of Allacapan (Cagayan) to as high as 19,431 residents per square kilometer in the case of Pasay City (Metro Manila). In addition, the sites also have different characteristics in terms of the major industries present in the area. While two of the sites (i.e., Allacapan and M'Lang) relied mainly on agriculture, the other sites are also characterized by the presence of other industries such as those involved in wholesale and retail trade, transportation and storage, accommodation and food services, construction and activities of households as employers. Majority of the households in Orion, Mabini and, of course, Pasay City are living in urban areas while most of the households in the other LGUs covered are living in the rural areas.

Table 3.1. Description of the CBMS sites covered

Municipality	No. of Barangays	Population Density (pop./km^2)	Total Population	Major industries	Employment Share in the Agriculture Sector (%)	% Urban HHs
1. Pasay City	201	19,431	271,451	WRT; TS; AFS; AHE	0.5	100.0
2. Allacapan	27	101	31,038	AGRI	68.4	11.0
3. Orion	23	551	36,050	AGRI; WRT; TS; CONST	14.6	61.5
4. Mabini	34	721	32,047	CONST; TRANS; TSC; WRT	8.1	51.3
5. Looc	9	145	10,297	AGRI; WRT	47.9	25.0
6. Buenavista	36	340	43,567	SERV; AGRI; TS; CONST	15.7	14.2
7. Mahinog	13	389	12,666	AGRI, WRT	30.1	40.5
8. M'Lang	37	263	81,972	AGRI	63.3	14.5
	380		**519,088**			**67.7**

Notes: WRT-Wholesale and retail trade; TS-Transportation and Storage; AFS-Accommodation and food service activities; AHE-Activities of households as employers; AGRI-Agriculture; CONST-Construction; TSC-Transportation, storage and communication; SERV-Service Activities. These categories are based on the official industry classifications adopted when the CBMS census in each LGU was conducted.
Sources of basic data: Philippine Statistics Authority (PSA); CBMS Census: Mabini (2009); M'Lang (2009); Mahinog (2010); Allacapan (2011); Pasay City(2011); Buenavista(2011); Orion (2012); Looc (2012)

3.2 Identifying the Migration-Related Questions in the CBMS Household Profile Questionnaire (CBMS-HPQ)

This section examines the two different versions of the CBMS-Household Profile Questionnaire (HPQ) that were administered by the selected LGUs to collect relevant household- and individual-level information. As mentioned earlier, the CBMS questionnaires has undergone refinements over the years to take into consideration the

feedback of the LGUs, as well as to address the need to collect information on emerging issues (e.g., climate change). In practice, LGUs implementing CBMS should use the latest version of the CBMS-HPQ that is approved by the National Statistical Coordination Board (NSCB, now part of the Philippine Statistics Authority). Since the CBMS census was implemented by each municipality/city in various years, they used slightly different versions of the CBMS-HPQ. In particular, given the period of implementation Mabini, M'Lang, Mahinog and Allacapan administered the CBMS-HPQ version 06-2009-01 while Pasay City, Buenavista, Orion and Looc used the CBMS-HPQ version 01-2011-01 (Table 3.2). The succeeding discussions present the migration-related questions contained in these versions of the CBMS-HPQ and highlights the differences in the structure and extent of information collected using the two different versions of the questionnaire.

Table 3.2. List of CBMS sites covered and CBMS-HPQ versions

Municipality	Province	Region	Reference period for the CBMS Census	CBMS-HPQ version
Mabini	Batangas	IVA - CALABARZON	2009	06-2009-01
M'Lang	Cotabato	XII - SOCCSKSARGEN	2009	06-2009-01
Mahinog	Camiguin	X - Northern Mindanao	2010	06-2009-01
Allacapan	Cagayan	II - Cagayan Valley	2011	06-2009-01
Pasay City	Metro Manila	National Capital Region	2011-12	01-2011-01
Buenavista	Guimaras	VI - Western Visayas	2011	01-2011-01
Orion	Bataan	III - Central Luzon	2012	01-2011-01
Looc	Occidental Mindoro	IVB - MIMAROPA	2012	01-2011-01

Note: The first two digits in the CBMS-HPQ version number refer to the month of the revision (i.e., 06 means June; 01 means January) while the next four digits refer to the year the revision as assigned by CBMS-INCT. The CBMS-HPQ version 06-2009-01 is only slightly different from an earlier version CBMS-HPQ version 10-2007-04. Questions concerning migrant households and OFWs are exactly the same in these two versions.

In defining an OFW, the manual for the CBMS-HPQ version 01-2011-01 indicates that the OFW member of the household should have left the Philippines within the given five-year period. This condition is, however, not explicitly mentioned in the manual for the CBMS-HPQ version 06-2009-01. Nevertheless, both versions of the CBMS-HPQ classified the following as OFWs based on their accompanying manuals:

1. "Filipino Overseas Contract Workers (OCW) who are presently and temporarily out of the country to fulfil an overseas work contract for a specific length of time or who are presently at home on vacation but still has an existing contract to work abroad. They maybe land-based or sea-based.
    a. Land-based workers are OCW who are hired either by direct hiring of an employer abroad; or through the assistance of the Philippine Overseas Employment Administration (POEA); or through a private and licensed recruitment agency. They may have returned to the Philippines for a vacation (annual or emergency leave), or have transferred to other employers, or were rehired by their former employer; and

b. Sea-based workers are OFWs who worked or are working in any kind of international fishing/passenger/cargo vessels. Included also are OCWs who worked or are working for a shipping company abroad.

2. Other Filipino workers abroad with a valid working visa or work permits. Included also are crew members of airplanes such as pilots, stewards, stewardesses, etc.;
3. Filipinos whose place of employment is outside the Philippines but whose employer is the Philippine government. Examples are Filipinos who worked or are working in Philippine embassies, missions and consulates abroad;
4. Filipinos who are sent abroad by the Philippine government or by private institutions for training, scholarship or any other similar purpose, even if they are known to be working;
5. Filipinos working in other countries who are hired as consultants/advisors of international organizations, such as the United Nations, International Monetary Fund, etc.;
6. Filipinos abroad who are holders of other types of non-immigration visa such as tourist/visitor, student, medical and others;
7. *Other Filipino workers other than contractual. These include Filipinos who went out of the country through back-door means and worked there during the reference period."* (Reyes, et al., 2014a)

The following persons are considered as OFW members of the household:

1. "OCWs who are related to the head of the household, by consanguinity or affinity, and who were regular members of the household prior to their departure, and will remain members upon return. This includes the following: Spouse of the head of the household who is expected to return to the household; Son-in-law of the head of the household who is working abroad. His wife and /or children, whom he will join upon his return, are living with the said household.
2. OCWs whose stay abroad is indefinite but who are related to the head of the household, by consanguinity or affinity, and has lived with this household prior to their departure.
3. OCWs, who are related to the head of the household by consanguinity or affinity, and not members of the household prior to their departure and became members upon return. For example, an OCW, on his return to the Philippines, will marry the daughter of the HH head. He will become a member of the HH upon his return as the son-in-law of the HH head." (Reyes, et al., 2014a)

Comparing the two versions of the questionnaire, one important category that was added in identifying an OFW based on the manual for the CBMS-HPQ version 01-2011-01 is item 7 above which explicitly includes Filipinos who went out of the country through back-door means (or illegal means) and worked abroad during the reference period. Nevertheless, this category is partly covered as well in the CBMS-HPQ version 06-2009-01 since its accompanying manual indicates that OFWs shall also include those Filipinos

abroad who are holders of other types of non-immigrant visa such as tourist/visitor, student, medical and others (but are presently employed and working full time). This category, however, does not necessarily mean that the OFW can immediately be considered an illegal migrant. For instance, they may be classified as an illegal migrant if they extend their stay in the foreign country during the period when their visa is no longer valid or when they get employed in the foreign country without a legal working permit. Given the definition and phrasing of the questions pertaining to the migrant workers in both questionnaires, CBMS is able to partly capture illegal migrants. However, since there is no direct question in the questionnaires that will indicate whether an individual OFW is legal or not, it is not possible to clearly isolate legal from illegal migrants using the CBMS data.

At the household level, both versions of the CBMS-HPQ allow us to identify households with an OFW member (i.e., a migrant household[32]). This is an important strength of the CBMS dataset as some earlier studies (e.g., Lokshin, et al., 2007) used receipt of remittances as a proxy for international migration when estimating the impact of migration as information on the migration status of the household is unavailable. This may lead to some biases in the measurement of the impact of migration because it is possible that not all migrant households received remittances and not all remittance-recipient households have a migrant member. Given the available information in CBMS, this type of bias can be avoided.

At the OFW level, there are differences in the structure and extent of information collected about the OFW member. Table 3.3 presents the migration-related information that are collected using the two versions of the questionnaire, including CBMS-HPQ version 06-2009-01 and CBMS-HPQ version 01-2011-01[33]. The CBMS-HPQ version 06-2009-01 (Annex A), which is used in Mabini, M'Lang, Mahinog and Allacapan, actually contains a separate section which collects information about the former member of the household who is an OFW member. In particular, section I on page 5 of this version of the questionnaire asks the following questions:

Question (40): " Was there any former household member who is an OFW?"
Question (41): "What is the name of the OFW?"
Question (42): "How is ___ related to the head of the household?"
Question (43): "In what country does ___ work abroad?"
Question (44): "What kind of work is ____ doing abroad?"

Given the above, it appears that this earlier version of the CBMS-HPQ collects limited information about the characteristics of the OFW member. In addition, as the question states, the OFW member is considered a former member of the household and hence, not included in the roster of current household members.

[32] Since the main focus of this research is the OFWs, this Chapter and the succeeding chapters use "migrant household" and "household with an OFW member" interchangeably.
[33] The CBMS-HPQ versions 06-2009-01 and 01-2011-01 are available in both English and Filipino versions. However, only the English versions are provided in the Annex, i.e., Annexes B and C.

Table 3.3. Migration-related information collected using CBMS-HPQ version 06-2009-01 and CBMS-HPQ version 01-2011-01

	Information collected	CBMS-HPQ Version	
		06-2009-01 (*Mabini, M'Lang, Mahinog and Allacapan*)	**01-2011-01** *(Pasay City, Buenavista, Orion and Looc)*
HOUSEHOLD LEVEL	1. Indicator for having an OFW member	✓	✓
	2. Amount of remittances (in-cash and in-kind) received by the household from its OFW member in the last 12 months	✓	✓
	3. Other cash receipts, gift, support, relief and other income from abroad including pensions, retirement, workmen's compensation, dividends from investments, etc.	✓	✓
MIGRANT-LEVEL (i.e., OFW member)	4. Name of the OFW member	✓	✓
	5. Relationship to the household head	✓	✓
	6. Country where the OFW member is working	✓	✓
	7. Type of occupation abroad	✓	✓
	8. *Demography*: sex, date of birth, birth registration, civil status, religion, indigenous group		✓
	9. *Migration*: Length of stay in the barangay, place of residence prior to moving to the barangay		✓
	10. *Education and literacy*: if member is studying, current educational level; type of school (private or public), highest education attainment; literacy		✓
	11. *Community/Political participation*: membership in a community organization; type of community organization; registered voter; able to vote in the last election		✓
	12. *Economic activity*: if member has a job/work- type of job/work; industry/sector; nature of employment; number of hours worked in the past week; desire for longer hours of work; looked for additional work; class of worker; if a member does not have a job -looked for work in the past week; job search method; reasons for not looking for work; last time the member looked for work; current availability for work; willingness to do work; membership in Social Security System (SSS) or Government Service Insurance System (GSIS)		✓
	13. *Characteristics of household members*: passed the board or bar exam; profession passed in the board or bar exam; solo parent; reason for being a solo parent; with physical or mental disability; type and cause of disability; ownership and use of a Persons with Disability (PWD) identification (ID); senior citizens; ownership and use of a senior citizen's ID		✓

The limited information collected in the previous questionnaire was addressed in the updated version of the CBMS-HPQ, particularly the CBMS-HPQ version 01-2011-01 (Annex B), which is the version administered in four LGUs under this study, including Pasay City, Buenavista, Orion and Looc. In particular, in the CBMS-HPQ version 01-2011-01, there is a section which determines whether the member identified as part of the household is an OFW and if so, the country where the individual is working. In particular, the questions are stated as follows:

Question (13): "Is _____ an OFW?"

Question (14): "In which country does ____ work?"

Since the identified OFW members is included in the roster of household members in the CBMS-HPQ version 01-2011-01, all questions relevant to the individual are asked, particularly Questions (2) to (50). This means that aside from the basic information similarly collected in CBMS-HPQ version 06-2009-01, CBMS-HPQ version 01-2011-01 collects the additional information about the OFW member as listed in the Table, including additional demographic characteristics, migration, education and literacy, community/political participation, economic activity and other characteristics, if applicable to the individual. Note that most of the individual information collected above are more relevant for members who are currently living in the Philippines. However, since the OFW is included in the list of household members in the questionnaire, individual level questions are asked to the members whenever applicable. Aside from this, given the structure of the questions and inclusion of OFW in the roster of members in CB<S-HPQ version 01-2011-01, the OFW is considered as "current" member of the household unlike in the previous version where the OFW is considered as a "previous" member. Because of this change in the structure, it explicitly allows the respondent to identify the OFW as the current head of the household, if applicable, unlike in the earlier versions.

Meanwhile, at the household level, both versions of the CBMS-HPQ collect information on the total amount of remittances received by the household in the last 12 months prior to the interview, including cash and in-kind remittances. Cash receipts include cash received from the OFW member while in-kind remittances include those items which are sent by the OFW member. In particular, the question in the CBMS-HPQ is stated as follows:

"During the past twelve months, how much did you or any member of your household receive from the following?"

Question(102): Remittances from Overseas Filipino Workers

The sources of cash receipts from OFWs include: a) cash received out of salaries/wages and other sources of income of a family member who is a contract and non-contract worker abroad; b) Cash receipts sent by a family member of the household with a status of residency abroad other than that of a contract worker (immigrant, tourist, with student visa) (Reyes, et al., 2014a). If the household is identified to have an OFW member based

on the response to Question (13), it is very likely that the household receives remittances. However, it is also possible that the household did not receive any remittance during the last 12 months prior to the interview which due to many possible reasons that will be discussed later in the thesis. Note that CBMS-HPQ does not include a question that will indicate the date of departure for its OFW members, which is one limitation of the CBMS data. Hence, it does not capture the possibility that the OFW member have left for abroad very recently and hence, the household may have received remittances only in recent months or in some cases did not receive remittances at all.

Furthermore, aside from the remittances for its OFW member, CBMS also collects information on the amount of cash receipts and other support received by the household from all sources outside the Philippine territory (other than those from its OFW members). In particular, the question is stated as follows:

> *"During the past twelve months, how much did you or any member of your household receive from the following?"*
>
> *Question (101) (*in CBMS-HPQ version 06-2009-01)
> *Question (103)* (in CBMS-HPQ version 01-2011-01)
>
> *Other cash receipts, gift, support, relief and other income from abroad including pensions, retirement, workmen's compensation, dividends from investment, etc.*

These items, as specified in the manual, can come from family members, non-relatives, foreign government and charitable institutions and hence, captures the aggregate amount including: 1) pensions, retirements and other benefits received from the USA government, other foreign governments and enterprises (e.g., pension received by World War II veterans from USA government); 2) cash gifts, support and others from relatives who are abroad, foreign charitable groups and foreign government; and 3) income from abroad accruing from dividends from investment, net income from business, rental from properties and other property incomes. Since the information collected under this question is an aggregate of many items, it is not possible to isolate the amount of remittances received by the household from other relatives who are not part of their household. Given this important limitation, this particular Chapter focuses on those relating only to the OFW member of the household.

3.3 Preparing the CBMS Datasets for Processing

As soon as permissions from the local officials were granted, the researcher was able to get access to the CBMS data[34] through CBMS-INCT. Since the CBMS encoding system developed by the CBMS-INCT was based on CSPro, the system generates a text file (with *.txt* or *.hpq* file extensions) which can be exported to the CBMS-StatSim, Stata, SPSS or

[34] All CBMS datasets in the Philippines are maintained by the LGUs and CBMS-INCT. However, DILG and NAPC also serve as national repositories of CBMS data.

other statistical software. However, given the requirements of this study, the author exported the data into Stata format since Stata[35] would be used to process the collected CBMS data. Since the sites covered under this study administered different versions of the CBMS-HPQ, there are also differences in the data structures. In fact, exporting the dataset in Stata (with the option "as separate records") can produce different number of records for each version of the CBMS-HPQ. For instance, focusing only on records that are relevant for this study and contain migration-related information, CBMS-HPQ version 06-2009-01 produces separate records for households, members and OFW members. On the other hand, the CBMS-HPQ version 01-2011-01 produces two relevant records, particularly the household and the member records. Recall that CBMS-HPQ version 01-2011 includes the OFW in the roster of current members and hence, information about the OFW is included in the member record. Given this, the differences in the structures were taken into account when combining the datasets of eight selected LGUs. Some household-level variables which are required in the estimations were also generated using the member-level information provided in the member record. For instance, the number of members 20 years old and above for each household is generated based on the information on age in the member records. This is also done in many other variables that require generation of new variables based on the member characteristics as contained in the member record (e.g., number of members 5 years old and below, number of members 15 years old and above and dependency ratio, etc.).

Additional checks were also conducted the combined datasets. For instance, it was ensured that the names of the relevant variables used in the analysis and their definitions are the same for all sites. If necessary, new variables were generated to ensure consistency of the definitions. Data cleaning was also conducted to prepare the datasets for further processing. This involved checking of duplicate households and missing responses. If necessary, households which are exact duplicate of another were dropped, together with households with assigned household ID in the encoded data but with all the rest of the information missing. In addition, the data values for all relevant variables are checked to ensure that they are correct and conform to the set of rules. The responses and codes provided for each relevant item in the dataset are checked guided by the corresponding questionnaire and manuals used in the collection of data.

3.4 Examining the Relationship between Migration and Poverty

To understand the context, it is useful to examine the poverty and migration profile of households covered in this study. This section, therefore, discusses the different poverty measures, the characteristics of migrant households as compared to non-migrant households and the profile of the migrants or OFWs[36].

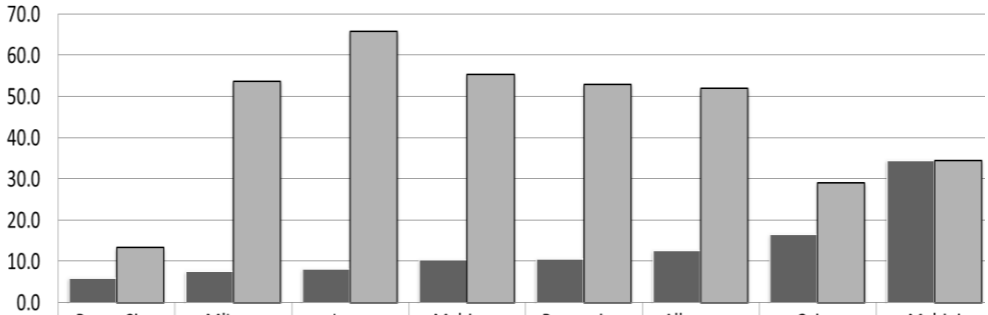
[35] *Stata* is a statistical software package that can be used for data management, processing and analysis. For this particular research, *Stata* 13 is used.

[36] In this study, the OFW member is also referred to as the migrant member of the household.

3.4.1 Migration and the Unidimensional Income Poverty

The unidimensional poverty indicator continues to be the most popular measure used in identifying the poor which can be based on income or expenditure. CBMS does not collect information on expenditures since it is deemed that income is much easier to report compared to expenditures given the local context. Given this, income is used as a measure of material wellbeing of the households rather than expenditures. The CBMS data collected in the eight LGUs showed that they have varying levels of income poverty (Figure 3.2). Pasay City recorded the lowest poverty incidence at 13.4 percent while the municipality of Looc recorded the highest at 65.9 percent. The simple tabulation shows that the municipalities (excluding Pasay City, which is a highly urbanized city) with higher concentration of migrant households, especially Orion and Mabini, have relatively lower poverty incidence compared to the other municipalities.

Figure 3.2. Proportion of migrant households and income poor households, by site



	Pasay City	M'Lang	Looc	Mahinog	Buenavista	Allacapan	Orion	Mabini
% Migrant HHs	6.1	7.7	8.3	10.4	10.6	12.8	16.6	34.6
% Income Poor	13.4	53.8	65.9	55.5	53.1	52.0	29.2	34.6

Sources of basic data: CBMS Census: Mabini (2009); M'Lang (2009); Mahinog (2010); Allacapan (2011); Pasay City(2011); Buenavista(2011); Orion (2012); Looc (2012)

Based on the combined CBMS data for the eight LGUs, migrant households appear to be richer compared to non-migrant households based on the unidimensional income poverty indicator. In fact, the average annual per capita income of migrant households (P88,476) is significantly higher than that of non-migrant households (P53,007) (Table 3.4). Since remittances is one of the most direct channels by which households can be affected by migration, it is also useful to examine how the welfare levels of households are affected by remittances if remittances are treated as exogenous transfers. Data show that if remittance is excluded from migrant household's total income, their average per capita income will considerably decrease to a level that is lower than the income of non-migrant households. In particular, the annual per capita non-remittance income of migrant households decline to P52,249 which is lower than the non-migrant's estimate of P53,007. This suggests that should OFWs suddenly stop sending remittances, migrant households will greatly suffer. Since remittances account for a large proportion of the total income of migrant households (i.e., about 40.5%), more migrant households will be classified as poor without the remittances. In fact, poverty incidence among migrant households will increase by 28.6 percentage points if remittances are excluded from their income. A

detailed examination of the data revealed that about 21.4 percent of the migrant households reported that at least 80 percent of their income is derived from remittances. This include, for instance, those households whose heads are currently working abroad to provide financial support to their families. While these results provide some indication of the impact of international migration on poverty, a much deeper analysis should be conducted. Treating remittances as an exogenous transfer to the migrant households provides a very simplistic examination of the potential impact of migration on the welfare of households. Indeed, migrant and non-migrant households can differ with respect to some relevant observable characteristics and hence, these should be considered when estimating the impact of migration.

Table 3.4. Income and poverty status of households, by migration status

	All HHs	Migrant HHs (M)	Non-migrant HHs (NM)	Diff. (M-NM)
No. of households	126,812	12,073	114,739	
Annual per capita income (in pesos)	56,383	88,476	53,007	35,469
Annual per capita non-remittance income (in pesos)	52,934	52,249	53,007	-758
No. of HHs which received remittances from an OFW member	---	8,734	---	---
Share of HHs which received remittances from an OFW member	---	72	---	---
Annual per capita remittances	3,487	36,856	---	---
Annual remittances (in pesos)	15,489	113,191	---	---
Share of remittances to total HH income (%)	3.9	40.5	---	---
Income Poor (%) [1/]	28.7	13.3	30.3	-17.0
Income Poor (non-remittance income) (%)	31.4	41.9	30.3	11.6

[1/] The poverty line used is the official poverty line at the provincial level and adjusted using inflation rate depending on the reference period used by each CBMS census.

Sources of basic data: CBMS Census: Mabini (2009); M'Lang (2009); Mahinog (2010); Allacapan (2011); Pasay City(2011); Buenavista(2011); Orion (2012); Looc (2012)

Interestingly, not all migrant households received remittances from their OFW member. In fact, only 72.3 percent of the migrant households reported that they received remittances from abroad during the last twelve months prior to the survey. In some cases, the OFW member was unable or was unwilling to send remittances due to a number of reasons. For instance, it is the possible that the OFW member has just left for abroad recently and still in the process of settling himself or herself in the country of destination, especially those who are in their first migration experience. In fact, for some migrants, the income they earn during the first few months or so have to be spent on paying for the costs involved in settling in a new place or on paying for the migration-related costs they incurred prior to moving. Some migrants may have also experienced unemployment in their destination country which prevents them from sending remittances during the period. In some cases, the migrant member simply decided to save the money and bring them home when they return rather than sending them to their families for a number of reasons, such as high cost of remittance sending, and issues on control over the remittances, among others. Another possibility is that some remittance-recipient

households simply did not want to report the remittances they received due to tax-related concerns or personal safety. Some households may have underreported the amount of remittances they actually received for the same reasons. This is common in many surveys involving income and may therefore lead to biases the estimates in some ways.

Meanwhile, households in urban areas relied more heavily on remittance income compared to those in the rural areas (Table 3.5). Migrant households in urban areas sourced about 42.9 percent of their income from remittances while those in rural areas got about 36.9 percent of their income from remittances. It appears that households in rural areas have more income from other sources and less reliant on their migrant member. Meanwhile, migrant households in Mabini and Orion recorded the highest share of remittances to total household income among the study sites, with 61.6 percent and 57.1 percent, respectively. This indicates that households in these municipalities, which also recorded the highest incidence of migrant households, are highly dependent on their migrant member for financial support.

Looking at the distribution of income across income quintiles, data showed that although the richest group of migrant households received the largest amount of annual per capita remittance, those in the middle in the income distribution are the most dependent on remittances as shown by the larger share of remittances to their total household income (i.e. 44.7%). It appears that the poorest (quintile 1) and the richest (quintile 5) have more income from other sources compared to the other income groups. Figure 3.3 further confirms that migrant households generally have higher income levels compared to non-migrants. The distribution, however, shows that there are also some non-migrant households which are richer than migrant households. These include those which did not send a member abroad but were able to earn higher income from various livelihood activities that are available domestically.

3.4.2 Migration and the CBMS Core Indicators of Poverty and Simple Composite Indicator

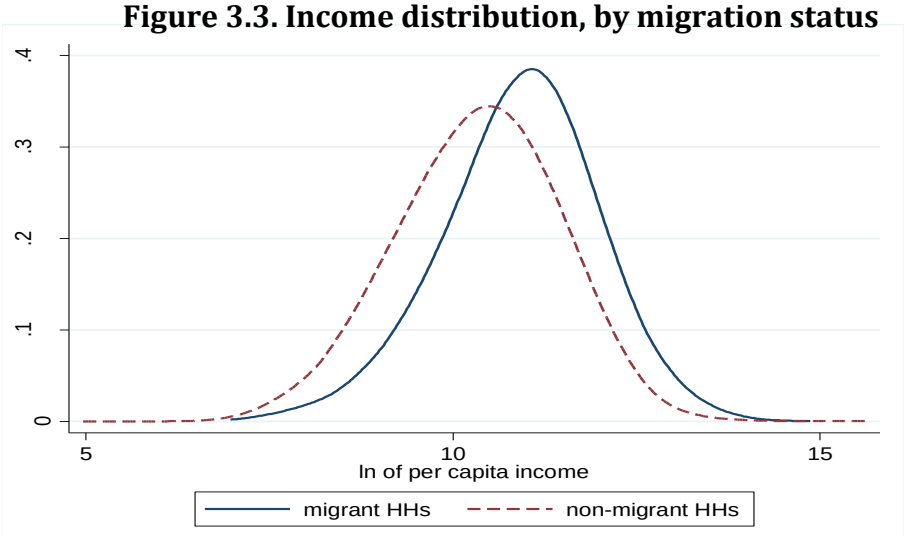
Table 3.6 presents the estimated CBMS core indicators of poverty focusing on both migrant and non-migrant households in the eight LGUs while Annex F presents the indicators for each of the sites covered. Results show that, in general, many households still fail to meet some of the basic needs, particularly in terms of housing, education, income and livelihood needs. The succeeding discussions present the indicators under each dimension of poverty, as well as the estimate of the single indicator that captures the different dimensions of poverty, i.e., the CBMS-SCI.

Table 3.5. Income and remittances received by migrant households from OFW members, by urbanity, site and income quintile

Quintile	No. of HHs	% Migrant HHs	Annual per capita income in pesos)			Annual per capita remittances (in pesos)	Share of remittances to total HH income (%)
			All HHs	NM	M	M	M
All HHs	**126,812**	**9.5**	**56,383**	**53,007**	**88,476**	**36,856**	**40.5**
Urbanity							
Rural	40,915	11.9	29,291	24,879	61,886	25,040	36.9
Urban	85,897	8.4	69,288	65,886	106,504	44,925	42.9
Site [1/]							
Pasay City	70,516	6.1	74,647	71,349	125,711	45,202	36.4
Allacapan	7,095	12.8	34,020	30,595	57,449	15,703	29.8
Orion	8,046	16.6	47,828	38,941	92,419	61,767	57.1
Mabini	7,415	34.7	40,362	29,871	60,150	42,484	61.6
Looc	2,275	8.3	28,843	20,265	124,064	3,930	3.9
Buenavista	10,003	10.6	33,533	26,401	93,521	19,660	20.0
Mahinog	2,845	10.4	30,538	26,550	64,754	28,761	36.2
M'Lang	18,617	7.7	25,400	24,128	40,621	11,148	26.9
Income Quintile							
Quintile 1	25,412	3.1	11,200	24,128	9,571	18,342	37.0
Quintile 2	25,426	4.6	23,389	23,537	20,294	19,620	41.3
Quintile 3	25,476	7.3	37,204	37,428	34,368	21,939	44.7
Quintile 4	25,435	12.2	60,917	61,623	55,831	28,577	44.4
Quintile 5	25,063	20.6	150,563	149,393	155,081	54,120	37.0

Note: HHs= households; NM= Non-migrant HHs; M= Migrant HHs; Quintile grouping is based on current per capita household income and ranking of households is based on the per capita income variable within each LGU.
[1/] Comparison of per capita income across sites cannot be done directly since nominal values are reported and there are differences in the year of CBMS implementation. The share of remittances to total income appears to be more relevant in this case.
Sources of basic data: CBMS Census: Mabini (2009); M'Lang (2009); Mahinog (2010); Allacapan (2011); Pasay City(2011); Buenavista(2011); Orion (2012); Looc (2012)

Figure 3.3. Income distribution, by migration status



Source of basic data: CBMS Census: Mabini (2009); M'Lang (2009); Mahinog (2010); Allacapan (2011); Pasay City(2011); Buenavista(2011); Orion (2012); Looc (2012)

Table 3.6. CBMS core poverty indicators of poverty and CBMS-SCI, by migration status (in %)

Indicator	Migrant HHs	Non-migrant HHs	All HHs
CBMS Simple Composite Index	**0.61**	**1.03**	**0.99**
Proportion of SCI Poor (%)	**0.9**	**4.4**	**4.0**
No. of Households (HHs)	12,073	114,739	126,812
Health			
(1) children 0-4 years old who died	0.2	0.4	0.4
(2) women who died due to pregnancy related-causes	0.3	0.1	0.1
Nutrition			
(3) malnourished children 0-5 year old	6.4	6.7	6.7
Housing			
(4) HHs living in makeshift housing	1.6	4.9	4.6
(5) HHs which are informal settlers	6.2	12.7	12.1
Water and Sanitation			
(6) HHs without access to safe water	6.0	5.6	5.7
(7) HHs without access to sanitary toilet facility	2.0	6.5	6.1
Basic Education [1/]			
(8) children 6-12 years old not attending elementary	14.6	16.4	16.2
(9) children 13-16 years old not attending high school	25.7	31.5	30.9
(10) children 6-16 years old not attending school	6.7	10.0	9.7
Income [2/]			
(11) HHs with income below poverty threshold	13.3	30.3	28.7
(12) HHs with income below food threshold	7.7	19.7	18.6
(13) HHs experienced food shortage	0.3	1.4	1.3
Employment			
(14) unemployed members of the labor force	11.3	9.8	10.0
Peace and Order			
(15) victims of crime	0.8	0.9	0.9

[1/] The age ranges elementary school participation rates and high school participation rates that are being monitored under CBMS were revised recently to 6-11 years old for elementary and 12-15 years old for high school.

[2/] The poverty threshold used is the official poverty line at the provincial level and adjusted using inflation rate depending on the reference period used by each CBMS census which is sourced from the Philippine Statistics Authority.

Note: Although all indicators can reported at the household and individual level, this Table focuses only on individual-level indicators under Health and Nutrition, Basic education and Unemployment.

Sources of basic data: CBMS Census: Mabini (2009); M'Lang (2009); Mahinog (2010); Allacapan (2011); Pasay City(2011); Buenavista(2011); Orion (2012); Looc (2012)

In terms of health and nutrition, data showed that there were about 0.4 percent of children 0 to 4 years who died during the past twelve months prior to the interview. (indicator 1) The estimate is slightly higher among non-migrant households (0.4%) as compared to migrant households (0.2%). The same pattern emerges in terms of malnourishment among children aged 5 years old and below (indicator 3), whereby non-migrant households recorded a slightly higher proportion of malnourished children. At least 6 in every 100 children 0 to 5 years old living in the CBMS sites covered in this study were considered malnourished. Meanwhile, women death due to pregnancy-related

causes is recorded for both migrant and non-migrant households with a total of 10 cases, accounting for less than one percent of all pregnant women during the last twelve months (indicator 2).

Some households also failed to achieve a good housing condition as some of them live in makeshift houses (indicator 4) or are considered as informal settlers (indicator 5). While living in makeshift housing is more predominant among non-migrant households (4.9%), it is interesting to note that there are still a few migrant households who live in houses whose roofs or walls are made of makeshift materials (1.6%). The accumulated remittances received by these households may not be sufficient to finance housing improvements (e.g., for households whose OFW member left for abroad very recently) or simply, investment in housing may not be on top of their priorities. Meanwhile, the proportion of informal settlers is also relatively small among migrant households (6.2%) compared to their counterparts (12.7%). In fact, majority of the migrant households reported that they own their house or have owner-like possession of their house. Although many non-migrant households also own their house, a significant number also reported that they only have rental arrangements with the owner of the house they are currently occupying.

The education-related indicators also reflect some differences in the condition of children of migrant and non-migrant households. Based on the CBMS data, 9.7 percent of children 6-16 years old in all sites were not enrolled in school (indicator 10). Although households recorded relatively higher proportions of children 6-12 years old not attending elementary school (indicator 8) and children 13-16 not attending high school (indicator 9), the proportion of children 6-16 years old not in school is lower (indicator 10). This means that some of these children may be enrolled but not in education levels that are expected or are more appropriate for them. These include children who started at an earlier or later age than what is expected and children who may have previously dropped out of school before returning to school again. For instance, the following children may be included in this group: a) children aged 6 years old but are still in preparatory school or kindergarten level; b) children aged 12 years old who are already in high school; c) children aged 13- 16 years old but are still in elementary school; and d) children aged 16 years old who are already in college, among others.

Nevertheless, it appears that children in migrant households remain to have more access to education compared to those in non-migrant households. This is reflected in the lower proportion of children 6-16 years old not attending school among migrant households (6.7%) as compared to those in non-migrant households (10.0%). This may support the expectations that having a migrant member abroad could ease the constraints for educational expenses through remittances and hence, can send children to school. However, the large number of children aged 6-16 years old in migrant households who are not studying (779) still poses a big concern since these children in this age group are expected to be enrolled in school. Some of these children were left behind by their parents (either one of the parents or both parents who needed to leave the country to work abroad. In cases where one parent is abroad, it may be the other parent who takes care of

the child. In cases where both parents are abroad, it may be the aunt, uncle, grandparents or other relatives who are taking care of the child. There were some stories of children suffering because of the absence of their parents who were abroad (Parreñas, 2005). In fact, poor performance in school and dropping out of school are some of the consequences of poor guardianship from migrant parents.

As mentioned earlier, poverty incidence in the sites covered is relatively high at 28.7 percent (indicator 11). Migrant households are relatively better-off as the poverty incidence is recorded only at 13.3 percent which is 17 percentage points lower than the estimates for non-migrant households. At the same time, the number of households living below the food threshold is significantly lower among migrant households (i.e., 12 percentage points lower than that of non-migrant households) (indicator 12). It is deemed that the remittances received by households from their migrant member contributed to the higher income for the household. However, there are still some households which reported that they experienced food shortage during the three-month period prior to the survey (indicator 13). Although a lower proportion is recorded among migrant households, this issue also deserves attention as both groups of households reported experiencing shortage of food.

Furthermore, the CBMS data revealed that one in every 10 members of the labor force in the sites covered is unemployed (indicator 14). Unemployment rate among members of migrant households (11.3%) is higher than among those in non-migrant households (9.8%). These unemployment figures are slightly higher than the national estimates in recent years whereby single-digit unemployment rates are recorded. Local employment opportunities may be limited in the study areas resulting in higher unemployment rates. Meanwhile, the indicator for peace and order (indicator 15) shows that the proportion of households which have been victims of crime is less than 1 percent, although a slightly higher figure is reported for non-migrant households.

Although each of the abovementioned indicators of poverty are usually examined separately depending on the given sectoral concerns, they are also used to estimate a single indicator of poverty that captures these poverty dimensions simultaneously. This indicator, developed by CBMS-INCT, is the CBMS Simple Composite Indicator (CBMS-SCI). The SCI summarizes the characteristics of each household by simply counting the number of unmet needs or unattained indicators as listed in Table 3.6, excluding indicators (8) and (9) since both indicators are assumed to be captured by indicator (10). It, therefore, provides information on the simultaneous deprivations of households and gives an overall measure of the poverty situation of these households. This simple method makes the SCI much simpler and easier to interpret for the local policymakers who are the main users of this information. Since this measure follows a simple counting approach, indicators under these dimensions are given equal weights in estimating the SCI. It must be noted that the indicators under health, nutrition, basic education and employment presented in the Table refer to member-level indicators. Hence, a household will be considered deprived in these indicators if at least one member of the household failed to meet the basic needs referred to under each dimension. Given this, the estimated SCI for

all households under this study is 0.99, which implies that households are deprived in one basic need, on average. However, it is noted that migrant households are less-deprived, as they recorded slightly lower estimated SCI (0.51) compared to non-migrant households (1.03). Using four basic needs as the poverty threshold, 4.0 percent of the households are classified as SCI poor. The proportion of SCI poor is again lower among migrant households (0.9%) as compared to non-migrant households (4.4%).

3.4.3 Migration and the Multidimensional Poverty Index (MPI)

The Multidimensional Poverty Index (MPI) which was recently developed through the Oxford Poverty and Human Development Initiative (OPHI) can also be used to determine multiple deprivations and to measure poverty. The index measures the non-income based dimensions of poverty which also allows a more comprehensive assessment of the extent of poverty. The MPI basically follows the Alkire Foster (AF) counting approach, which is a multidimensional extension of the 1984 Foster-Greer-Thorbecke (FGT) approach (Alkire, Foster, Seth, Santos, Roche, & Ballon, 2015). Similar to SCI, it counts the different types of deprivations at the same time, which are used to identify the poor and construct the index of multidimensional poverty.

The estimation of the MPI in this paper is based on the United Nation Development Programme (UNDP) 2014 specifications of the MPI as proposed by Kovecevic and Calderon (2014), following the AF method, which capture three major dimensions including education, health and living standards. Some of the variables and indicators are slightly modified to adapt to the local context and to take into account the data limitations. In line with this, some of the MPI indicators used in this research are similar to the ones used in estimating the CBMS-SCI, particularly indicators (1), (3) (4), (6), (7) and (8) as shown in Table 3.7. Indicator (8), however, is a combination of two indicators in CBMS-SCI, particularly CBMS core indicators (4) and (5) in Table 3.6 as they both capture quality of housing. Since the indicators under health, nutrition, basic education and employment are presented at the member level in Table 3.6, household level indicators were estimated. A household is considered deprived if at least one member failed to meet each particular basic need. Hence, the indicators presented in Table 3.7 are all household-level indicators. Note that, unlike CBMS-SCI, the MPI[37] estimated in this research does not include the income indicator in estimating the index. For this section, the discussion will focus on the other MPI indicators not covered in the CBMS-SCI presented earlier, particularly indicators (2), (5) and (9).

[37] Given the flexibility of MPI in terms of dimensions, indicators and cut-offs can be used depending on its specific uses, situations and societies, it is also possible to include income as one of the dimensions.

Table 3.7. Deprivation scores and Multidimensional Poverty Index (MPI), by migration status

Indicator	Description	Migrant HHs	Non-migrant HHs	All HHs
Proportion of Poor HHs based on MPI (%)		**0.61**	**2.55**	**2.36**
Deprivation Score		**0.044**	**0.085**	**0.081**
Education				
(1) School attendance for school-aged children	A HH is deprived if there is at least one member 6-16 years old not attending school	5.3	7.1	6.9
(2) School attainment for household members	A HH is deprived if no member 13 years old and above has reached at least Grade 6 or an elementary graduate	2.2	3.3	3.2
Health				
(3) Child mortality	A HH is deprived if there is at least one member aged 5 years old and below who died in the past 12 months	0.1	0.2	0.2
(4) Nutrition	A HH is deprived if there is at least one member 5 years old and below who is malnourished	2.4	2.6	2.6
Living Standards				
(5) Access to electricity	A HH is deprived if it has no access to electricity	3.5	11.1	10.4
(6) Access to safe drinking water	A HH is deprived if it has no access to safe drinking water (e.g., source of drinking water is unprotected dug well, unprotected water from spring, surface water line river, etc.)	6.0	5.6	5.7
(7) Access to sanitary toilet facility	A HH is deprived if it has no access to sanitary toilet facilities (e.g., open pit or no toilet at all)	2.0	6.5	6.1
(8) Access to good housing conditions	A HH is deprived if living as informal settlers or if the house is classified as makeshift	7.7	16.1	15.3
(9) Access to assets	A HH is not deprived in assets if it has at least one asset from group (a) and at least one asset from groups (b) or (c) (a) allow access to information (radio, TV, telephone, cellphone) (b) support mobility (car, jeepney) (c) support livelihood (refrigerator, sewing machine, own agricultural land, own livestock)	21.4	53.8	50.7

Notes: The variables and weights used are based on the UNDP's definition using the Kovecevic and Calderon (2014) although some definitions are slightly modified given the local context and the availability of data. The estimates for each indicator refer to deprived households.

Sources of basic data: CBMS Census: Mabini (2009); M'Lang (2009); Mahinog (2010); Allacapan (2011); Pasay City(2011); Buenavista(2011); Orion (2012); Looc (2012)

Estimates show that migrant households are generally less deprived compared to non-migrant households based on all indicators considered in the MPI, except for access to safe drinking water. In terms of school attainment, about 2.2 percent of the migrant households do not have a member 13 years old and above who has reached at least Grade 6 or an elementary graduate (indicator 2). This is 1.1 percentage points lower compared to the estimate for non-migrant households which suggests that OFWs generally come from households with more educated members. It is also noted that access to electricity is still a problem among many households with at least one in every 10 households having no electricity (indicator 5). Examining further the dataset revealed that this problem is most common among households in the municipalities which also recorded relatively high poverty incidence, including M'lang, Mahinog and Allacapan. The lack of access to electricity is a bigger concern for non-migrant households compared to their counterparts.

Meanwhile, data on access to assets (indicator 9) confirmed that majority of the households lack assets that allow access to information, support mobility or support livelihood. The proportion of households without access to these assets is higher among non-migrant households (53.8%) than among migrant households (21.4%). Looking more closely at each type of assets, data showed that migrant households generally have better access to information, better mobility and better access to assets that support livelihood. However, the significant proportion of migrant households which do not own assets that could be useful for a specific type of livelihood activities (23.4%) imply that many of them still do not invest in productive activities.

In estimating the MPI, the three dimensions considered (particularly education, health and living standards) were given equal weight of 0.33 each. Furthermore, the weights assigned for each dimension are divided equally among the indicators (Annex G). The deprivation scores are derived by applying the weights assigned for each indicator under each dimension. Based on the results of the estimation, households covered under this study have very low average deprivation scores at about 0.08 with migrant households being less deprived, in general. In fact, migrant households recorded an average deprivation score of 0.044 which is only around half of the average deprivation scores of non-migrant households estimated at 0.085. Based on Kovecevic and Calderon's (2014) definition and following the AF framework, the MPI poor are identified as those with deprivation scores of at least 0.33. Given this threshold, the proportion of MPI poor (headcount ratio) in the study sites is only about 2.36 percent, which is significantly lower than the estimated poverty rates based on the unidimensional income measure but only more than one percentage points lower than SCI poverty (using four dimensions as cut-off) as presented in the previous sections. Again, the proportion of MPI poor is lower among migrant households compared to their counterpart non-migrant households.

3.4.4 Migration and the Three Measures of Poverty

Table 3.8 summarizes how deprivation of households is identified and measured based on income, CBMS-SCI and MPI. As in any measures of poverty, one important factor to consider is the cut-off that will be used to identify the poor. For income poverty, the official poverty threshold released by PSA is used as the cut-off. With this, the estimated poverty rate based on the unidimensional income measure is about 28.7 percent with estimates that are considerably lower among migrant households compared to their counterparts. More than half of these poor households are classified as severely poor while the rest are not severely poor. Classifying the households into four major groups by income level reveals that while majority of the households are non-poor, there are also a few households which are considered nearly poor. These households face some risks of falling into poverty, for instance, in case the household face some idiosyncratic or covariant shocks which may affect their income.

Meanwhile, the MPI is estimated by multiplying the headcount ratio (i.e., proportion of MPI poor population) by the intensity of poverty (average deprivation score for the poor). Given the headcount ratio of 2.81 percent and intensity of poverty of about 41.4 percent, MPI is estimated to be at 0.012. The proportion of MPI poor households (i.e., those with deprivation score of at least 0.33*)* is only 2.4 percent for all households. The average poor individual is deprived in 41.6 percent of the weighted indicators. Comparing migrant and non-migrant households, estimates show that the former have lower headcount ratio and lower intensity of poverty and hence, lower MPI compared to non-migrant households.

For the CBMS–SCI, the deprivation cut-off used in identifying the poor is four basic needs. This means that households will be considered SCI poor if are deprived in at least four of the 13 (i.e., 4/13 or 0.31) core indicators included in the estimation. This is comparable with the MPI cut-off of 0.33. Applying this threshold, 4.0 percent of the households are classified as SCI poor, which is significantly lower than the unidimensional poverty estimates (28.7%) but at par with the MPI poor estimates (2.4%). Again, the proportion of SCI poor is lower among migrant households (0.9), suggesting that they are less deprived compared to their counterpart non-migrant households (4.4). It is noted that while there are some households which are classified as severely SCI poor, i.e., deprived in at least seven (7) basic needs, this is recorded only for non-migrant households.

Table 3.8. Income poverty, Multidimensional Poverty Index (MPI) and CBMS Simple Composite Indicator (SCI)

Indicator	Cut-off	Migrant HHs (M)	Non-migrant HHs (NM)	Difference (M-NM)	All HHs
No. of Households		**12,073**	**114,739**		**126,812**
Income Poverty [1/]					
Non-poor	with per capita income ≥PPT	**86.7**	**69.7**	**17.0**	**71.3**
Not nearly poor	with per capita income ≥120% of PPT	**82.9**	**63.9**	**19.0**	**65.7**
Nearly poor	with per capita income < 120% of PPT	**3.8**	**5.8**	**2.0**	**5.6**
Poor	with per capita income < PPT	**13.3**	**30.3**	**-17.0**	**28.7**
Not Severely poor	with per capita income of ≥60% of PPT	**7.1**	**13.8**	**-6.7**	**13.2**
Severely poor	with per capita income < 60% of PPT	**6.2**	**16.6**	**-10.4**	**15.6**
Multidimensional Poverty Index [2/]		**0.003**	**0.013**	**0.010**	**0.012**
Headcount ratio (%)		*0.87*	*3.01*	*-2.1*	*2.81*
Intensity of poverty (%)		*39.52*	*41.71*	*-2.2*	*41.64*
Deprived but not Near-MPI poor	deprivation score >0 but < 0.2	32.7	52.5	-19.8	50.6
Near-MPI poor	deprivation score 0.2 to <0.33	4.3	11.3	-7.0	10.6
Multidimensionally poor (MPI Poor)	deprivation score is 0.33 or more	0.6	2.6	-2.0	2.4
Severely multi-dimensionally poor	deprivation score is 0.5 or more	0.03	0.4	-0.4	0.3
CBMS Simple Composite Indicator [3/]		**0.61**	**1.03**	**-0.42**	**0.99**
Not deprived	Not deprived in any of the basic needs	59.2	46.0	13.5	47.3
Deprived but not SCI Poor	deprived in 1-3 basic needs	40.0	49.6	-9.6	48.7
SCI Poor	deprived in at least 4 basic needs	0.9	4.4	-3.5	4.0
Severely SCI poor	deprived in at least 7 basic needs	0.0	0.1	-0.1	0.1

Notes: PPT- official provincial poverty threshold, by urbanity released by the Philippine Statistics Authority (PSA); M- Migrant households; NM- Non-migrant households

[1/] The cut-off used in identifying households into four groups (i.e., 1) not nearly poor, 2) nearly poor, 3) not severely poor, 4) severely poor) is based on the definition used by Albert and Collado (2014)

[2/] The MPI is estimated by multiplying the headcount ratio (Proportion of MPI poor population) by the intensity of poverty (average deprivation score for the poor). The deprivation scores are based on the weights in UNDP's specification as discussed by Kovecevic and Calderon (2014) with some modifications on the variables given the limitations in the data.

[3/] The indicator reflects the average SCI for each group of households. Deprivation is based only on the 13 CBMS core indicators of poverty as listed in Table 3.6, excluding indicators 8 and 9. Poor households are identified based on the number of deprivations. The deprivation cut-off for identifying SCI poor was based on the assumption that a household is SCI poor if it is deprived in at least 4 indicators, which, similar to the MPI, is about one-third of the total indicators.

Source: Author's elaboration based on the CBMS datasets of the following sites: Mabini (2009); M'Lang (2009); Mahinog (2010); Allacapan (2011); Pasay City(2011); Buenavista(2011); Orion (2012); Looc (2012)

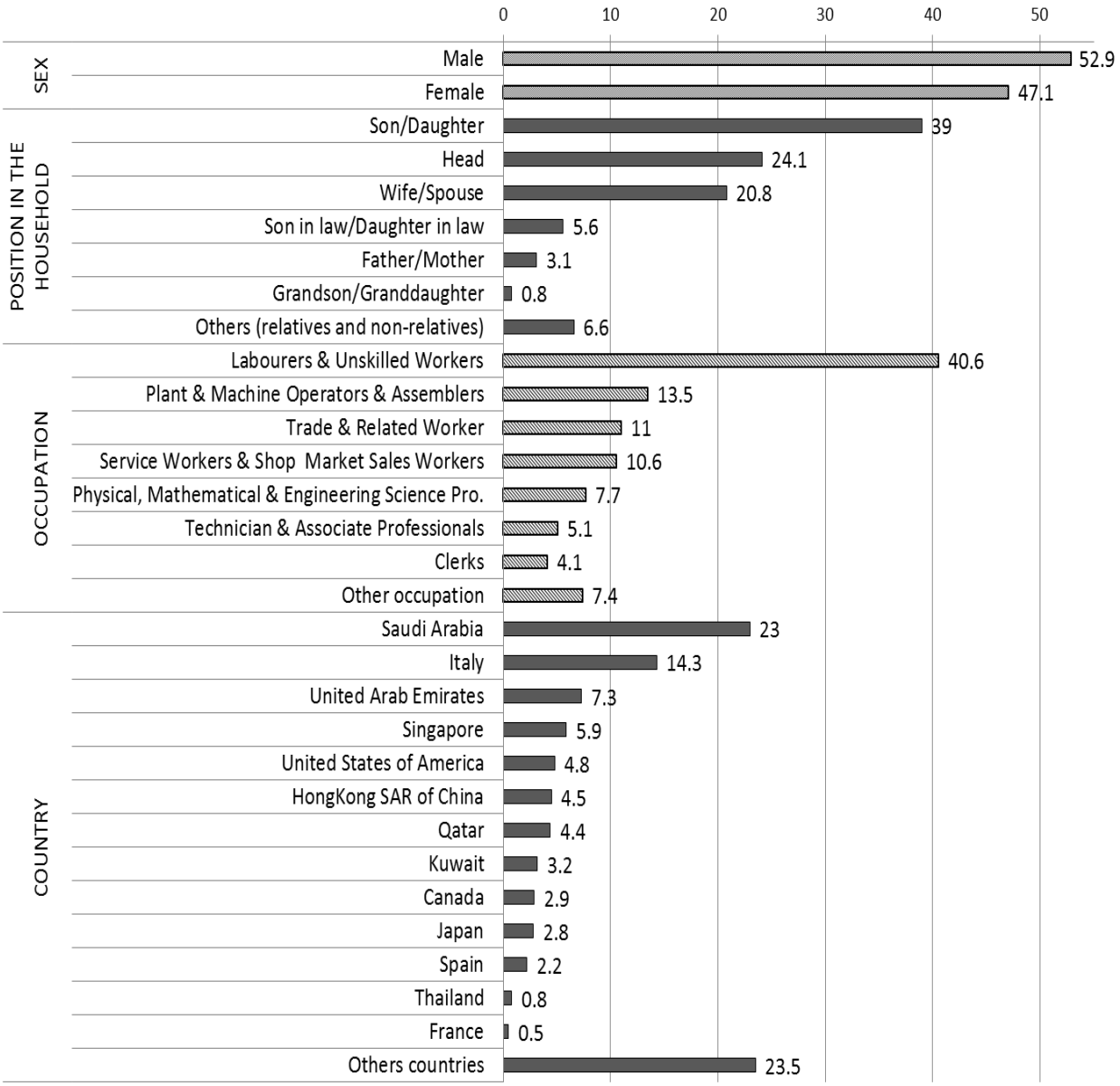
In particular, the MPI estimated for migrant households is only 0.003 while the MPI estimated for non-migrant households is 0.013. A slightly lower MPI is also recorded for remittance-recipients (0.003) compared to their counterparts (0.004). It is worth noting that the national level estimate of MPI in the Philippines in 2015 is recorded at 0.052 (Oxford Poverty Human Development Intiative, 2015) at the population level, which is higher than the 0.012 that is estimated for the households included in our dataset. Although the national estimate utilized a different survey data and not exactly the same variable definition, it offers useful information for benchmarking purposes.

Although there are similarities in some of the variables considered in the two multidimensional poverty measures, the difference in the estimates based on CBMS-SCI and based on MPI is mainly due to the difference in the variables and weights used in the estimation which also makes it difficult to compare the two measures. In addition, it should be recognized that these poverty estimates may also change if the approach in aggregation and identification of poor is modified, through for instance some participatory process. As mentioned earlier, the current cut-off used for the MPI is also based on Kovacevic and Calderon'ss (2014) recommendation which is 0.33 as used in the Alkire-Foster method while the cut-offs used for CBMS-SCI is patterned after the MPI cut-offs. If these cut-offs are adjusted, the current estimates of poverty will also change. For instance, changing the cut-off for being SCI poor to two dimensions will lead to a higher incidence of SCI poor households which is estimated to be at 28.7 percent, which is now at par with the estimate of poverty based on income as discussed earlier.

3.4.5 Migration and Profile of OFWs

The CBMS data for the eight LGUs covered a total of 14,287 OFWs, accounting for 2.8 percent of the total population in all sites. These OFWs belong to the 12,073 migrant, which implies that there are some households with two or more migrant members. In fact, although majority of the migrant households have only one OFW member, about 15.2 percent of migrant households have multiple migrant members abroad. Figure 3.4 presents the profile of overseas Filipino workers which helps in understanding the characteristics of the individuals who are most likely working abroad. Labor migration still appears to be dominated by men. In particular, 52.9 percent of the OFWs are male while the rest are female. In the context of the Philippines, male members of the family (especially the male spouse) usually take the responsibility of providing financial support to their families and are expected by the society to do so. Therefore, in order to support their family, male members of the family are more likely to work abroad, especially if better employment opportunities are lacking domestically. Although a large proportion of the OFWs are the sons/daughters, a significant proportion is also accounted for by the household heads. It is expected that sending the household head abroad may have greater implications on the structure and internal dynamics among the left-behind household members.

Figure 3.4.Profile of Overseas Filipino Workers (OFWs) from the eight LGUs
(Figures presented are percentage to total number of OFWs)
Total number of OFWs: 14,287; Share to total population: 2.8%



Notes: 1) Other occupations Include farmers, corporate executives, supervisors, special occupations etc.; 2) Other countries include United Kingdoms, Bahrain, Greece, Korea and Brunei, among others; 3) Since the "sex" variable is not directly collected in the CBMS-HPQ version 06-2009-01, which is the questionnaire administered in the municipalities of Mabini, M'Lang, Mahinog and Allacapan, the "sex" variable was generated by the author based on the name of the migrant member.
Sources of basic data: CBMS Census: Mabini (2009); M'Lang (2009); Mahinog (2010); Allacapan (2011); Pasay City(2011); Buenavista(2011); Orion (2012); Looc (2012)

The most common country of destination among the OFWs from the eight LGUs is Saudi Arabia, followed by Italy and United Arab Emirates (UAE). Countries in the Middle East or Gulf Region (including Saudi Arabia and UAE) have actually been the top destinations for migrant Filipinos since the 1970s when Filipino workers started to migrate to these oil-rich countries given the high demand for construction workers during the period. Recall

that based on the national data as reported by PSA in 2013, Saudi Arabia and UAE also appear to be the most favorite destination among OFWs. Although Italy did not come out as one of the top ten destinations for OFWs at the national level, it is identified as the second most favorite destination for OFWs in the eight LGUs, especially in the municipality of Mabini. However, based on the 2013 CFO data, Italy ranked seven in terms of having the largest number of overseas Filipinos with a total of 271,946 individuals, about 47.0 percent of which are temporary workers that include OFWs. Aside from Saudi Arabia, Italy and UAE, the other countries which appear to be the common destination among OFWs from the eight selected sites include Singapore, USA, HongKong, Qatar and Kuwait.

Meanwhile, most of the OFWs are working as laborers and unskilled workers (40.6%). This pattern is common in all sites especially in Allacapan (71.2%), Mabini (67.5%) and M'lang (61.2%) where at least six (6) in every OFW coming from their municipality work as laborers or unskilled workers abroad (Table 3.9). In fact, being a domestic worker is the most common type of unskilled job of Filipinos overseas, not only for these three sites but also for the other sites, in general. However, there are also many Filipinos who work as plant and machine operators and assemblers abroad, including those who operate different types of machines like backhoe, forklift and other heavy equipment and those who drive trucks, cars and other vehicles. These types of work are common among OFWs coming from Looc (39.4%), Buenavista (22.2%) and Mahinog (23.6%). Although there is also a significant proportion of OFWs from Pasay City who work as plant and machine operators and assemblers (16.4%), it is noted there are more migrants from this city who work as service workers and shop and market sales workers (17.8%). Meanwhile, OFWs from Orion mostly work as trade and related workers.

The local conditions may have an effect on the abovementioned patterns. For instance, OFWs who work as laborers and unskilled workers are more likely to come from areas which are still highly dependent on agriculture as source of employment, including Allacapan and M'Lang. Note that while these two sites recorded relatively low unemployment rates, the poverty rates are high compared to the other sites, which suggests that the income they derived from their current income source is not enough to provide for their basic food and non-food needs. At the same time, the education conditions in these sites are relatively poor compared to the other sites as Allacapan and M'lang, respectively, reported 14.2 percent and 12.5 percent of their children 6-16 years old are not enrolled in school. Meanwhile, the high incidence of laborers and unskilled workers in the case of Mabini is a different case as most of the OFWs from this municipality go to Italy to work. The relatively long history of migration from Mabini, the established network and the family reunification law in Italy seems to have facilitated the migration of these individuals. This is unlike the case of laborers and unskilled workers (e.g., household helpers) from Allacapan who work mostly in HongKong and Singapore and from and M'lang who work mostly in countries in the Middle East (i.e., Saudi Arabia, Kuwait, United Arab Emirates) and in Hong Kong.

Table 3.9. Profile of Overseas Filipino Workers (OFWs), by site

	Pasay City	Allacapan	Orion	Mabini	Looc	Buenavista	Mahinog	M'Lang
Number of OFWs	4,698	1,004	1,485	3,643	239	1,185	348	1,615
Share to total population	1.7	3.2	4.1	11.4	2.3	2.7	2.7	2
Sex								
Male	65.6	21.5	76.5	48.7	70.7	47.6	51.2	25
Female	34.4	78.5	23.5	51.3	29.3	52.4	48.9	75.1
Position in the household								
Son/Daughter	26.1	42.7	30.2	46.1	55.2	39	66.4	58.3
Head	47.7	--	50.2	0.1	26.8	30	--	0.9
Wife/Spouse	15.5	41	10	25.2	5	22	20.4	25.3
Son in law/Daughter in law	4.4	9.9	6.8	7	6.7	4.8	3.2	3.2
Father/Mother	0.4	2.7	0.2	8.1	0.4	0.3	2.9	5.3
Grandson/Granddaughter	0.4	0.6	0.5	1.5	0.8	0.7	1.4	0.6
Others (relatives and non-relatives)	5.5	3.1	2.2	12	5	3.2	5.8	6.4
Occupation								
Laborers and Unskilled Workers	13.9	71.2	15.1	67.5	23.7	49.4	27	61.2
Plant and Machine Operators and Assemblers	16.4	5.4	13.6	9.4	39.4	22.2	23.6	7
Trade and Related Worker	10.6	7.1	31.8	8.3	6.6	4.4	16.1	5.6
Service Workers and Shop and Market Sales Workers	17.8	7.3	7.7	5	10.4	3.2	9.8	12.8
Physical, Mathematical and Engineering Science	11.7	4.2	8.8	4.2	7.1	4.6	10.3	7.2
Technician and Associate	8.6	2.4	9.8	1.4	6.2	3.7	6.6	1.3
Clerks	7.4	0.8	5.2	2.2	3.7	1.8	3.7	1.6
Others [1]	13.7	1.7	8	2	2.9	10.7	2.9	3.4
Country [2]								
Saudi Arabia	38.1	10	29	6.4	41.1	14.5	21	22.6
Italy				52.1				
United Arab Emirates		11.7	21.3	4	24.1			12.1
Singapore	6.2	13.7	4.9		6.2	12.8		5.7
United States of America	8.2		4.4			5.2	9.8	
HongKong SAR of China		15.6				12.8		8.3
Qatar	5.3		7	3.1	4.2		6	
Kuwait						5.7		10
Canada		5.5						
Japan	5						8.1	
Spain				5.3				
Thailand					5			
France							8.1	
Others [3]	37.3	43.6	33.5	29.1	19.5	49.1	47.1	41.4

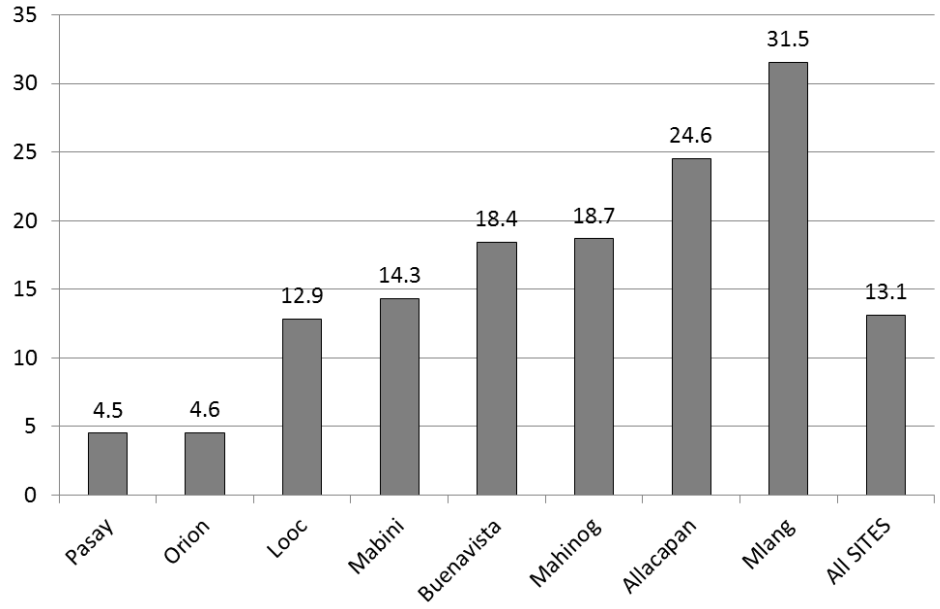
[1] Includes farmers, corporate executives, supervisors, special occupations etc.; [2] Presents only information for the top five (5) countries of destination in each site; [3] Includes United Kingdoms, Bahrain, Greece, Korea and Brunei, among others.

Note: Since the "sex" variable is not directly collected in the CBMS-HPQ version 06-2009-01, which is the questionnaire administered in the municipalities of Mabini, M'Lang, Mahinog and Allacapan, the "sex" variable was generated by the author based on the name of the migrant member.

Sources of basic data: CBMS Census: Mabini (2009); M'Lang (2009); Mahinog (2010); Allacapan (2011); Pasay City(2011); Buenavista(2011); Orion (2012); Looc (2012)

Examining the poverty profile of these OFWs, the share of OFWs who belong to poor households varies greatly across sites. The share ranges from as low as 4.5 percent in the case of Pasay City to as high as 31.5 percent in the case of M'lang. Recall that Pasay City is a highly urbanized area while M'lang is less urbanized and still relies on the agriculture as a main source of employment. Although majority of the OFWs in the eight sites combined come from currently rich households, about 13.1 percent of them belong to currently poor households (Figure 3.5). Some of these OFWs might have sent smaller amounts of annual remittances to their households, thereby providing less contribution to the household's total income. Some OFWs have just left the country recently, i.e., in the last few months prior to the interview and hence, have sent remittances only for a few months or even none at all. However, it is not possible to examine this further since the CBMS data does not capture the amount of remittances sent by individual OFW but instead the total amount of remittances received by the households from all OFW members for the entire year. This means that it is only possible to estimate the individual remittances for households with only one OFW member but not for households with multiple OFW members. At the same time, CBMS data does not provide information on the length of time the OFW member has been abroad.

Figure 3.5. Share of OFWs who belong to poor households, by site



Total no. of OFWs: 14,287

Sources of basic data: CBMS Census: Mabini (2009); M'Lang (2009); Mahinog (2010); Allacapan (2011); Pasay City(2011); Buenavista(2011); Orion (2012); Looc (2012)

3.5 Estimating the Impact of International Migration on Poverty Using Instrumental Variables (IV) Method

3.5.1 Method of Analysis

The treatment binary variable in this study is the migration status which indicates whether the household sends a migrant member abroad or not rather than receipt of remittances. A *migrant household* is defined as having at least one OFW member during the reference period. According to McKenzie and Sasin (2007), in the absence of compelling reasons (e.g., policymakers need to choose between policies of encouraging more migration or encouraging more remittances) and reliable means to analyze the impact of remittances in isolation, a holistic approach which is based on the impact of "migration" rather than "remittances" is more appropriate. In addition, Lokshin, Bontch-Osmolovski, & Glinskaya (2007) highlighted that understanding the effect of migration on household wellbeing has more policy relevance than understanding the narrower question that focus only on the effect of remittances. It is also deemed that data on remittances are more likely to be noisy while the migration indicator can be more accurate in identifying the migration status of the household.

As discussed in Section 2.2, endogeneity of migration decisions is one of the important challenges in measuring the impact of international migration. In a simple model that compares the outcome of migrant and non-migrant households shown in Equation 3.1, there will be no problem with selection bias at the level of randomization.

$$Y_i = \alpha X_i + \beta ofwind_i + \varepsilon_i \qquad \text{(Equation 3.1)}$$

where Y_i is the dependent variable, which could be the (log) of per capita income or poverty status of household i; $ofwind_i$ is a dummy equal to 1 if the household sends at least one member abroad and 0 if none; X_i is a set of observed characteristics of the household; ε is the error term that reflects the unobserved characteristics that also affect Y_i. However, the treatment binary variable in the equation, $ofwind_i$ becomes endogenous since it may be correlated with the error term. In fact, migration decision is not random and most likely related with some observable and unobservable characteristics of the households. Therefore, Equation 3.1 violates the important assumption of ordinary least squares (OLS) in obtaining unbiased estimates. To confirm the need for an instrumental variable approach in the estimation, Hausman tests were conducted and the results revealed that an IV model is more appropriate.

Given the above, the IV method was employed to estimate the impact of international migration. This method is considered as a powerful tool in dealing with endogeneity since it can produce consistent estimates without strong parametric assumptions such as the specific distributional forms of the errors. One of the IV models estimated in this study employed the two-stage lest squares (2SLS) method. This traditional IV method (Cameron & Trivedi, 2005; Wooldridge, 2010) estimates the first stage model by running an OLS

regression of $ofwind$ on X and Z and obtaining the predicted values of $ofwind$. The first stage model is estimated as follows:

$$ofwind_i = \beta X_i + \gamma Z_i + \varepsilon_i \qquad \text{Equation 3.2}$$

where $ofwind_i$ refers to the migration status of household i which is a dummy variable equal to 1 if the household sends at least one member abroad and 0 if none; X_i is a set of observed characteristics of the household including the size of the household, dependency ratio, number of members 15 years old and above with job, share of female adult members who are working, average years of schooling of members 22 years old and above and an indicator of whether the household is living in an urban area. To control for municipality/city-level characteristics, additional variables are also considered in the empirical model including unemployment rate, share of employed persons in the agriculture to total number of employed and proportion of out-of-school children in the municipality. Meanwhile, ε is the error term and Z_i refers to the instrument that identifies the migrant households.

The instruments Z should be highly correlated with being a migrant household but not correlated with unobserved characteristics that affect (log) per capita income or poverty status (denoted by Y_i) of the household. Hence, the instrument should satisfy the following two conditions:

1) correlated with $ofwind$: cov $(Z, ofwind) \neq 0$ (*instrument relevance*)
2) uncorrelated with ε: cov$(Z, \varepsilon) = 0$ (*instrument exogeneity*)

The selection and construction of the instruments is discussed in detail in section 3.5.2. To check the validity of the instruments, relevant tests were also conducted, including: 1) F-test for the excluded instruments; 2) underidentification test; and 3) overidentification test for models with at least two instruments.

Meanwhile, the second stage equation in the IV model is estimated by running another OLS of Y on X and the predicted values of $ofwind$.

$$Y_i = \alpha X_i + \beta \widehat{ofwind}_i + \varepsilon_i \qquad \text{(Equation 3.3)}$$

where Y_i is the as (log) of per capita income or poverty status of household i; $ofwind_i$ is a dummy equal to 1 if the household sends at least one member abroad and 0 if none; X_i is a set of observed characteristics of the household including the size of the household, dependency ratio, number of members 15 years old and above with job, share of female adult members who are working, average years of schooling of members 22 years old and above and an indicator of whether the household is living in an urban area; ε is the error term. Again, to control for municipality/city-level characteristics, additional variables are also considered in the empirical model including unemployment rate, share of employed

persons in the agriculture to total number of employed and proportion of out-of-school children in the municipality. [38]

In addition to the traditional IV procedure discussed above, two alternative IV models are also estimated in this study, particularly the Probit-OLS and the Probit-2SLS models as presented by Cerulli (2015). Contrary to the traditional approach, the Probit-OLS estimates the first equation by probit, thereby achieving a higher level of efficiency. One limitation, however, of this method is that it requires that the probit is the "actual probability rule governing the conditional probability of being treated" (Cerulli, 2015). The measurement error that occurs in the first-step estimation of the propensity score may also lead to inconsistent estimates since the propensity score directly enters the outcome equation. Meanwhile, the Probit-2SLS method procedure first estimates a probit model of $ofwind$ on X and Z to get the "predicted probability of $ofwind$. The obtained predicted probabilities are then used as an instrument for $ofwind$ when applying the (direct) 2SLS. This means that this model uses the estimated propensity scores as instrument for $ofwind$. If the probit model is correctly specified, this procedure can lead to higher efficiency than (direct) 2SLS since the instrument used is the best instrument available in the class of all instruments that are functions of (X, Z). It also has an advantage over Probit-OLS such that it produces consistent estimates even if the first-step probit is misspecified mainly because the estimation of the probit is not directly included in the outcome equation. At the same time, in an incorrectly specified probit model, the propensity score is still a function of (X, Z) and therefore, still a valid instrument. (Cerulli, 2015).

As in many impact studies, this research also attempts to determine the impact on an outcome variable that takes on a binary form. In particular, it attempts to determine whether the proportion of poor is decreased because of international migration. The outcome Y takes on two values, i.e., 1 if the household is poor and 0 if non-poor. As discussed in section 3.4, the poor households can be identified as income poor, SCI poor or MPI poor. Hence, this research uses these three measures as dependent variables in the IV models. The models were also estimated through 2SLS. One important limitation of employing this estimation procedure is that it may not provide consistent results since the estimation is based on a linear probability model and hence, ignores the binary nature of the dependent variable. This method of estimation, is however, proposed by Cameron and Trivedi (2010) as one way of estimating an IV model with binary outcome as it requires fewer distributional assumptions. Since Y is binary, the error ε is heteroskedastic. They explained that the 2SLS estimator is still consistent but heteroscedasticity-robust standard errors must be used for inference. Furthermore, the non-traditional IV procedure is also employed for binary outcomes given the justifications presented in the previous paragraph.

[38] Some of the built-in and user-written commands in Stata that can be used in estimating IV models include *ivregress*, *ivreg2*, and *ivtreatreg*.

3.5.2 Selecting and Constructing Instruments for Migration

It is recognized that selection of a good instrument is always a challenge. As discussed in Chapter 2, some of the earlier studies on migration also employed the IV method to address the endogeneity problem when estimating the impact of international migration or remittances on various household outcomes. Different authors used different instruments for migration or remittances. Some of the instruments for migration and/or remittances used in earlier studies (either macro or micro level) include the following: 1) past migration streams or historic migration network (Hildebrandt & McKenzie, 2005; Mansuri, 2006; McKenzie & Rapoport, 2007; Lokshin, Bontch-Osmolovski, & Glinskaya, 2007); 2) historic state-level migration rates and U.S. labor market conditions (McKenzie & Rapoport, 2007); 3) distance to railroad stations in 1930 (Adams & Cuecuecha, 2010); 4) distance between remittance-sending and -receiving countries (Adams & Page, 2005); 5) the interaction between the aggregate international migration in 2002 and unexpected rainfall shocks in 1990 (Adams & Cuecuecha, 2010); 6) interaction between the US employment creation rate in 25 US cities in 1998 and the age of household head squared (Adams & Cuecuecha, 2010); 7) percent of population over a 25 years old that have completed secondary education (Adams & Page, 2005); 8) government stability (Adams & Page, 2005); 9) rainfall patterns (Adams & Cuecuecha, 2010; Woodruff & Zenteno, 2007; McKenzie & Rapoport, 2007); 10) exchange rate shocks (e.g., (Yang D. , 2008; Yang & Choi, 2007; Yang & Martinez, 2006); 11) "per capita GDP of each of the top 10 migrant-receiving countries of the world, weighted by the inverse of the distance to these ten countries from each remittance-receiving country" (Acosta, Fajnzylber, & Lopez, 2008); and 12) "real GDP per capita of the five OECD countries that are the top receivers of migrants for each remittance-receiving country, weighted by the share of migration from the corresponding country to each of those five OECD destinations" (Acosta, Fajnzylber, & Lopez, 2008)

Meanwhile for migration studies in the Philippines which adopted the IV method, some of the instruments used include the following: 1) foreign exchange shocks arising from the Asian financial crisis (Yang & Martinez, 2006) when determining the impact of remittances on poverty; 2) household asset holdings such as ownership of cars, televisions and refrigerators and the ratio of entrepreneurial income to total income when estimating the impact of remittances on expenditures (Ang, Sugiyarto, & Jha, 2009); 3) ownership of washing machine and of a television set when estimating the effect of receipt of remittances on the "share of education expenditures" (Murata, 2011); 4) presence of a refrigerator, of a washing machine, and of a television set when estimating the effect of receipt of remittances on the "absolute amount of education expenditures" (Murata, 2011); 5) migration demand index to instrument for migration rate at the provincial level (Theoharides, 2014) ; 6) the number of sons and daughters aged 21 and over, their completed years of schooling, village characteristics affecting migration and shocks experienced by migrants (i.e., average percentage deviation (of destination) national GDP in 2002 from trend national GDP) to instrument for migration and remittances in determining the impact on various households outcomes (e.g., asset

outcomes, consumption outcomes and credit constraint status) (Quisumbing & Mcniven, 2010); and 7) province-level share of female migrants going to each of the top five destinations interacted with year fixed effects and aims at capturing all potential shocks to destination countries; and expected salary for a female migrant constructed using her province's distribution of destination countries and data on migrant wages by occupation and destination to instrument for mother's migration Cortes (2015).

Based on the review of existing literature and given the available data, this study resorted to using migration network (*mignetwork*) and distance of the site to the capital city Manila (*distance*) as instruments for migration. Based on the findings of previous studies, migration network can facilitate migration of potential migrants. For instance, it can lower the cost of migration through various ways such as providing information about available jobs, labor market conditions, and assistance in finding a job and housing abroad (Massey, 1990; Munshi, 2003). In addition, households living in a traditionally migrant-sending community are more likely to have more access to migration network which can then facilitate the migration of the other members. According to Winters, de Janvry and Sadoulet (2001), community can have as much influence on the decision to migrate as the potential migrant's relatives. In fact, as the number of households which send a migrant member abroad increases, more households are encouraged to do the same. Meanwhile, households in communities where there is little or no prior migration are less likely to migrate abroad (Lucas, 2005).

In this Chapter, the migration network *mignetwork* variable is defined in two ways. The first definition constructs the variable using the following formula:

$$mignetwork1_{ibm} = \frac{M_{bm}}{NM_{bm} + M_{bm}} \times A_{ibm} \qquad \text{(Equation 3.4)}$$

where M_{bm} refers to the number of migrant households in barangay *b* of municipality *m,* NM_{bm} refers to the number of non-migrant households in barangay *b* of municipality *m* and A_{ibm} refers to the number of adult members 20 years old and above in household *i* in barangay *b* of municipality *m.* In particular, *mignetwork1* can be expressed as the share of migrant households in barangay *b* of municipality *m* to total number of households in barangay *b* in municipality *m* interacted by the number of adult members 20 years old and above in household *i* in barangay *b* of municipality *m*. The share of migrant households is interacted with A_{ibm} in order to have heterogeneity across households. The motivation for having this interaction variable is to allow migrant network to have different effect on households with different tendencies to migrate in the first place. In relation to this, households with more adult members have higher likelihood of sending a migrant abroad. Note that 20 years was used as cut-off for age in defining the variables since it is expected that these adult members are likely to have finished education and ready to find work, either within the country or abroad. In the context of the Philippines, members aged 20 years old are deemed to be good representatives of the adult population who can work abroad. Data for the eight LGUs, in fact, show that 99.5 percent of the OFWs are at least 20 years old.

Meanwhile, the second definition of migration network assumes that historic migration network (measured in the baseline period, 2008) will affect the likelihood of sending a migrant member in the current period. The migration network variable is, then, estimated as follows:

$$mignetwork2_{ibm} = \frac{OFW_{r2008}}{Popn_{r2008}} \times A_{ibm2008} \qquad \text{(Equation 3.5)}$$

where OFW_{r2008} refers to the total number of OFWs in region *r* in baseline period which is 2008, $Popn_{r2008}$ refers to the total population aged 20 years old and above in region *r* in 2008, and $A_{ibm2008}$ is the number of members 20 years old and above in household *i* in in barangay *b* of municipality *m* in 2008. The first term in the formula represents the share of OFWs to total population aged 20 years old and above in region *r* in baseline period which is 2008. The data used to estimate this variable is sourced from the Philippine Statistics Authority (PSA) based on their Survey of Overseas Filipinos and the Philippine Census of Population. Since there is no Census of Population conducted in 2008, the estimated population for the year is based on population projections using the annual estimated growth in the population per region. Meanwhile, in estimating the second term$A_{ibm2008}$, the age of each member in 2008 is estimated depending on the reference period of the CBMS census since CBMS was implemented by the LGUs in different periods. For instance, for the municipality of Mahinog, the CBMS census was conducted in 2010. To estimate the age of each member in 2008, their age in the current CBMS database was adjusted by deducting 2 years to their age. This adjusted age, then, is used when estimating the number of members 20 years old and above of each household *i* in barangay *b* in the municipality of Mahinog in 2008. This estimation, however, assumes that there is no significant change in the household composition between the two periods, which is an important limitation. The justifications for interacting the first term interacted with $A_{ibm2008}$ is the same as what has been discussed above, which is mainly to allow migrant network to have different effect on households with different tendencies to migrate in the first place.

Meanwhile, the third instrument used in this Chapter is the distance of the site to Manila City (*distanc*e), which is the capital of Metro Manila (National Capital Region) and chief city of the Philippines. The city is the center of the country's economic, political, social and cultural activities. It is assumed that households living far from the center are less likely to migrate compared to those living near the capital. The distance to the capital is related to migration costs and hence, households living far from the capital may incur more expenses to migrate, especially since processing of requirements for migration is also mainly facilitated by institutions and government agencies which are located in the capital. At the same time, most of the accredited employment agencies and accredited hospitals and clinics where departing OFWs can have their medical check-ups are located in the capital. The distance variable is also estimated as an interaction variable as follows:

$$distance_{ibm} = Dist_m \times A_{ibm2008} \qquad \text{(Equation 3.6)}$$

where $Dist_m$ is the estimated distance of the center of municipality *m* to Manila City (i.e., the capital city of the Philippines) based on the shortest reported distance (in kilometer) using *Google* Maps[39]. The most central part of Manila and the LGU are used as the reference points in estimating the distance. Again, in order to have variability across households, the distance is interacted with $A_{ibm2008}$, which is the number of members 20 years old and above in household *i* in barangay *b* in municipality *m* in the baseline period 2008. This is also to allow *distance* to have different effect on households with different tendencies to migrate in the first place.

3.5.3 Empirical Results

Table 3.10 presents the summary statistics for the key variables used in the analysis disaggregated by migration status of the households. In general, households with migrant households differ significantly from non-migrant households in terms of demography, employment, education and welfare measures. In terms of income, it appears that migrant households are generally richer compared to non-migrants as evidenced by the significantly higher average per capita income. In particular, the average per capita income of migrant households is about 67 percent higher than their non-migrant counterparts. This also translates to a significantly lower income poverty incidence among migrant households at 13.3 percent compared to 30.3 percent recorded among non-migrant households. A similar pattern is observed when looking at SCI poverty and MPI poverty. In fact, the proportions of SCI poor and MPI poor households is lower among migrant households, implying that they generally have better living conditions compared to their counterparts.

The demographic characteristics of households may influence their migration decisions. However, the size of the household may affect the migration decisions in different ways. For instance, if migration decision is made to diversify risk (Stark & Bloom, 1985), members of bigger households may need to migrate less. This also implies that it is more likely for members of smaller households to migrate. On the other hand, in cases where the labor of household members cannot be replace by hired labor (e.g., taking care of young children or elder members), members of smaller households are less likely to migrate. Examining the data for the eight sites, migrant households are generally larger (with an average household size of 5.2) compared to non-migrant households (with an average household size of 4.0). A slightly higher dependency ratio is also observed among migrant households (0.67) suggesting that each member of productive age in migrant households has to support more members, particularly in terms of their financial needs. This relatively high dependency ratio can create pressures to these members of productive age to augment household income which causes some of them to find a job in the country or even abroad.

[39] See www.google.com/maps

Table 3.10.Summary statistics for the key variables, by migration status (*ofwind*)

	All HHs	Migrant HHs (M)	Non-migrant HHs (NM)	Diff. (M-NM)
No. of households	126,812	12,073	114,739	
Welfare measures				
Per capita income (in pesos)	566,383	88,476	53,007	35,469
	(79,835)	(106,227)	(75,744)	
Log of per capita income	10.39	10.91	10.34	0.57
	(1.08)	(1.02)	(1.07)	
Poverty status (poor=1; 0 otherwise)				
Income poor	0.287	0.133	0.303	-0.17
	(0.452)	(0.339)	(0.460)	
MPI poor	0.024	0.006	0.026	-0.020
	(0.152)	(0.078)	(0.157)	
SCI poor	0.040	0.009	0.044	-0.035
	(0.197)	(0.095)	(0.205)	
Demography				
Household size	4.14	5.24	4.04	1.20
	(2.10)	(2.21)	(2.05)	
Dependency ratio [1/]	0.62	0.67	0.62	0.05
	(0.68)	(0.75)	(0.68)	
Employment [2/]				
Average no. of employed members 15 years old & above	1.42	1.62	1.39	0.23
	(0.95)	(1.19)	(0.92)	
Share of female working members (%)	27.96	40.95	26.59	14.36
	(36.45)	(33.99)	(36.44)	
Education				
Average years of schooling of members 22 years old & above	9.81	10.44	9.75	0.69
	(2.97)	(2.95)	(2.97)	
Location				
Living in urban area (%)	67.74	59.60	68.59	-8.99
	(46.75)	(49.07)	(46.42)	
Municipality characteristics				
Unemployment rate (%)	9.91	11.00	9.80	1.20
	(3.27)	(4.47)	(3.09)	
Share of employed persons in the agriculture to total number of employed (%)	17.57	19.04	17.42	1.62
	(25.29)	(24.13)	(25.41)	
Proportion of out-of-school children 6-16 years old (%)	9.35	10.14	9.26	0.88
	(2.60)	(2.68)	(2.58)	

Notes: Standard deviations are in parentheses

[1/] This ratio is estimated as the ratio of those not typically not in the labor force (members aged 0-14 years old and those aged 65 years old and above) to those who are productive (members aged 15-64 years old).

[2/] Based on the LFS, individuals aged 15 and above can already be part of the labor force, either employed or unemployed based on the specific definitions which are clearly identified. Hence, the 15 years old cut-off is used.

Sources of basic data: CBMS Census: Mabini (2009); M'Lang (2009); Mahinog (2010); Allacapan (2011); Pasay City(2011); Buenavista(2011); Orion (2012); Looc (2012)

The number and composition of working age members can also affect a household's decision to send a migrant member abroad. For instance, households with more employed members in the first place are less likely to send a migrant abroad. Based on the CBMS data for the eight sites, it appears that migrant households generally have more members employed members aged 15 years old and above and have larger share of

female members who are working. Moreover, the basic human capital model suggests that it is more likely for educated people to migrate since they can enjoy better employment and income-earning opportunities in the area of destination, as well as face lower migration costs (Chiquiar & Hanson, 2005). Data for the eight sites show that migrant households appear to be have more educated members as shown by the higher average years of schooling among members 22 years old and above which is estimated to be 10.4 years compared to non-migrant households' estimate of 9.8 years. The location of the households can also influence the likelihood of migration. For instance, households in rural areas may be pushed more to migrate given the limited economic opportunities that are available in their communities. While both groups of households in the dataset recorded larger share of households living in urban areas than in rural areas, the estimate for migrant households (58.6%) is lower compared to non-migrant households (68.6%). Moreover, the general situation in the communities can also affect the migration decisions of households. For instance, a generally poor condition, e.g., high unemployment rates, poor education conditions, etc.) could lead people to look for economic opportunities elsewhere, including abroad. It appears that migrant households in the eight sites generally live in communities with relatively larger unemployment rates (11.0%). This is despite the fact that migrant households recorded larger average number of employed members. Migrant households also live in communities with larger share of employed persons in the agriculture (19.0%) and with larger share of out-of-school children (10.1%) compared to non-migrant households.

Meanwhile, the same variables mentioned above can affect household income. For instance, households with bigger sizes tend to have lower per capita income. This is especially true if the household is composed of more dependent members than working members. Having more employed members also tend to increase the per capita income of households as more members contribute to total household income. Looking at the composition of working members, households which have higher share of female among those who are working are likely to have lower income, holding other factors constant. Female workers tend to receive less wages than men, in general since sectors and occupations that are female-dominated are lower than those which are male-dominated (World Bank, 2011). At the same time, more educated members tend to earn higher income than those who are less-educated and hence, contribute more to total household income. Therefore, households with members who are more educated tend to have larger income compared to their counterparts. The location of the households can also influence the incidence of poverty in a particular area. In rural area, for instance, it is more likely that the residents are earning less compared to their counterpart in the urban areas where there are more employment opportunities that can also offer relatively higher income. In general, income of households living in areas with poorer conditions (e.g., education and employment conditions) may also be lower compared to households in areas with better living conditions.

Given the above, this section aims to determine the impact of international migration on poverty by employing the IV method. Given the justifications on the use of the instruments discussed in section 3.5.2, migration network and distance are used as

instrumental variables. In particular, five IV models were estimated using different combinations of these instruments for migration (Table 3.11). The first two models use the migration network variable based on the two definitions discussed in section 3.5.2, including *mignetwork1* and *mignetwork2*, while the third model employs *distance* as instrument for migration. The fourth and the fifth model use migration network (based on two definitions) and distance together in each model. The Hausman test comparing the IV with the OLS estimators was conducted for each of the five models and the results show a rejection of the null hypothesis that the difference in the coefficients of the two models is not systematic. Therefore, it can be concluded that there is an endogeneity problem and an IV approach would be the more appropriate estimation method to obtain consistent estimates.

In adopting the IV method, it is important to have valid instruments. In particular, instruments should satisfy two important conditions as follows: 1) correlated with $ofwind$: cov $(Z, ofwind) \neq 0$ ($instrument\ relevance$); and 2) uncorrelated with ε: $\text{cov}(Z, \varepsilon) = 0$ ($instrument\ exogeneity$). Some relevant tests were conducted in order to check if the instruments satisfied these abovementioned conditions. Based on the results of the estimation for the five different models, the coefficients of the instruments in the first stage regression showed that the instruments are highly significant in explaining the migration status of the household, although the coefficient for the distance variable in the three models is very small. The signs of the coefficients are consistently showing that migration network is positively affecting the likelihood of sending a migrant abroad while distance is negatively related to the probability of sending a migrant. This confirms earlier expectations that households are more likely to send a migrant abroad if there are more migrant households in their community. At the same time, the negative sign for the distance variable, which is a proxy for migration costs, confirm that households tend to decrease the likelihood of sending a migrant member abroad as migration cost increases.

Meanwhile, one test which determines that the excluded instruments are relevant is the underidentification test which is based on the Anderson canonical correlation Lagrange multiplier statistic. The statistic for each of the estimated models shows a rejection of the null hypothesis that the equation is underidentified and hence, the excluded instruments are relevant. However, this result should be treated with caution because it is still possible that the model is only weakly identified. In the presence of weak instruments, the results of the IV method may not provide correct estimates and will lead to low precision because of large standard errors.

Table 3.11. Instrumental variables regression results using different instruments for migration
(Dependent Variable: Log of per capita income)

Variables	Model 1 (instrument= *mignetwork1*)		Model 2 (instrument= *mignetwork2*)		Model 3 (instrument= *distance*)		Model 4 (instruments= *mignetwork1* and *distance*)		Model 5 (instruments= *mignetwork2 and distance*)	
	Coeff.	Std. Error	Coeff.	Std. Error	Coeff.	Std. Error	Coeff.	Std. Error	Coeff.	Std. Error
Dependent variable: Log of per capita income										
Migration status										
Migrant HH (migrant HH=1; non-migrant HH=0)	2.432***	0.083	4.479***	0.459	6.525***	0.672	2.621***	0.084	5.708***	0.283
Demography										
Household size	-0.229***	0.003	-0.288***	0.010	-0.332***	0.017	-0.234***	0.003	-0.311***	0.008
Dependency ratio	-0.084***	0.005	-0.028***	0.008	-0.004	0.016	-0.080***	0.005	-0.020**	0.009
Employment										
No. of adult members with job	0.252***	0.004	0.275***	0.010	0.312***	0.012	0.255***	0.004	0.300***	0.007
Share of female working member (%)	-0.009	0.011	-0.208***	0.043	-0.391***	0.064	-0.027**	0.011	-0.314***	0.030
Education										
Ave. years of schooling of adult members	0.071***	0.001	0.036***	0.004	0.023***	0.008	0.069***	0.001	0.033***	0.004
Location										
Living in urban area	0.313***	0.009	0.315***	0.012	0.320***	0.017	0.314***	0.009	0.319***	0.015
Municipal-level Characteristics										
Unemployment rate (%)	-0.080***	0.002	-0.124***	0.010	-0.169***	0.015	-0.084***	0.002	-0.151***	0.007
Share of employed persons in the agriculture to total number of employed (%)	-0.013***	0.000	-0.015	0.000	-0.017***	0.001	-0.014***	0.000	-0.016***	0.000
Proportion of out-of-school children 6-16 years old (%)	-0.044***	0.003	-0.092***	0.011	-0.141***	0.016	-0.048***	0.003	-0.122***	0.007
Constant	11.326***	0.054	12.585***	0.244	13.654***	0.386	11.433***	0.055	13.189***	0.167

First-stage regression (Dependent variable: *Migration status* , i.e., migrant HH=1; non- migrant HH=0)										
Migration network	0.151***	0.004	0.389***	0.022			0.149***	0.004	0.397***	0.022
Distance					-0.00001***	0.000001	-0.00001***	0.000001	-0.00001***	0.000001
Demography										
Household size	0.015***	0.001	0.018***	0.001	0.026***	0.001	0.016***	0.001	0.020***	0.001
Dependency ratio	-0.002	0.001	-0.009***	0.001	-0.022***	0.001	-0.004***	0.001	-0.012***	0.001
Employment										
No. of adult members with job	-0.018***	0.001	-0.021***	0.001	-0.014***	0.001	-0.017***	0.001	-0.020***	0.001
Share of female working member (%)	0.088***	0.002	0.094***	0.002	0.093***	0.002	0.088***	0.002	0.094***	0.002
Education										
Ave. years of schooling of adult members	0.012***	0.000	0.012***	0.000	0.012***	0.000	0.012***	0.000	0.012***	0.000
Location										
Living in urban area	-0.008***	0.003	-0.004	0.003	-0.005**	0.003	-0.011***	0.003	-0.007***	0.003
Municipal-level Characteristics										
Unemployment rate (%)	0.011***	0.000	0.022***	0.000	0.022***	0.000	0.012***	0.000	0.023***	0.000
Share of employed persons in the agriculture to total number of employed (%)	0.001***	0.000	0.001***	0.000	0.001***	0.000	0.001***	0.000	0.001***	0.000
Proportion of out-of-school children 6-16 years old (%)	0.013***	0.001	0.021***	0.001	0.023***	0.000	0.012***	0.001	0.020***	0.001
Constant	-0.358***	0.010	-0.564***	0.008	-0.565***	0.008	-0.357***	0.010	-0.56026	0.008234
Tests	**Statistic**	**P-value**	**Statistic**	**P-value**	**Statistic**	**P-value**	**Statistic**	**P-value**	**Statistic**	**P-value**
F-Test of excluded instruments	1,554.8	0.000	299.6	0.000	90.5	0.000	808.3	0.000	201.6	0.000
Hausman test *(IV model vs OLS) (Chi^2 & P-value)*	845.5	0.000	294.3	0.000	93.7	0.000	952.9	0.000	398.0	0.000
Underidentification test *(Anderson canon. corr. LM statistic & Chi^2 P-value)*	1,535.2	0.000	298.8	0.000	90.4	0.000	1,595.3	0.000	401.9	0.000
Overidentification test for all instruments *(Sargan Statistic & Chi^2 P-value)*	*just-identified*		*just-identified*		*just-identified*		131.3	0.000	2.4	0.119
No. of Observations	120,854		120,854		120,854		120,854		120,854	

*** significant at 1% level; ** significant at 5% level

Source: Author's estimation using CBMS Censuses: Mabini (2009); M'Lang (2009); Mahinog (2010); Allacapan (2011); Pasay City(2011); Buenavista(2011); Orion (2012); Looc (2012)

However, the F-test for the excluded instruments, which is a joint test to determine whether all excluded instruments are different from zero, reveals a rejection of the null hypothesis for all five estimated models. This means that there is enough evidence to prove that the instruments used are relevant for all models. The reduced form estimation is also used to test the null that all the coefficients of the excluded instruments are simultaneously equal to zero. In other words, it tests whether the excluded instruments have an effect on the dependent variable (log) per capita income. The reduced form models are OLS regression of the dependent variable (log) per capita income on all excluded instruments and exogenous variables. In order for the instrumental variable to be valid, it should be strongly correlated with the dependent variable once the other independent variables are controlled for and hence, the coefficients for the instruments should be significant. Table 3.12 shows the reduced form regressions for all the five models. The relevance of the instruments *mignetwork1*, *mignetwork2* and *distance* is confirmed by the significance of the instruments ($p<0.000$). For Models 4 and 5, where two instruments are used, the joint significance of the instruments was also confirmed by the Wald test with $p<0.000$.

Meanwhile, the exogeneity of the instruments, in general, cannot be tested. No formal test was conducted to check the exogeneity of migration network and distance in Models 1, 2 and 3 since only one instrument is identified, i.e., just-identified. However, for models which use two instruments, it is possible to test the validity of the overidentifying restrictions. In particular, the Sargan's test for overidentifying restrictions was conducted for Models 4 and 5 to confirm validity of the instruments. The joint null hypothesis for this test is that the instruments are valid, i.e., uncorrelated with the error term, and that the excluded instruments are correctly excluded from the estimated equation. Results based on Model 4 show rejection of the null hypothesis and hence, there is no evidence that *mignetwork1* and *distance* are valid instruments. On the other hand, mignetwork2 and *distance* appear to be correctly excluded in the estimation in Model 5 and passed the test of validity because of the failure to reject the null hypothesis. Given the above, it appears that the use of *mignetwork*2 and *distance* in Model 5 is the most preferred as the validity of the instruments have been supported by the different tests.

Table 3.12. Reduced form regressions
(Dependent Variable: Log of per capita income)

Variables	Model 1 (instrument= *mignetwork1*)		Model 2 (instrument= *mignetwork2*)		Model 3 (instrument= *distance*)		Model 4 (instruments= *mignetwork1* and *distance*)		Model 5 (instruments= *mignetwork2 and distance*)	
	Coeff.	**Std. Error**	**Coeff.**	**Std. Error**	**Coeff.**	**Std. Error**	**Coeff.**	**Std. Error**	**Coeff.**	**Std. Error**
Instruments										
Migration network	0.3665	0.0110	2.118	0.064			0.3565	0.0110	2.172	0.064
Distance					-0.00006	0.000003	-0.0001	0.0000	0.000	0.000
Demography										
Household size	-0.1926	0.0016	-0.205	0.002	-0.1593	0.0015	-0.1839	0.0016	-0.196	0.002
Dependency ratio	-0.0888	0.0041	-0.075	0.004	-0.1483	0.0040	-0.1059	0.0041	-0.092	0.004
Employment										
No. of adult members with job	0.2086	0.0031	0.183	0.003	0.2198	0.0031	0.2119	0.0031	0.185	0.003
Share of female working member (%)	0.2061	0.0068	0.224	0.007	0.2147	0.0068	0.2037	0.0068	0.221	0.007
Education										
Ave. years of schooling of adult members	0.0990	0.0009	0.099	0.001	0.0995	0.0009	0.0993	0.0009	0.099	0.001
Location										
Living in urban area	0.2931	0.0076	0.298	0.008	0.2858	0.0077	0.2717	0.0077	0.273	0.008
Municipal-level characteristics										
Unemployment rate (%)	-0.0521	0.0013	-0.025	0.001	-0.0242	0.0011	-0.0493	0.0013	-0.022	0.001
Share of employed persons in the agriculture to total number of employed (%	-0.0122	0.0002	-0.010	0.000	-0.0085	0.0002	-0.0094	0.0002	-0.007	0.000
Propn. of out-of-school children 6-16 yrs old (%)	-0.0126	0.0016	0.000	0.001	0.0070	0.0014	-0.0183	0.0016	-0.007	0.001
Constant	10.4555	0.0282	9.969	0.024	9.9645	0.0237	10.4620	0.0281	9.993	0.024
Wald statistic (for the instruments)	1108.4		1083.3		467.6		760.79		807.45	
P-value	0.0000		0.0000		0.0000		0.0000		0.0000	

Note: All variables are significant at 1% level

Source: Author's estimation using CBMS Censuses: Mabini (2009); M'Lang (2009); Mahinog (2010); Allacapan (2011); Pasay City(2011); Buenavista(2011); Orion (2012); Looc (2012)

While the previous models adopted the traditional instrumental variables method, i.e., two-stage least squares regression, other instrumental variables procedures were also employed, including the Probit-OLS and Probit-2SLS. The justifications for employing these other two procedures were discussed earlier in Section 3.5.1. Results based on the three different estimation procedures show consistent results such that international migration leads to higher per capita income, in general (Table 3.13). Similar to the results of the traditional IV method, the coefficients for the variables in the model show expected signs in the Probit-OLS and Probit-2SLS. In the first stage regressions, the dependency ratio, number of adult members with job and living in an urban area are negatively affecting the likelihood that a household sends a migrant abroad. On the other hand, household size, share of female working members and average years of schooling of household members are positively related to the probability of households to have a migrant member. Households living in communities with poorer conditions appear to increase the likelihood of sending a migrant member abroad. In particular, higher unemployment rate, higher share of agriculture employment and high incidence of children who are not in school tend to increase the likelihood of sending abroad.

The models again confirmed that migration network significantly increases the likelihood of sending a member abroad while distance decreases the probability of households to send a migrant member abroad. In the second stage regression, the three models also show consistent signs for the coefficients. Households size, dependency ratio and share of female working members are negatively correlated with household per capita income. At the same time, households living in areas with high unemployment rate, with higher share of agriculture employment and with higher share of children not in school tend to have lower income. Estimates also confirmed that households with more employed members and more educated members tend to have higher per capita income. Households living in urban area also tend to have higher income compared to those in rural areas, holding other factors constant.All the IV models estimated above confirmed that households with an OFW member tend to have higher income compared to those without an OFW member, after controlling for some household and municipal-level characteristics.

Table 3.13. Instrumental variables regression using three different estimation methods (Dependent Variable: Log of per capita income)

Variables	Model 1		Model 2		Model 3	
	Direct-2SLS		Probit-OLS		Probit-2SLS	
	Coeff.	Std. Error	Coeff.	Std. Error	Coeff.	Std. Error
Dependent variable: Log of per capita income						
Migration status						
Migrant HH (migrant HH=1; non-migrant HH=0)	5.7083	0.2827	3.5297	0.0627	3.9120	0.1027
Distance						
Demography						
Household size	-0.3111	0.0076	-0.2567	0.0022	-0.2661	0.0033
Dependency ratio	-0.0200	0.0094	-0.0615	0.0040	-0.0549	0.0060
Employment						
No. of adult members with job	0.3003	0.0073	0.2624	0.0031	0.2739	0.0047
Share of female working member (%)	-0.3145	0.0296	-0.1199	0.0125	-0.0007	0.0237
Education						
Ave. years of schooling of adult members	0.0326	0.0037	0.0574	0.0011	0.0535	0.0017
Location						
Living in urban area	0.3186	0.0151	0.3149	0.0075	0.3156	0.0112
Municipal-level characteristics						
Unemployment rate (%)	-0.1511	0.0065	-0.1027	0.0017	-0.1119	0.0028
Share of employed persons in the agriculture to total number of employed (%)	-0.0160	0.0005	-0.0141	0.0002	-0.0146	0.0003
Propn. of out-of-school children 6-16 yrs old (%)	-0.1217	0.0073	-0.0700	0.0020	-0.0791	0.0032
Constant	13.1892	0.1674	11.9540	0.0427	12.1675	0.0003
F	2435.7		9868.2		4519.1	
Prob > F	0.0000		0.0000		0.0000	
First-stage regression (Dependent variable: *Migration status: migrant HH=1; non-migrant=0*)						
Instruments						
Migration network	0.397	0.022	1.7410	0.1323	1.7410	0.1323
Distance	-0.00001	0.000001	0.0000	0.0000	0.0000	0.0000
Demography						
Household size	0.0196	0.0006	0.1212	0.0039	0.1212	0.0039
Dependency ratio	-0.0118	0.0015	-0.0431	0.0095	-0.0431	0.0095
Employment						
No. of adult members with job	-0.0205	0.0011	-0.0875	0.0067	-0.0875	0.0067
Share of female working member (%)	0.0940	0.0024	0.5656	0.0150	0.5656	0.0150
Education						
Ave. years of schooling of adult members	0.0116	0.0003	0.0854	0.0021	0.0854	0.0021
Location						
Living in urban area	-0.0075	0.0027	-0.0864	0.0156	-0.0864	0.0156
Municipal-level characteristics						
Unemployment rate (%)	0.0225	0.0004	0.0985	0.0021	0.0985	0.0021
Share of employed persons in the agriculture to total number of employed (%)	0.0015	0.0001	0.0076	0.0005	0.0076	0.0005
Propn. of out-of-school children 6-16 yrs old (%	0.0201	0.0005	0.0986	0.0029	0.0986	0.0029
Constant	-0.5603	0.0082	-4.9527	0.0517	-4.9527	0.0517
No. of Observations	120,854		120,854		120,854	

Note: All variables are significant at 1% level.

Source: Author's estimation using CBMS Censuses: Mabini (2009); M'Lang (2009); Mahinog (2010); Allacapan (2011); Pasay City(2011); Buenavista(2011); Orion (2012); Looc (2012)

Aside from looking at the impact of international migration on household's (log) per capita income, this study also looks at other outcome variables that take on a binary form. The outcome variable takes on two values, i.e., 1 if the household is poor and 0 if non-poor. In this study, households can be considered poor based on income, SCI and MPI. Using *mignetwork*2 and *distance* as instruments, the IV models confirmed that international migration is likely to reduce poverty (Table 3.14). The IV models were estimated based on 2SLS which has an important limitation such that it ignores the binary nature of the dependent variable. Nevertheless, Cameron and Trivedi (2010) explained that the estimates can still be consistent as long as heteroscedasticity-robust standard errors are used for inference. Results show consistently negative signs and significant coefficients for the migration status variable. This implies that having an OFW member significantly reduces income poverty, SCI poverty and MPI poverty among households. Further test on the model, however, showed that although the instruments *mignetwork2* and *distance* are found to be relevant based on the F-test for the excluded instruments and underidentification test, there is no evidence that they are valid instruments for the binary outcomes. In fact, the Hansen's J statistic rejects the null hypothesis that the instruments are valid. Given this, identification of more appropriate instruments for these binary outcomes may be explored in future research.

3.6 Summary and Conclusion

Using the cross-section CBMS datasets of eight LGUs in the Philippines, this study validated that the existing CBMS datasets can be used to examine the links between international migration and poverty situation of households. A review of the CBMS-HPQ administered in the LGUs covered under this study revealed that CBMS gathers some migration-related information at the household and individual level. In particular, it includes a question that can distinguish a migrant from a non-migrant household. The possibility of identifying a migrant household is an important strength of the CBMS dataset as some earlier studies (e.g., Lokshin, et al., 2007) used receipt of remittances as a proxy for international migration when estimating the impact of migration which may lead to some biases in the measurement. Using CBMS data can, therefore, avoided this type of bias. In addition, CBMS-HPQ obtains information on the total amount of remittances received by the households in the last 12 months prior to the interview. In using the information on remittances, however, the definition and its limitation should also be noted. For instance, while the remittances data in CBMS cover the total amount received by the household in the last 12 months prior to the interview, the CBMS-HPQ does not include a question that will indicate the date of departure for its OFW members. Given this, it is possible that some OFW members have left for abroad very recently and hence, the household may have received remittances only in recent months or in some cases did not receive remittances at all.

Table 3.14. Instrumental variables regression using three different estimation methods

(Dependent Variable: Poverty Status; Instruments: *mignetwork2* and *distance*)

Variables	Income	SCI Poor	MPI Poor
Migration status			
Migrant HH (migrant HH=1; non- migrant HH=0)	-2.121***	-0.570***	-0.322***
	(0.133)	(0.051)	(0.034)
Demography			
Household size	0.098***	0.027***	0.010***
	(0.004)	(0.001)	(0.001)
Dependency ratio	0.001	-0.007***	0.003***
	(0.004)	(0.001)	(0.001)
Employment			
No. of adult members with job	-0.093***	-0.022***	-0.004***
	(0.004)	(0.001)	(0.001)
Share of female working member (%)	0.138***	0.053***	0.033***
	(0.014)	(0.005)	(0.003)
Education			
Ave. years of schooling of adult members	-0.007***	-0.006***	-0.009***
	(0.002)	(0.001)	(0.0004)
Location			
Living in urban area	-0.114***	0.005**	0.003*
	(0.007)	(0.002)	(0.002)
Municipal-level Characteristics			
Unemployment rate (%)	0.059***	0.012***	0.004***
	(0.003)	(0.001)	(0.001)
Share of employed persons in the agriculture to total number of employed (%)	0.007***	0.0003***	0.0004***
	(0.0002)	(0.0001)	(0.00005)
Proportion of out-of-school children 6-16 year old (%)	0.042***	0.016***	0.006***
	(0.003)	(0.001)	(0.001)
Constant	-0.783***	-0.210***	-0.008
	0.078	(0.030)	(0.020)
F-test for excluded instruments			
F	145.55	145.55	145.55
P-value	0.000	0.000	0.000
Underidentification test			
Kleibergen-Paap rk LM statistic	289.717	289.717	289.717
P-value	0.0000	0.0000	0.0000
Overidentification test for all instruments			
Hansen's J statistic	9.075	273.747	383.917
P-value	0.003	0.000	0.000
No. of observations	120,854	120,854	120,854

Note: *** significant at 1% level; ** significant at 5%; * significant at 10%; Figures in parentheses are robust standard errors.
Source: Author's estimation using CBMS Censuses: Mabini (2009); M'Lang (2009); Mahinog (2010); Allacapan (2011); Pasay City(2011); Buenavista(2011); Orion (2012); Looc (2012)

Migrants who left for abroad through illegal means may not have access to formal channels for sending remittance. Unless these migrants are able to tap informal channels, they will find it difficult to send remittances. Given the definition of OFWs (i.e., includes those who moved abroad through backdoor means) and the structure of the questions pertaining to the migrant workers as contained in the CBMS-HPQ, CBMS is also able to partly capture the illegal migrants. However, since there is no direct question in the questionnaires that will clearly indicate whether an OFW member is legal or not, it is not possible to clearly distinguish legal from illegal migrants using the CBMS data. This is justified because of the sensitivity of the information and difficulty in collecting accurate information on this issue but other methods for estimating illegal migration rates may also be explored. Meanwhile, the way remittances are allocated can also determine its impact on household wellbeing. Hence, it might also be useful to obtain information on the remittance spending patterns of migrant households.

Meanwhile, at the individual level, the questionnaire collects some relevant information on the OFW member. Although the earlier version of the CBMS-HPQ (i.e., version 06-2009-01) which was administered in the four LGUs covered in this study (including Mabini, M'Lang, Mahinog and Allacapan) collects limited information about the OFW member (including relationship to the household head, country and type of occupation abroad) , the more recent version (i.e., version 01-2011-11) used in the other four LGUs (Pasay City, Buenavista, Orion and Looc) obtains additional information about the OFW member, such as sex, date of birth, civil status, educational attainment, employment status, type of job and industry and country of destination, among others. The more detailed information collected in this more recent version provides useful data that can be used to examine the characteristics of individuals who migrate.

Given the definition adopted by CBMS, the permanent Filipino emigrants are not covered in the census. This is justified because these permanent emigrants, including those who have left the country not within the given five-year period, can no longer be considered as part of the household based on the definition of the household. However, one relevant information that is collected through the CBMS-HPQ is the amount of cash receipts and other support received by the households from all sources outside the Philippines other than from its OFW members. This means that the remittances sent by some permanent Filipino migrants is also partly captured by CBMS. However, since the amount is an aggregate of different items including : 1) pensions, retirements and other benefits received from the USA government, other foreign governments and enterprises (e.g., pension received by World War II veterans from USA government); 2) cash gifts, support and others from relatives who are abroad, foreign charitable groups and foreign government; and 3) income from abroad accruing from dividends from investment, net income from business, rental from properties and other property incomes, it is not possible to isolate the amount of remittances that is actually sent by the permanent migrants. In the Philippine context, many of these permanent Filipino migrants still maintain their links and send remittances or any type of assistance to their families (and sometimes to their communities) in the Philippines which could potentially generate greater impact on poverty. Hence, it might be useful to consider adding a

separate category in the questionnaire that will capture the amount of remittances sent by these permanent Filipino migrants.

The use of the large cross-section CBMS dataset consisting of 126,812 households is one important contribution of this research as there is no study yet in the Philippines that extensively explored CBMS data in understanding international migration and its impact on poverty. Unlike the survey data used in many of the earlier research works, CBMS covers all households (i.e., including all migrant and non-migrant households) in a particular area and hence, can provide a more accurate picture of the actual situation in that area. This also means that planners and policymakers in a particular LGU can have access to a more comprehensive set of information which will allow them to target households or individuals for a specific type of intervention.

Despite some of limitations, CBMS has provided relevant information that will allow us to examine the relationship between international migration and poverty. In fact, one important advantage of CBMS census datasets is that it contain the key variables pertaining to poverty and migration status both at the household and individual level, thereby having more consistent definition and reference periods unlike in some earlier studies which required merging of different databases. The existing cross-section CBMS data in selected LGUs proved to be useful in examining the poverty and migration profile of households. In particular, data showed that migrant households are generally better-off compared with non-migrant households in terms of the different poverty measures. In fact, the incidence of income poverty in the eight LGUs combined is lower for migrant households (13.3%) compared to non-migrant households (30.3%) which is partly due to the significant amount of remittances received by migrant households from their migrant member. At the same time, estimates based on the multidimensional measures of poverty, including MPI and CBMS-SCI, also confirmed that migrant households generally have better living conditions compared to their non-migrant counterparts. Although the differences between migrant and non-migrant households are very obvious, these estimates do not reflect the impact that can be attributed to international migration alone. Therefore, in order to estimate the impact of international migration on poverty, a sound econometric technique should be employed.

One of the key challenges in estimating the impact of international migration on poverty is the endogeneity of migration decisions. Therefore, this particular study employed the instrumental variables method. Based on the review of the literature and the limitations in the available data, this study constructed two instruments for migration which captures the migration network and the distance of the site to Manila (the capital city of the Philippines). Given the motivations presented, migration network is expected to increase the likelihood that a household will send a migrant abroad. One reason is that they can facilitate migration of potential migrants as they help lower the cost of migration by providing information about the available jobs, labor market conditions and assistance in finding a job and housing abroad (Massey, 1990; Munshi, 2003). Meanwhile, the distance to Manila, which is also used as a proxy for migration costs, is

negatively correlated with the probability of having a migrant member. More costly migration decreases the likelihood that households will send a migrant abroad.

Five different IV models were estimated using migration network (*mignetwork1* and *mignetwork2* as defined in this Chapter) and distance as instruments and their combination to estimate the impact of international migration. The relevant tests showed that these instruments can be considered as valid instruments for migration, especially for the model that used both *mignetwork2* and *distance*. Nevertheless, it is also acknowledged that the way the instruments are defined can still be improved in order to have more accurate measures. Since migration network can facilitate migration by providing information and other forms of assistance to the (potential) migrant, the migration variable may not be measured only using the share of migrant households or share of OFWs in a particular area as has been used in this Chapter. For instance, the share of OFWs who actually relied on their migration network for their movement abroad will measure the actual influence that migration network has in terms of facilitating migration. Meanwhile, for the distance instrument which is also a proxy for migration cost, the measure can still be refined by accounting for the distance from each barangay to Manila rather than the distance from the center of the municipality to Manila. To the extent possible, the distance of the household's dwelling unit to Manila could be the more accurate measure. With the recent adoption of the CBMS-APP which integrates the use of the global positioning system (GPS) to indicate the locations of the households' dwelling units when conducting the field survey operations, it might be useful to explore the possibility of using the exact locations of the households' dwelling units in order to have a more accurate measure of the distance variable at the household level.

Results of the estimation showed that international migration led to an increase in the per capita income of households, thereby resulting in a reduction in poverty, in general. In particular, the five IV models consistently showed that households with an OFW member tend to have higher income compared to those without an OFW member, after controlling for some household and municipal-level characteristics. At the same time, using migration network and distance as instruments, it appears that income poverty, SCI poverty and MPI poverty can also be reduced by international migration. Identification of more appropriate instruments, however, may be necessary for IV models using these binary outcomes since there is no sufficient evidence that migration network and distance are valid instruments when the outcome variable is poverty status based on income, SCI and MPI. In addition, other econometric methods may also be employed to estimate the impact international migration on poverty. For instance, the counterfactual income approach based on Heckman estimation framework and the propensity score matching method may be explored in future studies. Some initial results of these method using the combined cross-section CBMS datasets of eight LGUs are presented in Annex H.

4 Examining a CBMS Panel Dataset to Understand the Relationship Between International Migration and Poverty: The Case of the Municipality of Orion

In the Philippines, several LGUs have implemented CBMS for more than one round. This means that it is possible to construct a panel dataset that contains data for matched households following a specific definition of the same household. While the previous chapter attempted to address more particularly the problem of endogeneity of migration by employing the IV method using the combined CBMS cross-section data of selected LGUs, this Chapter further investigates the usefulness of CBMS data by constructing a CBMS panel data and employing some panel data techniques to understand the relationship between international migration and poverty. In particular, it takes advantage of the available three-period CBMS data for the municipality of Orion in Bataan to demonstrate how a panel dataset can be used in monitoring changes in poverty and migration patterns of households, as well as in estimating the impact of international migration. One important advantage of using this panel dataset is that it can eliminate many of the methodological problems in estimating the impact of international migration as it allows control for time-invariant unobservable characteristics. At the same time, it can capture more the complexity of migration as compared to a single cross-section dataset.

Although there are few earlier studies in the Philippines which employed panel data analysis using the linked or merged relevant national surveys including the FIES, APIS and SOF as discussed in section 2.4.1, e.g., Ducanes and Abella, (2008b); Yang, D., (2008); Ducanes (2015), there is no study yet which utilized the panel CBMS data in migration studies. The CBMS panel dataset has an important advantage over the other panel datasets used in earlier studies such that all variables required in the analysis come from the same database. The data contained in the database are collected using a single data collection instrument thereby having more consistent variable definitions and reference periods. The use of the CBMS panel dataset, therefore, is an important contribution of this research in understanding the relationship between international migration and poverty in the Philippine context.

This chapter consists of 6 major sections. The first section introduces the study site and how it is selected. The second section reviews the different versions of the CBMS-HPQ that were administered by LGU-Orion in the different periods of CBMS implementation. The third section explains how the panel data was constructed by the author following the definition of the "same household" that was adopted in this study while the fourth section presents the limitations of the panel data and checks for attrition. The fifth section, then, examines the poverty and migration profile of households and the OFWs in the constructed panel dataset and investigates the link between the two. The sixth section estimates the impact of international migration on poverty by employing some panel data techniques while the last presents a summary and conclusion.

4.1 The Study Site

In the Philippines, there are at least 291 LGUs with more than one round of CBMS implementation, at least 85 of which have completed at least three rounds of data collection as of 13 February 2017 (CBMS-Philippines, 2017). The selection of the site for this study starts by examining the list of LGUs in the Philippines which have completed at least two rounds of CBMS implementation. This list is available from CBMS-INCT. Given the objectives of this research, site with a relatively high concentration of OFWs compared to the rest of the LGUs within their province and region, coupled with sufficient economic activities were preferred. Again, the ranking of regions in the Philippines with the highest concentrations of OFWs as presented earlier in Figure 1.3 guided the prioritization in terms of the regions that need to be covered in the study. Another important criterion in the selection of the site is the willingness of the LGU to become part of the study. Among the municipalities that have been identified to be potential sites for this study, the municipality of Orion has been found to meet these criteria. Hence, the municipality of Orion, which has implemented CBMS for three rounds[40], was selected after receiving written confirmation from concerned local officials on the use of their CBMS data for this research.

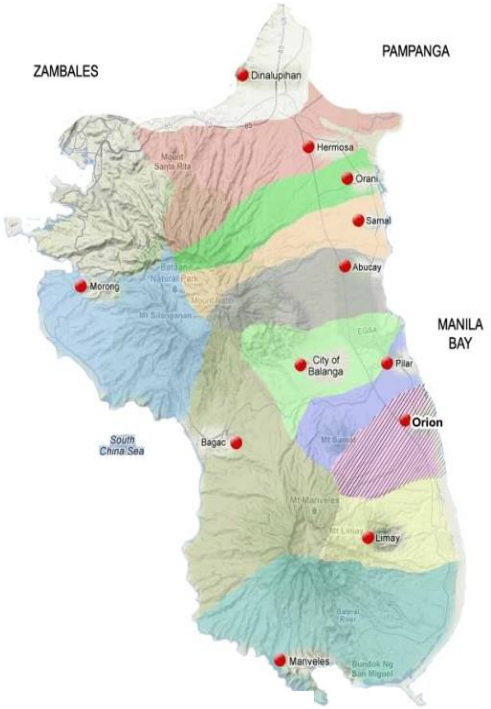
The municipality of Orion is located in the province of Bataan. It is part of the Central Luzon region, which is the region in the Philippines that is ranked second in terms of having the highest concentration of OFWs. Again, since the municipality is characterized by having a large proportion of migrant households coupled with sufficient economic activities, it provides an excellent setting to further examine the impact of international migration while taking into account the time dimension in the analysis. Figure 4.1 shows the location of the municipality of Orion. It is bounded in the north by the municipality of Pilar, Manila Bay in the east, municipality of Limay in the south and municipality of Bagac in the west. It consists of 23 barangays (villages), fourteen of which are classified as urban while the rest are rural barangays with a total land area of 6,541 hectares. Majority of the land in Orion is classified as agricultural land (79.4%), with commercial land comprising only 0.2 percent (LGU-Orion, 2013). Although fishing is an important source of income for many households, the presence of some commercial establishments, most of which are located in the town center, is also observed. Many people living in the Orion are, in fact, involved also in wholesale and retail trade, transportation and storage and construction industry.

[40] Local government units are encouraged to implement CBMS in three year intervals which coincides with the three-year terms of local government officials. CBMS can, therefore, be useful in monitoring progress in terms of the different indicators of poverty.

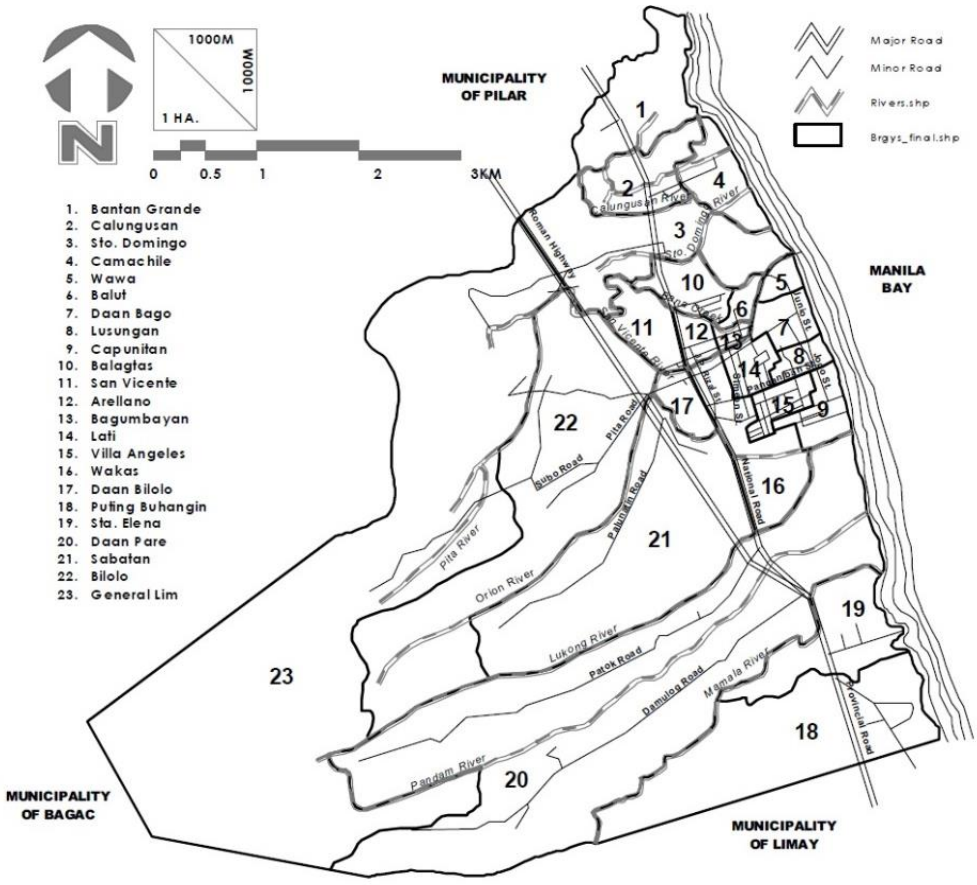
Figure 4.1 Location of the municipality of Orion and barangay administrative boundaries

a. Provinces of Central Luzon

b. Municipalities of Bataan



c. Barangay administrative boundaries in the municipality of Orion



Source: LGU- Orion

Residents of the municipality also find employment opportunities in nearby municipalities and cities. For instance, some residents work in Limay, a nearby municipality which offers employment opportunities to many skilled (including engineers) and unskilled laborers, with several heavy industries operating in the municipality, including Petron Bataan Refinery, Planters Product, Inc., Philippine Explosives and National Power Corporation, among others[41]. In addition, since Orion is only 8 kilometers away from Balanga City, which is the provincial capital, many residents from Orion try to find employment in the city where there are more job opportunities. Since the municipality is approximately 132 kilometers away from Manila by land and only about 50 kilometers across Manila Bay, its residents also explore employment opportunities in the country's capital. The availability of direct public transportation from the municipality of Orion to Manila, particularly by bus, may also mean easier access to migration opportunities. Meanwhile, aside from seeking better employment opportunities in nearby municipalities and cities, many residents also try to find jobs abroad work. Overseas work became more popular in the 1990s when many residents in the municipality who work in nearby provinces of Zambales and Pampanga lost their jobs when several commercial establishments were negatively affected by the closure of the US Naval Base (Zambales) and Clark Air Base (Pampanga) in 1991.

4.2 Identifying the Migration-Related Questions in the CBMS Household Profile Questionnaire (CBMS-HPQ)

As mentioned earlier, LGU-Orion has already completed three rounds of CBMS implementation covering the period 20066, 2009 and 2012[42]. Since LGUs need to administer the latest version of the questionnaire at the time of CBMS implementation, LGU-Orion used three different versions of the CBMS-HPQ. This section examines the different versions of the CBMS-HPQ that were administered by LGU-Orion, including CBMS-HPQ versions 11-2004-11 (Annex A), 06-2009-01 (Annex B) and 01-2011-01 (Annex C), which were used in 2006, 2009 and 2012, respectively.

It must be noted that the core questions contained in the different versions of CBMS-HPQ remain the same (particularly those information that are necessary for monitoring the core poverty indicators) but there are some differences in the structure and extent of information collected concerning migrant households and their OFW members (Table 4.1). Although the three versions collect the same household-level migration-related questions (i.e., questions that will identify whether the household as OFW member or not, the amount of remittances received from the OFW members, and other remittances), there are differences in defining an OFW and the extent of information collected concerning OFWs. In terms of identifying an OFW, although the questionnaire versions basically adopt almost similar definitions, one of the major differences is with regard to condition that the OFW who can be identified as a member of the household

[41] Sourced from Bataan province official website (www.bataan.gov.ph)

[42] During the conduct of this research, LGU-Orion was already in the process of completing their 2015 round of CBMS implementation.

should have left the country within the given five year period. In particular, this condition is explicitly mentioned in the manual for the CBMS-HPQ version 01-2011-01 but not in CBMS-HPQ versions 11-2004-11 and 06-2009-01. In addition, CBMS-HPQ version 01-2011-01 explicitly spells out in its manual that OFWs shall also include those Filipinos who went out of the country through backdoor means (or illegal means) and worked abroad during the reference period. Nevertheless, this particularly category is also partly covered in the CBMS-HPQ versions 11-2004-11 and 06-2009-01. For instance, similar to the later version, these two earlier versions include in OFWs those Filipinos abroad who are holders of other types of non-immigrant visa such as tourist/visitor, student, medical and others but are presently employed and working full time. Again, this category may not necessarily mean that the OFW can immediately be considered an illegal migrant. For instance, they may be classified as an illegal migrant if they extend their stay in the foreign country during the period when their visa is no longer valid or when they get employed in the foreign country without a legal working permit. Given the definition, the structure and the phrasing of the questions pertaining to the migrant workers in the three versions of the CBMS-HPQ, CBMS is also able to capture illegal migrants. However, since there is no direct question that will indicate whether a specific OFW member is legal or not, it is not possible to clearly distinguish legal from illegal migrants using the CBMS data.

Further examination of the three versions of the CBMS-HPQ reveal that there are differences in the structure and extent of information collected for each OFW member of the household. For instance, CBMS-HPQ versions 11-2004-11 and 06-2009-01 has a separate section about the OFW member of the household which asks the name, relationship to the household head, country of destination and type of work. In particular, these refer to questions (132) to (135) in CBMS-HPQ version 11-2004-11 and questions (41) to (44) in CBMS-HPQ version 06-2009-01. This set of information is rather limited if more detailed analysis on the OFW is necessary. This limitation is addressed in the updated version, particularly CBMS-HPQ 01-2011-01, whereby the OFW member is included in the roster of members in the questionnaire. Give this, all questions which are relevant to the member in addition to those collected in CBMS-HPQ versions 11-2004-11 and 06-2009-01, are asked to each OFW member. This generates more detailed information on the characteristics of the OFWs, including their demographic characteristics, migration, education and literacy, community/political participation, economic activity and other characteristics that are applicable to the individual[43]. Unlike in the earlier versions which ask later in the questionnaire if there is a "former household member who is an OFW", CBMS-HPQ 01-2011-01 considers the OFW as a "current" member of the household and hence, included in the roster of member at the beginning. Given this, it explicitly allows the respondent to identify the OFW as head of the household, if applicable, unlike in the earlier version.

[43] Note that most of these individual-level information are more relevant for members who are currently living in the Philippines and may not be very relevant for the OFW member. In the updated version of the CBMS-HPQ, i.e., version 10-2013-01 (Annex D), questions on employment and other characteristics are no longer asked to the OFW member.

Table 4.1. Migration-related information collected using CBMS-HPQ versions 11-2004-11, 06-2009-01 and 01-2011-01

	Information collected	Year of CBMS Implementation		
		2006	2009	2012
		CBMS-HPQ 11-2004-11	CBMS-HPQ 06-2009-01	CBMS-HPQ 01-2011-01
HOUSEHOLD LEVEL	1. Indicator for having an OFW member	✓	✓	✓
	2. Amount of remittances (in-cash and in-kind) received by the household from its OFW member in the last 12 months	✓	✓	✓
	3. Other cash receipts, gift, support, relief and other income from abroad including pensions, retirement, workmen's compensation, dividends from investments, etc.	✓	✓	✓
MIGRANT-LEVEL (i.e., OFW member)	4. Name of the OFW member	✓	✓	✓
	5. Relationship to the household head	✓	✓	✓
	6. Country where the OFW member is working	✓	✓	✓
	7. Type of occupation abroad	✓	✓	✓
	8. *Demography*: sex, date of birth, birth registration, civil status, religion, indigenous group			✓
	9. *Migration*: Length of stay in the barangay, place of residence prior to moving to the barangay			✓
	10. *Education and literacy*: if member is studying, current educational level; type of school (private or public), highest education attainment; literacy			✓
	11. *Community/Political participation*: membership in a community organization; type of community organization; registered voter; able to vote in the last election			✓
	12. *Economic activity*: if member has a job/work-type of job/work; industry/sector; nature of employment; number of hours worked in the past week; desire for longer hours of work; looked for additional work; class of worker; if a member does not have a job -looked for work in the past week; job search method; reasons for not looking for work; last time the member looked for work; current availability for work; willingness to do work; membership in Social Security System (SSS) or Government Service Insurance System (GSIS)			✓
	13. *Characteristics of household members*: passed the board or bar exam; profession passed in the board or bar exam; solo parent; reason for being a solo parent; with physical or mental disability; type and cause of disability; ownership and use of a Persons with Disability (PWD) identification (ID); senior citizens; ownership and use of a senior citizen's ID			✓

Note: An earlier version CBMS-HPQ 10-2007-04 contains the same set of migration-related information as in CBMS-HPQ version 06-2009-01.

4.3 Construction of the Panel Data

LGU-Orion implemented the first round of CBMS in 2006 and every three years thereafter. In implementing another round of CBMS, CBMS-INCT encourages LGUs to assign the same household ID (*hcn*) as in the previous round to the same household based on the CBMS definition of the same household. In particular, CBMS defines a household as the same in two periods if there is at least one common member (except household helper) in both periods living in the same dwelling unit. Although LGU-Orion attempted to adopt this definition during their 2012 CBMS field survey operations, it appears that it was not fully implemented for the entire municipality[44]. Since the household ID (*hcn)* assigned for each particular unique household is different for every round of data collection, it is not possible to use *hcn* as one of the key variables for matching. Given this, the panel dataset was constructed by the researcher by matching the same households in the three rounds of CBMS implementation using a specific definition. In particular, the research attempts to adopt the same definition as the CBMS definition but relaxes it a bit by dropping the condition that the household should be living in the same dwelling unit given the difficulty in matching and validating the addresses provided in the responses. In particular, for this particular study, as long as the household is covered in the CBMS censuses in Orion, they can be included in the matched households.

Given the above, this study considers a household in the current time period as the same as the household in the previous time period if there is at least one common member (except household helper) in both periods. In case of split households, the same household ID is assigned to the household where the head in the previous round belongs while a new household ID is given to the other household. For split households, the same household ID is assigned to the household by tracking the members in this order: 1) head; 2) spouse; 3) son/daughter; 4) father/mother; 5) son-in-law/daughter-in-law; 6) grandson/granddaughter; and 7) other relatives. This means that in case the household head is no longer present in split households, the spouse is the next person to track followed by the other members in this order of priorities. In case both the head and the spouse are no longer present in the split households and the children produce split households, the eldest child will carry the same household ID. Meanwhile, for merged households, the same household ID previously assigned to the household of the current head is used. It makes sense to prioritize members who have strong familial links to the head of the household when defining the same household.

In generating a panel of households in the Philippines using data from nationally representative FIES for the period 2003, 2006 and 2009, Mina and Imai (2016) also tracked household if there is *at least one member* who remained in all three rounds of FIES[45]. In their study, of the 9,344 households in 2003, a total of 5,986 households were matched for the period 2003-2006-2009. This means that only 64.1 percent of the total

[44] Only 25.2 percent of the 4,299 actual matches generated by the researcher were assigned the same household ID in 2009 and 2012.

[45] This is also the operational definition being adopted by PSA in defining the same household.

number of households in 2003 were included in the panel. In the current research, however, using the three waves of CBMS household data in the municipality of Orion for the period 2006-2009-2012, a total of 4,299 households were identified to be present in the three time periods. This means that of the 8,233 households in 2006, about 52.2 percent were included in the panel dataset, which is bit lower than the reported figure in Mina and Imai (2016). One of the reasons for attrition is that the entire household might have moved to another place because the head of the household was able to find a new job in another place but not necessarily abroad. During the fieldwork conducted in one of the barangays in the municipality of Orion which is covered in Chapter 5 (i.e., Barangay Villa Angeles), it was found that several households in the village moved to nearby municipalities (but not abroad) and hence, were no longer living in the village. Section 4.3 further discusses this issue of attrition and how it is addressed in this Chapter.

Given the definition of the same household mentioned above, the following explains how the panel dataset for the three census periods in Orion was constructed. The process starts by accessing the raw CBMS datasets from CBMS-INCT after receiving the written approval of the concerned local officials on the use of their CBMS data in this study. Since, the CBMS encoding system develop by the CBMS-INCT based on CSPro was used by the LGU-Orion in its CBMS implementation in 2006, 2009 and 2012, it generates a text file (with *.txt* or *.hpq* file extensions) which can be exported to the CBMS-StatSim, Stata, SPSS or other statistical software. However, given the requirements of this study, the researcher exported the data into Stata[46] format as this software would be used to process the collected CBMS data. Given the structure of the questionnaires and encoding system, different records were generated separately for each period, including household-level and member-level data records. In the case of their 2006 and 2009 CBMS implementation which administered the CBMS-HPQ versions 11-2004-11 and CBMS-HPQ 06-2009-01, a separate record containing information on the OFW member was generated. The generated records are then checked and cleaned as necessary. For instance, duplicate households and households with assigned household ID but with all other information missing are dropped from the dataset. The responses and codes provided for each relevant item in the dataset are also checked guided by the corresponding questionnaires and manuals used in the collection of data[47].

As soon as the dataset are ready for further processing, the households are matched based on the information on individual members (e.g., name, position in the household, age and sex) following the definition discussed earlier. Since priority is given to the household head when identifying one common member of the household, the first step is to match households with the same household head. Using the dataset containing only the household heads (which can be generated by keeping all households heads in the member record) the first step involves matching the heads for the three waves with

[46] *Stata* is a statistical software package that can be used for data management, processing and analysis. For this particular research, *Stata* 13 is used.

[47] The common errors found by the researcher in the datasets are presented in section 1.4

the exact first name and surname. Since the dataset is in long format[48], the *duplicate* command in Stata is used to see which households are exact matches in all three waves. However, since the variables used to match the observations are in string format and *Stata* is case sensitive, only individuals with the same exact name spellings will be matched. For these matched observations, the individual characteristics (e.g., age, sex) are verified to ensure that they are indeed the correct matches. In particular, the age of the member in the three periods should be consistent such that the individual in wave one is around 3 years younger compared his age in wave 2 since the CBMS census is conducted in Orion in three-year intervals. A small allowance in the age is allowed to consider the differences in the month the interviews were conducted. In particular, the difference in the age between the two periods can be between 2 to 4 years.

As highlighted earlier, since the names are in string format and *Stata* is case sensitive, names with different spellings and with mixed-up use of uppercase and lowercase will not be matched at the first instance. In this case, the remaining unmatched household heads are checked again for possible matches. The reclink command, written by Michael Blasnik, in *Stata* is also very useful in matching imperfect string variables using the dataset in wide format[49]. Hence, a dataset in wide format is also prepared for the remaining unmatched household heads. In particular, the 2006 wave is first matched with 2009 wave and the matched dataset (based on name and sex) for both rounds is, then, matched with the 2012 wave. The *reclink* command allows matching of variables by taking into account the slight differences in the variables that are being matched. It generates a score that indicates the extent to which the observations are matched based on the variables used for matching. Scores equivalent to one means exact match while scores less than one can indicate that the observations are not exact matches. The higher the value of the score, the higher the likelihood that the observations are matched. For instance, although "MARIA SANTOS" will be exactly matched with "MARIA SANTOS", it can also be matched with "MRIA SANTOS" or "MARIA SNTOS". Observations with scores of at least 0.9 are most likely to be matched observations. The scores generated by the *reclink* command are used to determine the matched households. Again, the individual characteristics (e.g., age, sex) are verified to ensure that they are indeed the correct matches while allowing for some fuzziness in the age variable as mentioned earlier. After confirming the matches, the households and its members are separated from the unmatched households and members. The process proceeds by matching the remaining unmatched households containing the names and characteristics of its members (including the unmatched household heads). Again, in cases where the head of the household in the previous round is not present in the split households, the same household ID is assigned to the household following the members in this order: 1) spouse; 2) son/daughter; 3) father/mother; 4) son-in-law/daughter-in-law; 5) grandson/granddaughter; and 6)other relatives. Following the above procedure, a total of 4,299 households were matched for the three waves of CBMS data in Orion covering

[48] The dataset in long format has one record for each subject for each period.
[49] The dataset in wide format has one record for each subject.

the years 2006, 2009 and 2012. This chapter focuses its analysis on the balanced panel whereby each household is observable in every period.

4.4 Understanding the Limitations of the Panel Data and Checking for Attrition Bias

In using the definition described above to generate a panel data, there are also some limitations in identifying the same household. For instance, since the definition of the same household is very relaxed as only one member of the household is required to be present in both periods, there are possibilities that some characteristics of the matched households will be different. In addition, it is possible that the migration status of the household will be affected by the changes in the household structure and composition. For instance, if the head of one migrant household migrated and left his wife and children to live with his parents, his original household will no longer be part of the panel households if he and his wife and children live again together in a separate household upon his return. Nevertheless, based on the fieldworks conducted in two selected barangays in the Philippines, one of which is located in Orion, this pattern is not as evident. For instance, if families are living in the same area within a particular barangay, merging of households is less likely after migration, especially in the case of the rural barangay. In other words, it is more likely that his wife and children will stay in the same original household rather than move with his parents if the houses are located very close to each other. In addition, if his parents are living far away from their original dwelling unit, the likelihood of moving to live with his parents is also less likely particularly in the case of the Philippines which is an archipelagic country consisting of more than 7,600 islands, which entails relatively huge cost for movement. It is, however, acknowledged that the number of cases with this particular change in family structure cannot be directly identified in the constructed panel data, which is one of the limitations of the definition adopted by this research. Meanwhile, since the panel was generated by matching the same household, another important limitation of this panel dataset is that which concerns the examination of the characteristics of the OFW members of these panel households. In particular, it is possible that an OFW transfers to a different household or sets up a new household which is no longer part of the panel household. If the interest of the analysis is on the OFW members, tracking individuals instead of households would be more useful. This could be one of the possible areas for future research since the existing CBMS dataset contains information on all individual members of the household.

Although identifying the same household using the definition discussed in Section 4.3 has some limitations, it offers a more practical way of matching the same households which can be adopted by the local government units in the Philippines given their capacity and the local context. Note that a similar operational definition is also adopted by CBMS and PSA in generating panel of households, although this study relaxed the condition that requires that the household is living in the same dwelling unit. It is

deemed that adopting a more complicated definition of the same household will also make it more difficult for the LGUs to adopt the same method for the purpose of analyzing their existing CBMS data over time. Nevertheless, since member-level information are available in the CBMS data, tracking individuals (and not households) will allow identification of specific changes in the family structure and composition which can help enhance the definition of the same household that can be adopted in the future. Meanwhile, given the difficulty in matching the same households after the data have been collected, it is strongly recommended that LGUs implementing CBMS should assign the same household ID to the same household during the field survey operations using an agreed definition of the same household. While this may entail additional tasks on the part of the supervisor in terms of ensuring the correct assignment of household ID, it will make generation and the processing of panel data much easier for the LGUs.

One of the important challenges when analyzing panel data is the attrition bias. As mentioned earlier, 52.2 percent of the 8,233 households in 2006 were retained in the panel dataset. One related concern is that it is possible that households who are not included in the panel may differ systematically from those who are retained in the panel dataset, and hence, the households in the panel dataset may no longer be representative of the original population. To determine whether attrition is random in the panel data that was generated following the procedure mentioned earlier, two tests were implemented. In the first test, an attrition probit (Fitzgerald, Gottschalk, & Moffit, 1998) was estimated in which the dependent variable (*attrition*) is a binary variable taking a value of 1 if the household is not included in the panel after the previous waves and zero otherwise. The probit model includes baseline values of the variables that are likely to affect the outcome variable**.** Based on the results of the estimation of the attrition probit and as reflected in pseudo R-squared, the baseline variables explain 12.2 percent of the panel attrition for the period 2006 to 2012 (Table 4.2). This means that 87.8 percent of attrition is unexplained. The results also show that the attrition rate within the barangay, age of households head and its square, and the household head's civil status are significant predictors of attrition. Attrition will potentially be a big concern if it is correlated with our variable of interest, which is migration status of the household. Estimates show that migration status is not a significant predictor of attrition. Nevertheless, there are still other characteristics that can potentially bias the estimates. Based on the results of the post-estimation Wald test, the variables included in the probit model described earlier are jointly statistically different from zero (with Prob>chi= 0.000) which implies that these variables are significant predictors of attrition. This means that the null hypothesis of random attrition is rejected.

Table 4.2. Fitzgerald's unrestricted attrition probit (Dependent variable: attrition (1 if the household is not included in the panel after the previous waves; 0 otherwise)

	Coef.	Std. Err.
Log of per capita income	0.022	0.024
Attrition rate within barangay	0.027***	0.000
Household characteristics		
Migration status		
Migrant household	-0.011	0.061
Demography		
Household size	-0.208	0.176
Household size squared	0.012***	0.002
Number of members 14 years old & below	0.013	0.178
Number of members 15 years old & above	-0.015	0.178
Employment		
Number of employed members	-0.021	0.020
Location		
Living in urban area	-0.032	0.020
HH head characteristics		
Male	-0.024	0.053
Age	-0.020***	0.007
Age squared	0.000***	0.000
Years of schooling	0.005	0.007
Employed	-0.079	0.053
Civil status		
Married	-0.015	0.068
Widow	-0.059	0.074
Separated	0.186***	0.083
Other civil status	0.616***	0.209
Constant	-0.305	0.320
Wald chi2(13) = 38,076 Prob> chi2 = 0.000		
Pseudo R2= 0.1215 No. of observations = 8,150		

Source of basic data: CBMS data of Orion (2006, 2009 and 2012)

To further examine attrition, pooling tests was conducted based on the Becketti, Gould, & Welch (2008) to essentially check the equality of coefficients from the baseline sample with and without attritors. The test was done in Stata by generating interaction variables between the attrition variable (*attrition*) and all other variables. Using all variables mentioned above as explanatory variables, together with all interactions with the attrition variable, a regression is estimated with the log of per capita income as dependent variable. Results of the estimation as presented in Table 4.3 show that the null hypothesis that attrition is random can be rejected at 1 percent level of significance with an F-statistic equivalent to 9.21.

Table 4.3. Becketti, Gould, Lillar, Welch (BGLW) pooling test for attrition

lnpcinc	Coef.	Robust Std. Err.
Attrition dummy	-0.373	0.235
Attrition rate within barangay	-0.002	0.002
Household characteristics		
Migration status		
migrant HH	0.860***	0.047
Demography		
household size	-0.263*	0.141
household size squared	0.007**	0.003
no. of members 14 years old & below	-0.024	0.141
no. of members 15 years old & above	0.009	0.134
Employment		
no. of employed members	0.310***	0.018
Location		
living in urban area	-0.121	0.074
HH head characteristics		
Male	-0.193***	0.051
Age	-0.002	0.006
Age squared	0.000	0.000
Years of schooling	0.064***	0.007
Employed	-0.119**	0.045
Civil status		
Married	-0.009	0.081
Widow	-0.126	0.086
Separated	-0.218**	0.079
Other civil status	-0.122	0.130
Interactions with the attrition dummy		
Attrition rate within barangay	0.001	0.002
Migrant HH	0.097	0.057
Household size	-0.235	0.220
Household size squared	0.009**	0.004
Number of members 14 years old & below	0.132	0.233
Number of members 15 years old & above	0.123	0.231
Number of employed members	0.006	0.026
Living in urban area	0.084	0.050
Male	0.097	0.058
Age	0.013*	0.006
Age squared	0.000**	0.000
Years of schooling	0.012	0.009
Employed	0.067	0.045
Married	0.050	0.125
Widow	0.236*	0.137
Separated	0.113	0.133
Other civil status	0.545**	0.227
Constant	10.133***	0.257
F (18,22)= 9.21 Prob > F= 0.000 No. of observations: 8,150		

Source of basic data: CBMS data of Orion (2006, 2009 and 2012)

The results of the two tests above revealed that attrition in the household panel data is not random and hence, attrition bias should be accounted for. This was done by estimating the inverse probability weights to assign more weight to households which remain in the panel. The inverse probability weight is estimated as the ratio of the predicted probabilities from the unrestricted attrition to predicted probabilities from the restricted attrition probit (without the auxiliary variables). The inverse probability weights estimated ranges from 0.499 to 5.094, with an average value of 0.999. The weights are then, used in all the estimations presented in this Chapter. Comparing the weighted and unweighted estimates, applying the inverse probability weights produce only minor impact on the estimates, in general (see, for example, Annex I).

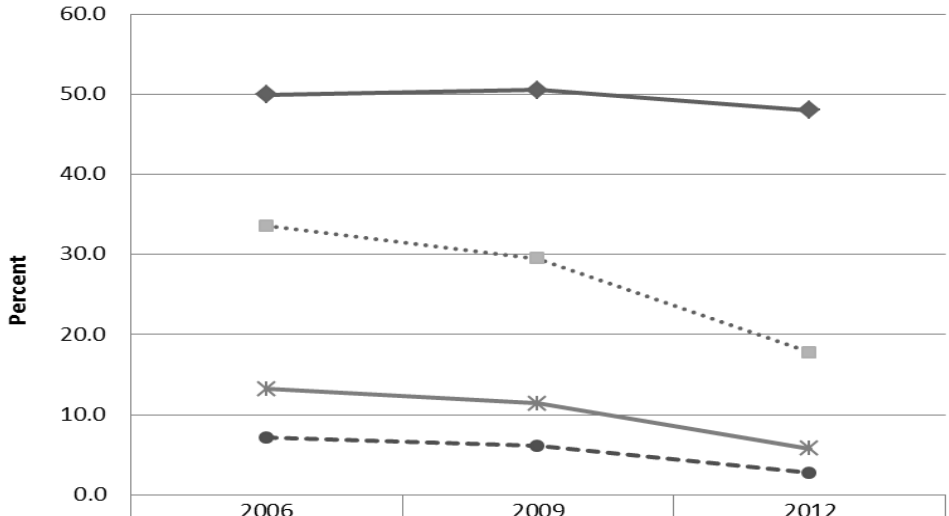
4.5 Examining the Poverty Profile and Migration Patterns among Households

4.5.1 Poverty Profile

The construction of the panel data using the three waves of CBMS implementation in the municipality of Orion produced a total of 4,299 panel households for each year. Based on the estimates of the different poverty measures, there are general improvements in the poverty situation among the panel households over the period 2006-2012 (Figure 4.2). In particular, the incidence of poverty declined from 33.6 percent in 2006 to 17.7 percent in 2012, representing a 15.9 percentage point decrease in the proportion of poor households during the period[50]. This latest poverty incidence among the panel of households in Orion is even lower than the national level estimate of poor families, which is recorded at 19.7 percent in 2012, which implies that households in Orion have, on average, better welfare conditions. The general improvement in the poverty situation among the households is also reflected in the distribution of income presented in Figure 4.3. In particular, the distribution of income moved to the right for the succeeding periods implying a general increase in per capita income among panel households in both nominal and real terms.

[50] The official poverty thresholds released by the Philippine Statistics Authority (PSA) for each particular reference period, classified by urbanity, are used in identifying the poor households. The unweighted estimates of these poverty measures (i.e., without using inverse probability weights) are only slightly lower than weighted estimates but the patterns remain the same (Annex I).

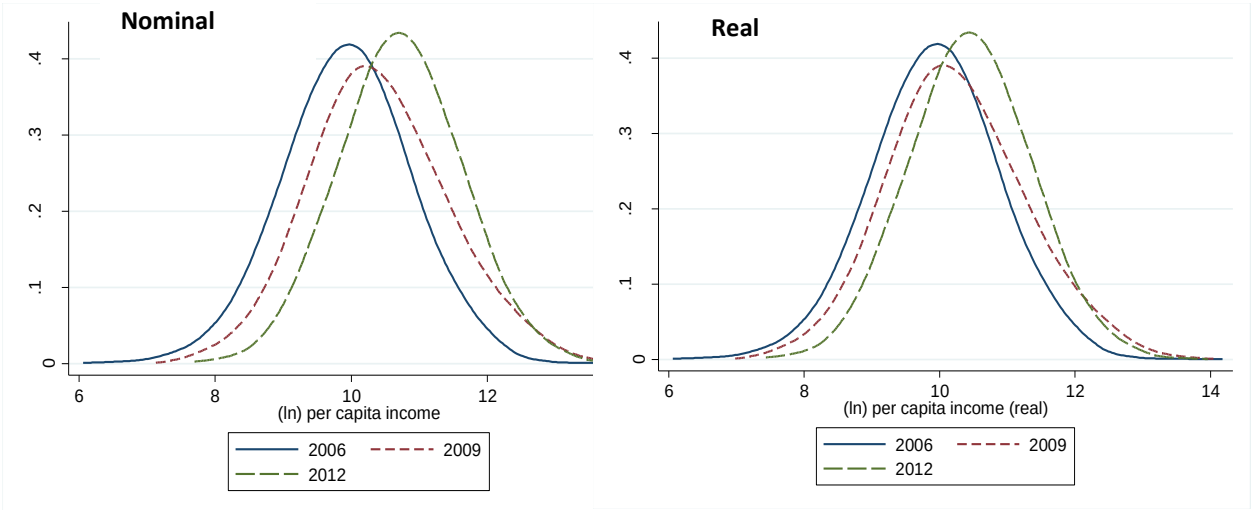
Figure 4.2. Poverty incidence, gap, severity and Gini coefficient in Orion, 2006, 2009 and 2012



	2006	2009	2012
Gini Coefficient	49.9	50.6	48.0
Poverty Incidence	33.6	29.5	17.7
Poverty Gap	13.2	11.4	5.8
Severity of Poverty	7.1	6.1	2.7

Note: Inverse probability weights are used to account for attrition based on Fitzgerald, et al. (1998).
Source of basic data: Constructed panel dataset using CBMS data of Orion (2006, 2009 and 2012)

Figure 4.3. Distribution of (log) per capita income among panel households: nominal and real values, 2006, 2009 and 2012.



Note: Inverse probability weights are used to account for attrition based on Fitzgerald, et al. (1998).
To estimate the real values, the nominal values of per capita income is deflated using the estimated inflation rate during the reference period .
Source of basic data: Constructed panel dataset using CBMS data of Orion (2006, 2009 and 2012)

Meanwhile, the poverty gap, which is a measure of the income shortfall (expressed as a proportion to the poverty threshold) of households with income below poverty threshold, divided by the total number of households, also decline during the same period from double-digit estimates in 2006 and 2009 to single-digit estimate in 2012. The severity of poverty (total of the squared income shortfall (expressed as a proportion to the poverty threshold) of households with income below the poverty threshold, divided by the total number of households) is also reduced by 4.4 percentage points in 2012 when compared to 2006 estimates. In terms of income distribution among households, the Gini coefficient shows that while there is a slight increase in inequality in 2009, a decline in the coefficient is recorded in 2012 indicating an improvement in the income distribution. One possibility is that having migrant members abroad in 2006 could have resulted in larger income for migrant households compared to their non-migrant counterpart mainly through the increase in remittance income, thereby increasing inequality among households in the succeeding period (i.e., 2009). As the proportion of migrant households continues to increase, inequality tends to decrease. In fact, as will be discussed in the next section, 2009 recorded an increase in the proportion of migrant households which may be one of the factors that led to a decrease in income inequality in 2012. Although the time period covered in this study is relatively short, the estimates reveal that income distribution among households in Orion became more equal in 2012 as the year recorded the lowest Gini coefficient during the entire period. This may also be in line with the findings of Ravanilla and Robleza (2005) which confirmed that although remittances may increase inequality, it becomes less inequality increasing over time. McKenzie and Rapoport (2007) also found that although the initial effect of migration in communities with low levels of international migration is an increase in income inequality, inequality decreases as levels of migration increase.

Aside from looking at the abovementioned measures, it is also interesting to examine the poverty situation of households based on the CBMS core indicators of poverty to capture the other dimensions. For instance, in terms of health and education, malnourishment among children 0-5 years old is still a concern (Table 4.4) as 2.3 percent of the households with children aged 0-5 years old have at least one malnourished child. In addition, it appears that school participation also requires attention as data show a worsening condition with the increase in the proportion of households with children 6-16 years old who are not sent to school.

Although the quality of the housing units appears to improve in general as shown by the decrease in the proportion of households living in makeshift housing, there was an increase in the proportion of informal settlers. The significant change is partly attributed to the additional categories of possible answers in the CBMS-HPQ adopted in 2012 which refer to households living in public space with or without rent. These two categories accounted for about 78.5 percent of all households which are classified as informal settlers in 2012. With regard to water and sanitation, although access to safe water sanitary toilet facilities has improved in the recent period, the proportion of households without access to these facilities remains relatively high. Furthermore, while

income and food poverty exhibited a declining trend, there are still some households which reported experiencing food shortage during the last three months prior to the interview. In fact, the proportion of households which experienced food shortage even increased to 3.3 percent in 2012.

Table 4.4. CBMS core poverty indicators in Orion, 2006, 2009 and 2012.

Indicator (in %)	2006	2009	2012
Health			
(1) HHs with children 0-4 year old who died	0.1	0.2	0.5
(2) HHs with women who died due to pregnancy related-causes	0.0	0.0	0.1
Nutrition			
(3)HHs with malnourished children 0-5 year old	1.5	0.4	2.3
Housing			
(4) HHs living in makeshift housing	3.9	1.9	1.5
(5) Households who are informal settlers	1.8	3.1	10.3
Water and Sanitation			
(6) HHs without access to safe water	8.3	8.6	5.2
(7) HHs without access to sanitary toilet facility	10.3	11.3	10.5
Basic Education [1/]			
(8) HHs with 6-16 years old not attending school	3.9	3.7	4.9
Income [2/]			
(9) Households with income below poverty threshold	33.6	29.5	17.7
(10 Households with income below food threshold	20.5	17.7	9.1
(11) Households experienced food shortage	1.5	1.3	3.3
Employment			
(12) Unemployed members of the labor force	24.3	18.0	13.6
Peace and Order			
(13) Victims of crime	0.3	0.3	0.2
CBMS Simple Composite Index (SCI)[3/]	1.1	1.0	0.8
Not SCI Poor (not deprived in any of the basic needs)	42.4	45.7	56.3
Near SCI Poor (deprived in 1-3 basic needs)	53.6	51.9	40.5
SCI Poor (deprived in at least 4 basic needs)	4.0	2.5	3.2
Severely SCI poor (deprived in at least 7 basic needs)	0.0	0.0	0.0

Note: Inverse probability weight for each household is used to account for attrition based on Fitzgerald, et al. (1998). The total number of matched households for each wave is 4,299. However, the CBMS census in Orion covered 8,233 households in 2006, 10,458 in 2009 and 8,046 in 2012.

[1/] In the standard CBMS, the following two core indicators of poverty are also monitored at the individual level: 1) proportion of children 6-12 years old not attending elementary (*ntelem612*); and 2) proportion of children 13-16 years old not attending high school (*nths1316*). These two indicators are not reflected in the table. Nevertheless, estimates show that for *ntelem612* are 5.7%, 4.0% and 9.0% for 2006, 2009 and 2016, respectively. Meanwhile, for *nths1316*, the estimates are 14.3%, 166.8% and 24.4%, respectively for the three periods. The age ranges elementary school participation rates and high school participation rates that are being monitored under CBMS were revised recently to 6-11 years old for elementary and 12-15 years old for high school.

[2/] The poverty thresholds used are based on the official poverty threshold released by the Philippine Statistics Authority for the corresponding year. The unemployment rates are 21.0%, 16.0% and 11.6% for 2006, 2009 and 2012, respectively.

[3/] The SCI summarizes the characteristics of each household by simply counting the number of unmet needs or unattained indicators as listed in this same Table.

Source of basic data: Constructed panel dataset using CBMS data of Orion (2006, 2009 and 2012)

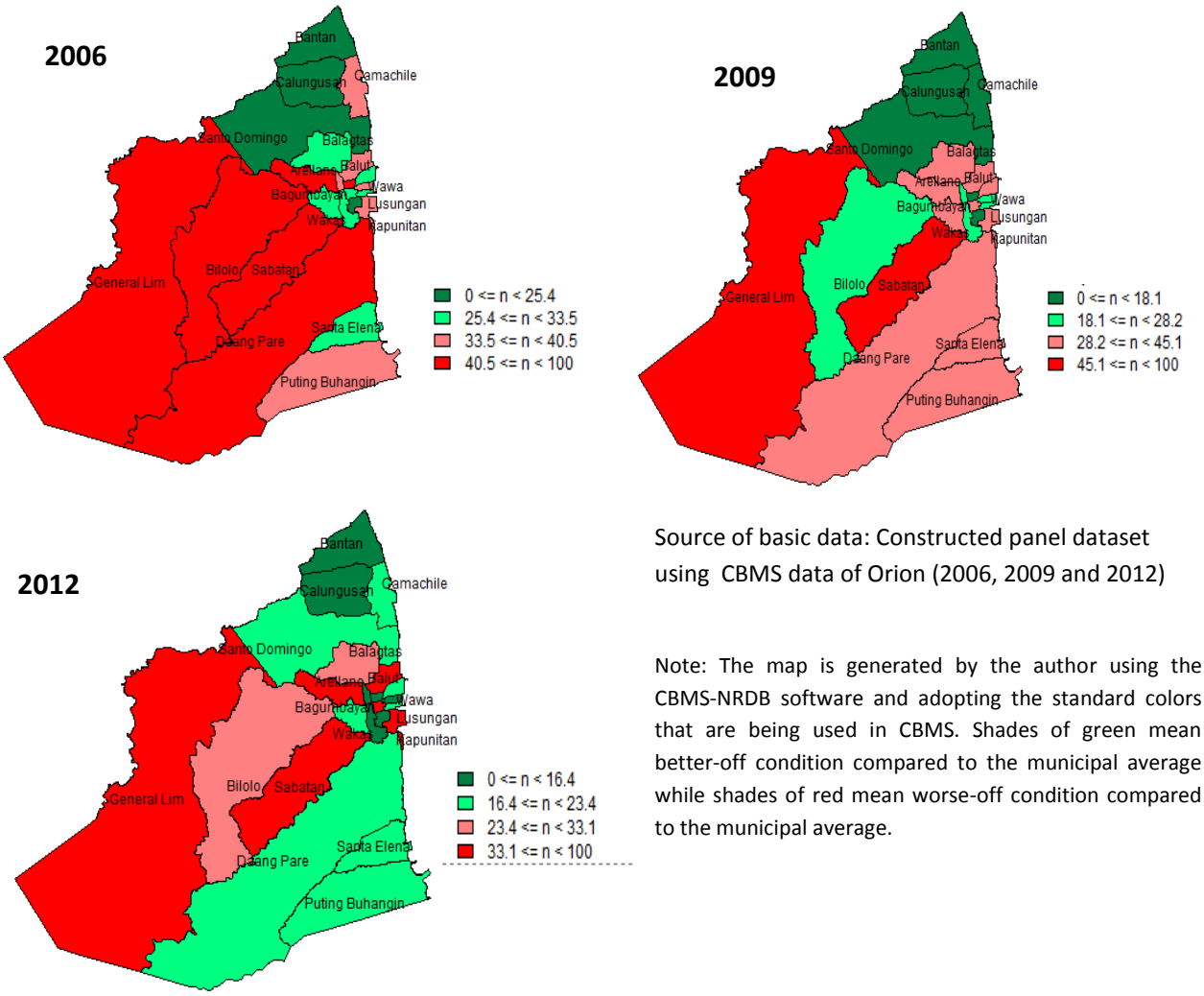
The estimated CBMS-SCI, which counts the number of unmet needs or unattained indicators, reveal general improvements in the living conditions of the households with the average index declining during the period. In particular, SCI is estimated to be at 1.1 in 2006 and declined to less than one in the succeeding periods which confirm that households became less deprived over the years. The proportion of SCI poor households (defined as being deprived in at least four dimensions) exhibited a decline in 2009 at 2.5 percent but increased again in 2012 at 3.2 percent. Near SCI poor households accounted for the largest proportion in 2006 and 2009, followed by non-deprived households. The opposite pattern is observed in 2012. In particular, households which are not deprived in any basic need accounted for the largest chunk in 2012. This may be due to the fact that some of the near SCI poor in 2009 have improved their condition and became non-deprived in 2012 while others who were vulnerable became SCI poor in 2012

The general improvements in the poverty situation are also reflected at the barangay level as seen in the poverty map presented in Figure 4.4. The poorest barangays are coloured red while the richest barangays are coloured green. While there are few barangays which did not experience improvements or even became worse off relative to the other barangays in the municipality of Orion, there are more barangays which demonstrated better conditions as reflected in larger number of green-coloured barangays in the latter years, especially in 2012. As in many cases, most of the barangays with better living conditions are located in the town center or the more densely populated urban core (*población)* area because of better access to services and facilities and more available economic opportunities.

4.5.2 Migration Patterns

Examining the patterns in migration status of households, an increase in the proportion of migrant households is observed from 17.7 percent in 2006 to 21.1 percent in 2009. However, the proportion declined again to 17.7 percent in 2012 (Figure 4.5). One of the possible reasons for the decline in the recent period is that the OFW member might have returned home. At the same time, it is possible the OFW member has moved to another household, which is no longer part of the panel household. Although majority of the households (i.e., 60.6%) in Orion never had an OFW member throughout this period (*0-0-0*), a considerable proportion of the households reported that they had an OFW member for at least one period. The latter includes those households whose OFW member work abroad only for a short term, among others. For instance, at least one in every 10 households had an OFW member only in 2009 but not in 2006 and 2012 (*0-1-0*). In addition, 8.0 percent of the households had an OFW member in 2006 but none in the succeeding years (*1-0-0*). This may include those households whose migrant members returned home and settled in the Philippines. Meanwhile, about 7.6 percent of the households had an OFW member only recently (i.e., in 2012) (*0-0-1*). Only 3.4 percent of the households had an OFW member all throughout the period covered by the study (*1-1-1*). This may also imply long-term dependence on international migration for this group of household.

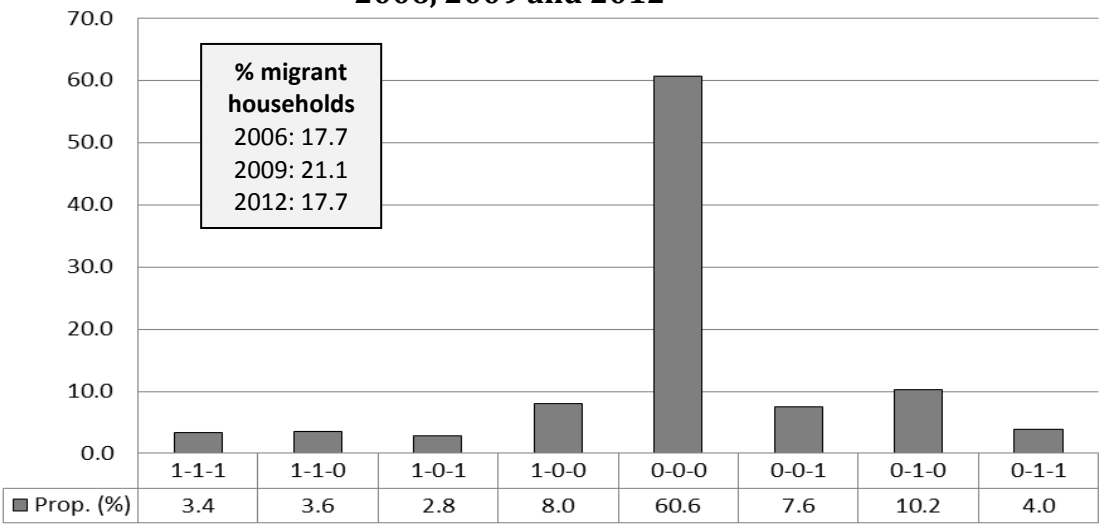
Figure 4.4. Proportion of income poor in Orion by barangay, 2006, 2009 and 2012.



Source of basic data: Constructed panel dataset using CBMS data of Orion (2006, 2009 and 2012)

Note: The map is generated by the author using the CBMS-NRDB software and adopting the standard colors that are being used in CBMS. Shades of green mean better-off condition compared to the municipal average while shades of red mean worse-off condition compared to the municipal average.

Figure 4.5. Changes in the migration status of panel households in Orion, 2006, 2009 and 2012



Note: 1- Households with an OFW member; 0- Households without an OFW member during the reference period. The numbers refer to the migration status in 2006, 2009 and 2012, respectively.
Source of basic data: Constructed panel dataset using CBMS data of Orion (2006, 2009 and 2012)

To understand the context, the characteristics of the OFW members of the panel households are also examined. Nevertheless, it has to be noted that given the definition adopted for identifying the same household and constructing the panel dataset, households are matched rather than individuals. Hence, individual OFWs are not tracked over time which is one of the limitations. Given this, the OFWs covered in this section include only those OFWs who belong to the panel households. Data showed that there were 910 OFWs in 2006 accounting for more than 4 percent of the municipality's total population for the panel of households (Table 4.5). The number increased to 1,051 in 2009 reflecting a 15.5 percent increase compared to 2006 record but the figures declined again to 851 in 2012 indicating a 19.0 percent decrease. While the significant decline in 2012 may be considered a lagged effect of the global economic crisis that happened during the period 2009-2010, the pattern may not be attributed completely to the crisis. One possibility is that some OFWs worked abroad only for a short period and may have returned home for a various reasons which are not clearly identified in the current dataset. Nevertheless, in a study of different sentinel sites in the Philippines where CBMS data was collected, Reyes, Sobreviñas, & de Jesus (2010) found that Barangay Villa Angeles, which is one of the barangays in Orion, recorded the highest proportion of households affected by the global financial crisis which channels through overseas employment and remittance or through local employment.

For the entire period covered by this study, the male population continues to dominate overseas work. This may be linked to the type of work available abroad. In fact, a significant proportion of the OFWs from Orion work as *trade and related workers,* which is the case for all the periods covered under this study. These include those who work as pipe fitters, welders, electricians and factory workers, which are the common type of jobs for men. The proportion of OFWs who worked as *trade and related workers* ranged from 25.6 percent to 35.9 percent during the period. Meanwhile, a significant proportion of the OFW is also accounted for by *laborers and unskilled workers, plant and machine operators and assemblers.*

Meanwhile, in terms of country of destination, Saudi Arabia remains to be the most popular among OFWs from Orion. Interestingly, although a large proportion of OFWs also went to USA in 2006 as it ranked second to Saudi Arabia, the popularity of USA declined in the succeeding years as shown by the lower proportion of OFWs who migrated to this country. In fact, the United Arab Emirates replaced USA in the second spot in 2009 and 2012. The switch to countries in the Middle East is further supported by the relatively large share of OFWs who worked in Qatar in the latter years. Japan follows a similar pattern as USA with its popularity among OFWs declining in the latter periods.

In 2006 and 2009, the CBMS data showed that the sons/daughters or the spouse of the current household head are the ones who are usually working abroad. The 2012 figures may not be exactly comparable with the previous periods since the structure of the CBMS-HPQ version administered in that particular year explicitly allows more respondents to identify the OFW member as the household head even while abroad. This

is because the OFW member is included in the roster of the "current" members of the household. This is in contrast to the CBMS-HPQ version used in 2006 and 2009 which considered the OFW as "former" member of the household. Nevertheless, it is clear that although a large chunk of the OFWs in 2012 are the current head of the household, a significant proportion of them are also the sons/daughters.

Table 4.5. Profile of Overseas Filipino Workers (OFWs) in the panel households in Orion, 2006, 2009, 2012.

	2006	2009	2012
Number of OFWs	910	1,051	851
Share to total population	4.3	4.9	4.3
Sex			
Male	71.4	79.0	73.3
Female	28.6	21.0	26.7
Position in the household			
Head[1]	---	---	43.7
Wife/Spouse	36.2	41.4	8.3
Son/Daughter	38.1	41.9	36.2
Son-in-law/Daughter-in-law	6.4	8.4	8.5
Grandson/Granddaughter	0.2	0.5	1.1
Father/Mother	4.1	3.3	0.2
Others	15.0	4.6	2.0
Occupation			
Trade and Related Workers	25.6	35.9	32.2
Laborers and Unskilled Workers	19.0	16.6	17.8
Plant and Machine Operators and Assemblers	11.8	15.7	13.9
Service Workers and Shop and Market Sales Workers	11.7	9.5	9.2
Physical, Mathematical and Engineering	9.7	8.2	8.0
Technician and Associate Professionals	8.8	6.5	7.4
Special Occupations	5.0	0.4	0.5
Clerks	4.8	4.0	4.9
Officials of Government and Special-Interest Organizations, Corporate Executives, Managers, managing Proprietors and Supervisors	3.4	3.2	5.9
Farmers, Forestry Workers and Fishermen	0.2	0.1	0.1
Country			
Saudi Arabia	22.2	31.2	27.4
United States of America	19.2	5.9	4.0
Japan	11.0	3.4	2.4
United Arab Emirates	9.0	18.8	19.7
Qatar	4.7	11.1	8.6
China	3.6	3.1	0.8
Hong Kong Special Administrative Region of China	3.4	2.2	1.2
United Kingdom of Great Britain and Northern Ireland	2.3	1.0	0.3
Singapore	1.7	2.3	4.0
Democratic People's Republic of Korea	1.7	0.8	0.4
Others[2]	21.2	20.1	31.3

[1] The 2006 and 2009 version of the CBMS household profile questionnaire asked in a separate section whether there is a member of the household who is an OFW. The head of the household is normally member who is currently living in the household during the reference period of the interview. Meanwhile, in the 2012 version of the questionnaire, the OFW member is listed in the roster of members with detailed member-level information. In this case, a person could possibly be considered as the head of the household even if living abroad during the period of the interview.

[2] Includes Canada, Australia, Bahrain, Italy, Norway, Kuwait, Korea and Brunei, among others.

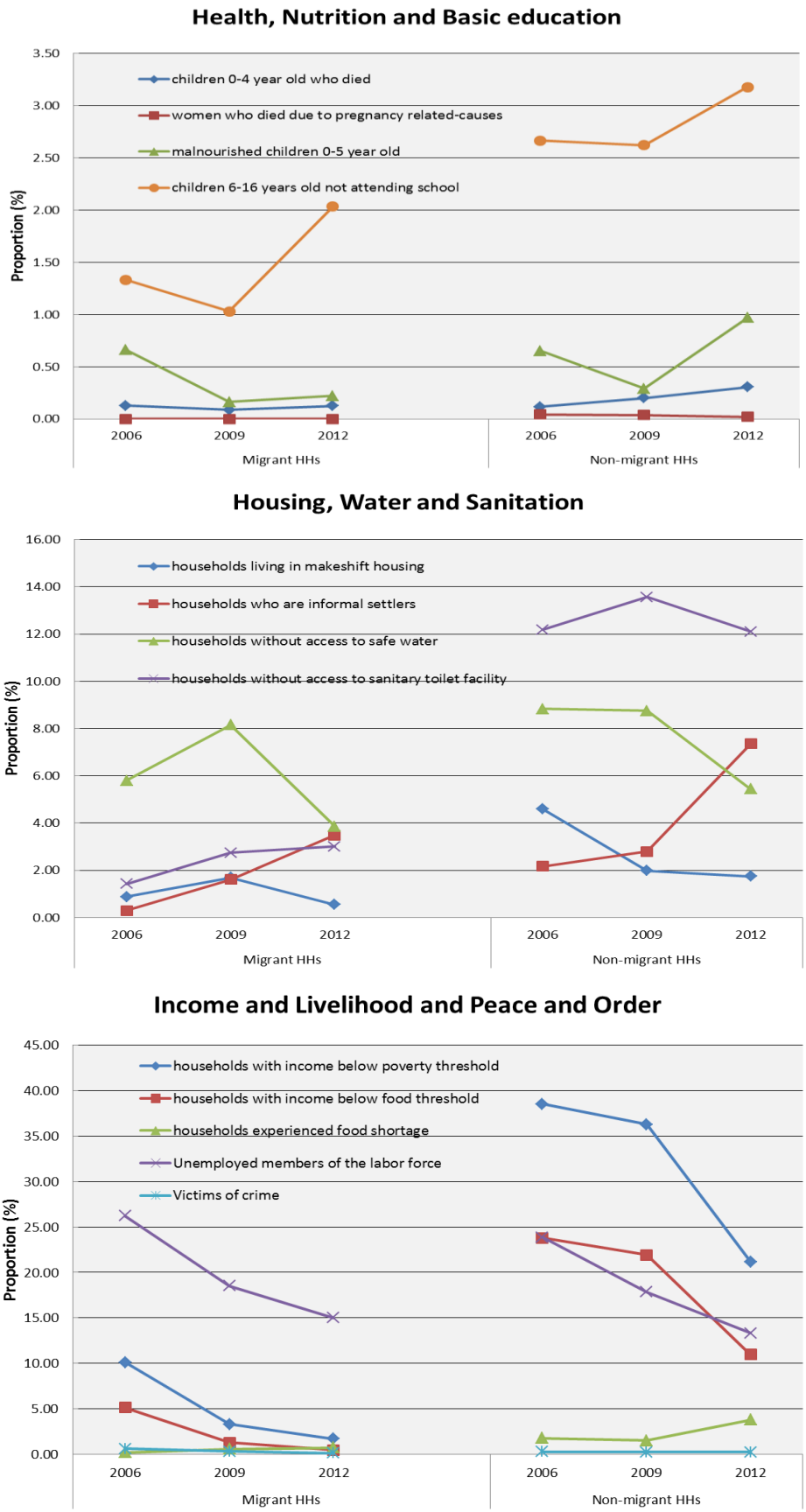
Source of basic data: Constructed panel data using CBMS data of Orion (2006, 2009 and 2012)

4.5.3 *Examining the Relationship Between Migration and Poverty Situation with Time Dimension*

Comparing the poverty profile of the two groups of households, data showed that migrant households generally have better living conditions compared to their non-migrant counterparts. This is clearly reflected in Figure 4.6 as migrant households consistently show lower estimates for all poverty indicators throughout the period 2006-2012, except for unemployment rate and proportion of crime victims. In particular, migrant households consistently show better conditions in terms of health, nutrition, basic education, housing, water and sanitation, income and livelihood.

Interestingly, unemployment rate is consistently higher among migrant households compared to their non-migrant counterparts. However, another more relevant indicator is the labor force participation among the members of these households. Further examination of the data revealed that the labor force participation rate among the members of migrant households is consistently lower compared to those who belong to non-migrant households. In particular, migrant households recorded labor force participation rates that range between 39.5 percent to 40.5 percent during the period 2006-2012 while non-migrant households recorded 52.4 percent to 55.8 percent during the same period. While this may initially give an indication that members of migrant households tend to participate less in the labor force, a much deeper analysis is necessary to determine the causality. In the literature, several authors have examined this issue (Rodriguez & Tiongson, 2001; Ducanes & Abella, 2008a; Pernia, 2008) but with varying results. For instance, while Pernia (2008) and Rodriguez and Tiongson (2001) found that members of households with migrants or receive remittances tend to reduce labor force participation, Ducanes and Abella (2008a) concluded that labor force participation rates of members of migrant and non-migrant households are virtually the same. In addition, the latter found that having a migrant member does not have a significant direct impact on the probability of being unemployed controlling for income, sex, age, education and marital status of labor participants. To contribute to this discussion, a pooled logit model was estimated using the member-level data of Orion panel households to determine if indeed international migration causes members of migrant households to reduce participation in the labor market (Annex J). Although the model has some limitations and can still be improved, it still shows that sending an OFW member reduces the likelihood of participating in the labor force. In fact, the odds of labor force participation is reduced by 38.9 percent controlling for age, sex, education, marital status and location of residence by urbanity.

Figure 4.6 Changes in the poverty situation of migrant and non-migrant households, 2006, 2009 and 2012.



Note: Inverse probability weights are used to account for attrition.

Source of basic data: Constructed panel dataset using CBMS data of Orion (2006, 2009 and 2012)

The pattern in the income poverty situation of the panel households in the municipality shows a declining trend for both migrant and non-migrant households during the period 2006-2009. However, migrant households recorded a consistently lower poverty incidence compared to their non-migrant counterparts. The gain in income due to migration may have improved their position in the income distribution relative to other households. This gain in income would be mostly beneficial to those who were classified as income poor prior to migration as it may allow them to cross the income poverty threshold. In particular, the remittances sent by the OFW member could have contributed to the increase in the total household income. On the other hand, households who lost an OFW member, which is the case for many households, may experience a reduction in income resulting in lower position in the income distribution which may even push them into poverty. For instance, further examination of the data revealed that 28.3 percent of non-poor migrant households in 2006 who lost an OFW member in the latter period became poor in 2009. At the same time, 24.4 percent of non-poor migrant households in 2009 who lost an OFW member became poor in 2012.

Table 4.6 provides further details on the poverty situation of households based on the patterns in their migration status. Obviously, the proportion of poor households among those who never had an OFW member (*0-0-0*) is the largest at 22.9 percent. In fact, income poverty in 2012 among those households which had an OFW member for at least one period is generally lower compared to those which never had an OFW member. This is consistent with earlier results indicating that households which had an OFW tend to have better living conditions compared to those which had none. Meanwhile, the proportions of poor among households with an OFW member in 2012 did not exceed 2.8 percent for each group (i.e., 2.8% for *0-0-1,* 1.4% for *1-1-1*, 1.2% for *0-1-1* and 0.8 percent for *1-0-1*). Furthermore, households with an OFW member either in 2006 (*1-0-0)* or in 2009 (*0-1-0*) or in both periods but lost an OFW member in 2012 (*1-1-0*) generally experienced larger income poverty incidence, with 11.4 percent, 17.3 percent and 12.4 percent, respectively. Again, losing an OFW member means that the gains in income experienced during the previous period may be lost resulting in a worse condition and hence, a higher income poverty incidence.

Examining more closely the movements of households in and out of poverty, data showed that the never poor households (*N-N-N*) accounted for the largest proportion of all households at 45.6 percent (Table 4.7). This is especially true for migrant households who always had an OFW member for the entire period 2001-2012 (*1-1-1*) whereby 89.3 percent of them were classified as never poor which may be due to the remittances they received during the period. In fact, an examination of their income revealed that remittances accounted for about 56.5-67.1 percent of their total household income in 2006-2012. Although a large proportion of households who had an OFW member in 2006 and 2009 but lost an OFW in 2012 (*1-1-0*) remained non-poor, 9.4 percent of them became poor in 2012. In addition, although majority of households which did not have an OFW member only in 2009 *(1-0-1)* remained non-poor, there is a significant proportion of households which immediately became poor in 2009 before moving up

the poverty line in 2012 as they send again a migrant member abroad. This may suggest an immediate effect of losing an OFW member to household's poverty status.

Table 4.6. Proportion of poor households in 2012, by patterns in migration status

Patterns in Migration Status	Total Households	Poor Households	
		Number	Proportion (%)
All Households	**4,299**	1,046	**17.3**
1-1-1	145	2	1.4
1-1-0	153	28	12.4
1-0-1	120	1	0.8
1-0-0	343	61	11.4
0-0-0	2,603	827	22.9
0-0-1	326	9	2.8
0-1-0	439	116	17.3
0-1-1	170	2	1.2

Note: Household with an OFW member; 0- Households without an OFW member during the reference period. The numbers refer to the migration status in 2006, 2009 and 2012, respectively.
Source of basic data: Constructed panel dataset using CBMS data of Orion (2006, 2009 and 2012)

Table 4.7. Movements in and out of poverty among panel households, by migration status, 2006, 2009 and 2012

Movements in poverty status	Patterns in Migration Status							
	1-1-1	**1-1-0**	**1-0-1**	**1-0-0**	**0-0-0**	**0-0-1**	**0-1-0**	**Total**
P-P-P	0	0	0	4	199	1	3	207
	(0.0)	(0.0)	(0.0)	(1.3)	(7.6)	(0.2)	(0.6)	(4.9)
P-P-N	0	0	2	11	308	46	9	375
	(0.0)	(0.0)	(1.3)	(3.2)	(11.8)	(14.2)	(1.5)	(8.8)
P-N-P	0	5	0	5	141	2	39	192
	(0.0)	(3.4)	(0.0)	(1.4)	(5.4)	(0.5)	(6.7)	(4.5)
P-N-N	10	12	5	22	395	74	137	656
	(6.8)	(8.7)	(4.3)	(6.4)	(15.2)	(23.0)	(23.5)	(15.4)
N-N-N	131	109	75	188	941	143	356	1942
	(89.3)	(75.6)	(63.3)	(55.3)	(36.1)	(44.5)	(60.8)	(45.6)
N-N-P	2	13	2	19	143	2	33	214
	(1.2)	(9.4)	(1.8)	(5.6)	(5.5)	(0.8)	(5.6)	(5.0)
N-P-N	4	4	35	78	352	52	7	533
	(2.8)	(3.0)	(29.3)	(23.0)	(13.5)	(16.1)	(1.3)	(12.5)
N-P-P	0	0	0	13	126	2	1	142
	(0.0)	(0.0)	(0.0)	(3.7)	(4.8)	(0.8)	(0.2)	(3.3)
Total	**147**	**144**	**118**	**340**	**2605**	**322**	**586**	**4,262**
	100.0	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

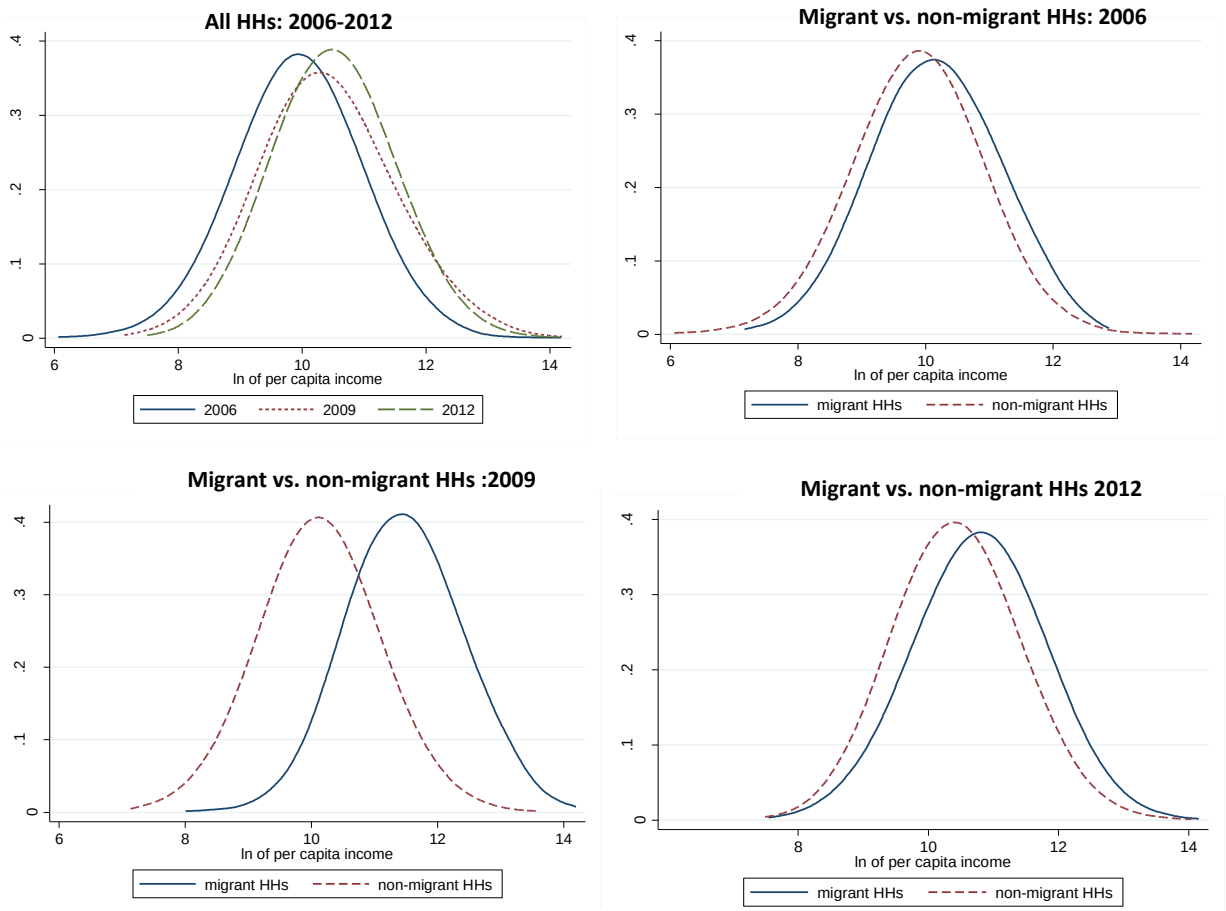
Note: P- poor; N- nonpoor households during the reference period. The letters refer to the household's poverty status in 2006, 2009 and 2012, respectively. Household with an OFW member; 0- Households without an OFW member during the reference period. The numbers refer to the migration status in 2006, 2009 and 2012, respectively. Figures in parentheses reflect the share to total number of households within each particular pattern in migration status.
Source of basic data: Constructed panel dataset using CBMS data of Orion (2006, 2009 and 2012)

It is also noted that there is a significant proportion of households with an OFW member only in 2009 (*0-1-0)* which were able to move out of poverty in the same year and remained non-poor in the succeeding period (*P-N-N*) (i.e., 23.5%). Being able to send an OFW member abroad may have contributed to their increased income during the same period and may have allowed them to maintain higher incomes in the latter period (e.g., through for instance increased income from productive activities or being able to find good employment opportunities domestically, among others). Furthermore, there are also a few households which send a migrant member abroad only in 2006 (*1-0-0*) in 2009 (*0-1-0*) and 2012 (*0-0-1*) which remained poor all throughout the period (*P-P-P*). For these households, having an OFW member only in one period is not enough to allow them to move out of poverty. For households with *0-0-1* migration pattern, one possibility is that coming from a poor household, the migrant members might still be paying the costs of migration during the initial period of their migration which are most likely funded through credit and hence, generating less impact in terms of contributing to household income. For households with *1-0-0* and *0-1-0* migration patterns, the return of their migrant member may be due to failed migration.

Figure 4.7 further confirms that there have been some movements in the distribution of income across households during the period 2006-2012. In particular, the income distribution covering all panel households in the municipality moves to the right, reflecting an increase in the mean per capita income. Obviously, if households hypothetically stop receiving remittances from abroad, poverty incidence could increase significantly, especially if households depend largely on remittances as source of income. Comparing migrant and non-migrant households, it appears that while both groups have almost similar pattern of distribution, the gap between migrant households and non-migrant households is significantly higher in 2009 compared to the previous period, with the former group exhibiting higher income, in general. However, in 2012, the incomes of non-migrant households generally moved closer to the incomes of migrant households as reflected in the figure. One factor that might have contributed to this pattern is the multiplier effect of migration, especially when households consume more domestically produced goods and services, which can help generate more livelihood opportunities in the communities. Although it might take some time, non-migrant households could have experienced higher income given the increased demand from the migrant households. This finding seems to contradict the general claim of several studies in the Philippines (Rodriguez, 1998; Benedictis, Calfat, Rivas, & Salvador, 2008; Semyonov & Gorodzeisky, 2008; Murata, 2011) that migration or remittances broaden the gap between the rich and the poor, leading to an increase in income inequality. In fact, the results of this study indicate that, in the long run, income across households tend to equalize. This is consistent with the findings of Ravanilla and Robleza (2005) who concluded that remittances become less inequality-increasing over time. This pattern may be observed for countries with a long history of migration, like the Philippines, and reaching a relatively high level of international migration. In fact, in a study conducted by McKenzie and Rapoport (2007) using large household surveys from rural Mexico, it was also found that although the initial effect of migration in

communities with low levels of international migration is an increase in income inequality, migration tends to decrease inequality as levels of migration increase.

Figure 4.7. Income distribution of migrant and non-migrant households (based on 2009 migration status), 2006- 2012



Source of basic data: Constructed panel dataset using CBMS data of Orion (2006, 2009 and 2012)
Note: Migration classification is based on the 2009 migration status of each household.

4.6 *Impact of International Migration on Poverty: A Panel Data Analysis*

4.6.1 Methods of Analysis

The impact of international migration on poverty is also estimated by employing some techniques on panel data analysis taking into account the time dimension, thereby addressing some of the limitations of cross-section data. In fact, using panel data has several advantages over single cross-section data as it allows one to control for variables that cannot be observed or measured (e.g., beliefs and cultural factors) or variables that change over time but not across entities (e.g., national and local policies and regulations). It is very useful in dealing with the problem of unobserved heterogeneity and allows identification of certain parameters without making restrictive assumptions (Verbeek, 2012). Panel data also reduces problems with identification in the presence of endogenous regressors or measurement error and is more robust to omitted variables. Estimates based on panel data are also usually more accurate since explanatory

variables vary over two dimensions (i.e., individuals and time) instead of only one (Verbeek, 2012). In this Chapter, the analysis starts with the method adopted by Cerulli (2015) whereby the two specific groups of households based on migration pattern are examined. In particular, households in the first group *0-1-0* are those which sent an OFW member only in 2009 and none in other periods. Meanwhile, households in the second group are those which never had an OFW member over the entire period of the study (*0-0-0*). The income levels and poverty incidences of both groups of households are compared.

In panel data analysis conducted in this study, static models were employed with migration status (i.e., an indicator variable which is equal to 1 for migrant household which means that the household has at least one OFW member ; 0 otherwise) as the key variable of interest. In the employing static models, two models may be used. The first model is the *random effects model* which can be estimated as

$$Y_{it} = \beta_0 + \beta X_{it} + \alpha_i + u_{it}, \qquad u_{it} \sim IID(0, \sigma_u^2);\ \alpha_i \sim IID(0, \sigma_\alpha^2) \quad \text{(Equation 4.1)}$$

where Y_{it} is the dependent variable which can either be the (log) per capita income or the poverty status of household *i (i= 1,...N)* in time *t (t=1,...T)*; X_{it} represents the explanatory variables which include household characteristics related to demography, employment, education and location; β is the coefficient for the independent variables; and $\alpha_i + u_{it}$ is the error term of household *i* in time *t* which consists of two components. The first component is an individual specific component that does not change over time while the second component is a remainder component which is assumed to be uncorrelated with time. This second component is the usual random error term in a specific period that is also encountered in cross-sectional models. Meanwhile, the second model is the *fixed effects model* which assumes that something within the households may bias the predictor or the outcome variable and hence, should be controlled. The model is estimated as a linear regression model in which the intercept terms vary across households, *i*, i.e.,

$$Y_{it} = \alpha_i + \beta X_{it} + u_{it}, \qquad u_{it} \sim IID(0, \sigma_u^2) \quad \text{(Equation 4.2)}$$

where Y_{it} is the (log) per capita income for household *i* in time *t*, α_i *(i*=1...*n*) is the unknown intercept for each household (*n* household-specific intercepts), X_{it}represents the independent variables include household characteristics related to demography, employment, education and location, β is the coefficient for the independent variables and u_{it} is the error term. It is assumed that all X_{it} are independent of all u_{it}. The estimator for β can be obtained by performing regression in deviations from individual means, thereby eliminating the individual effects α_i first by transforming the data**.** The OLS estimator for β from the transformed model gives the fixed effects estimator (Verbeek, 2012). Note that the fixed effects model focus on the differences "within" households and hence, explains to what extent Y_{it} differs from $\bar{y}_i$ but does not explain why $\bar{Y}_i$ is different from $\bar{Y}_j$. The fixed effects approach removes the effect of time-invariant characteristics which allow estimation of the net effect of the predictors on the

outcome variables. At the same time, given the parametric assumptions for β, a change in X has the same effect, whether it is a change from one period to another or a change from one individual to another (Verbeek, 2012).

To help decide on which model is more appropriate, the Hausman test is conducted for each model where the null hypothesis is that *random effects* model is preferred over the *alternative fixed effects* model. It essentially tests for the null hypothesis that that X_{it} and α_i are uncorrelated. If the result of the test shows a rejection of the null hypothesis, the *fixed effects* model is the more appropriate model. In this case, adopting a *random effects* approach (which ignores this correlation) will yield inconsistent estimators while the *fixed effects* approach will address this correlation between α_i and X_{it}. Given this, an important advantage of employing these *fixed effects* model (over OLS or random effects model) is that it gives consistent estimates of the parameter of interest (i.e., coefficient for the migration status of household) even if international migration decision is correlated with the unobserved but time-invariant factors such as motivation.

Meanwhile, the instrumental variables (IV) methods can also be extended to panel data. If the fixed effects model is appropriate, estimation needs to eliminate the α_i (Verbeek, 2012). Suppose migration status (i.e., indicator for having an OFW member) is correlated with the time-varying component of the error. Similar to the cross-section case, an additional variable Z which does not directly affect the outcome variable Y_{it} but is correlated with the migration status can be included in the estimation. It is also assumed that this instrument satisfies the strong exogeneity assumption that

$$E(\varepsilon_{it}|\alpha_i, Z_{i1}, \dots, Z_{it}, \dots Z_{i\mathrm{T}}) = 0 \qquad \text{(Equation 4.3)}$$

which implies that the instrument and the errors are uncorrelated in all periods. This means that the panel IV estimators are consistent even if the ε_{it} are serially correlated (Verbeek, 2012). In this study, the panel IV model is estimated using different instruments for migration. The first instrument is the migration network variable *mignetwork1* which is defined in the previous chapter as the interaction between the "share of migrant households to total number of households in the barangay" and the "number of adult members 20 years old and above in the household". The motivations for using this as an instrument for migration and the details on how the variable is estimated have been explained in section 3.5.2 To further explore the impact on poverty, a similar form of the model as in Equation 4.2 is used to estimate the effect of having an OFW member on the binary outcomes that capture income poverty, SCI poverty and MPI poverty. The variable is a dichotomous variable equal to 1 if the household is poor and 0, otherwise. In this case, a fixed-effects logit model is employed, which has the same advantages as the previous model.

4.6.2 Empirical results

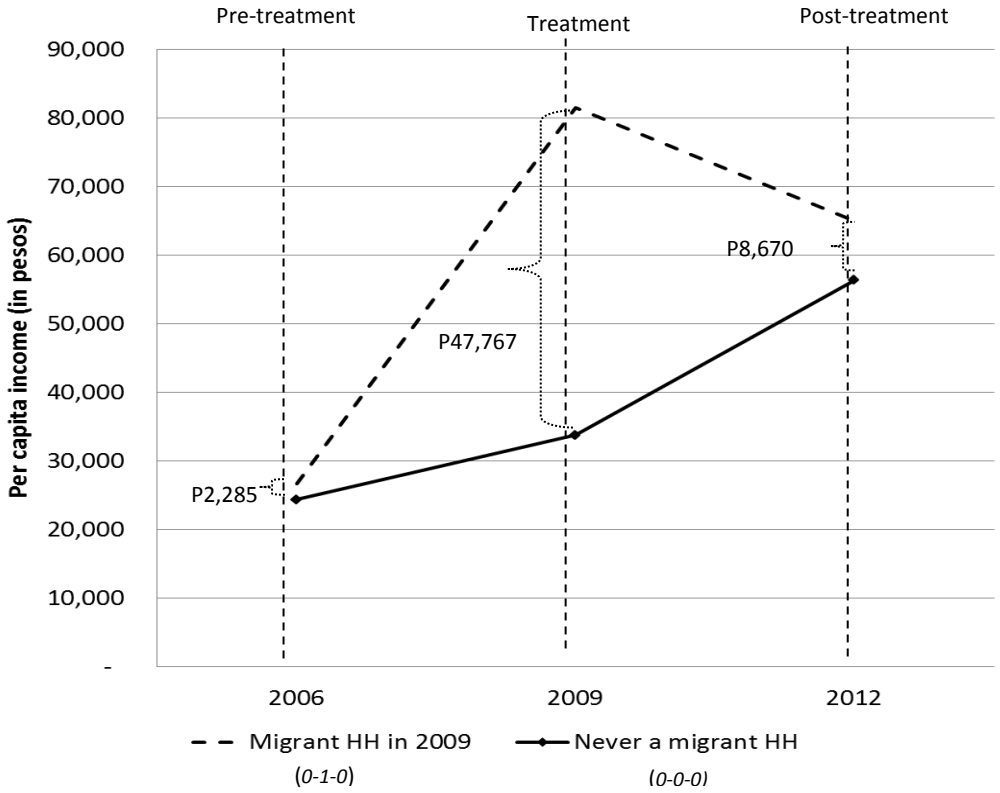
The treatment considered in this study is having an OFW member, which is a time-variant variable. In fact, as discussed earlier, the CBMS panel data of Orion revealed that some households had an OFW member in one particular period and none in other periods. Given this, it is also interesting to see the situation of households prior, during and after the migration phenomenon. The patterns can also give some insights on the possible anticipatory effect, simultaneous effect and lagged effect of having an OFW member. Following Cerulli (2015), consider two specific groups of households based on migration patterns, i.e., *0-1-0* and *0-0-0* as defined earlier in section 4.5.2. The first group refers to household which had an OFW member only in 2009 and none in other periods while the second group refers to households which never had an OFW member over the period covered in this study. The estimated income levels and poverty incidence of the two groups over the three periods are presented in Figure 4.8.

Data showed that the 2009 per capita income of households which had an OFW member in 2009 (*0-1-0*) is significantly higher than those which never had an OFW member (*0-0-0*), i.e., higher by almost P48,000 or by about 142 percent, on average. Note that while the per capita income of *0-0-0* households increased over time, that of *0-1-0* households significantly declined in 2012 after losing an OFW member. Nevertheless, *0-1-0* households remained having higher per capita income than *0-0-0* households with an average difference that is higher than the pre-treatment estimates. In fact, the gap between the income of *0-1-0* and *0-0-0* households slightly increased in 2012 compared to 2006. These patterns may suggest that having a migrant member could contribute significantly to the increase in per capita income. Although losing an OFW member could lead to a reduction in per capita income levels, the income situation of these households with migration experience remained to be higher compared to those which never had an OFW member. In fact, compared to pre-migration levels, the gap between the incomes of these two groups of households have increased after the migrant household lost an OFW member with migrants household being in a better situation. This may imply that migration can also have some lagged effect on the per capita income levels of the households.

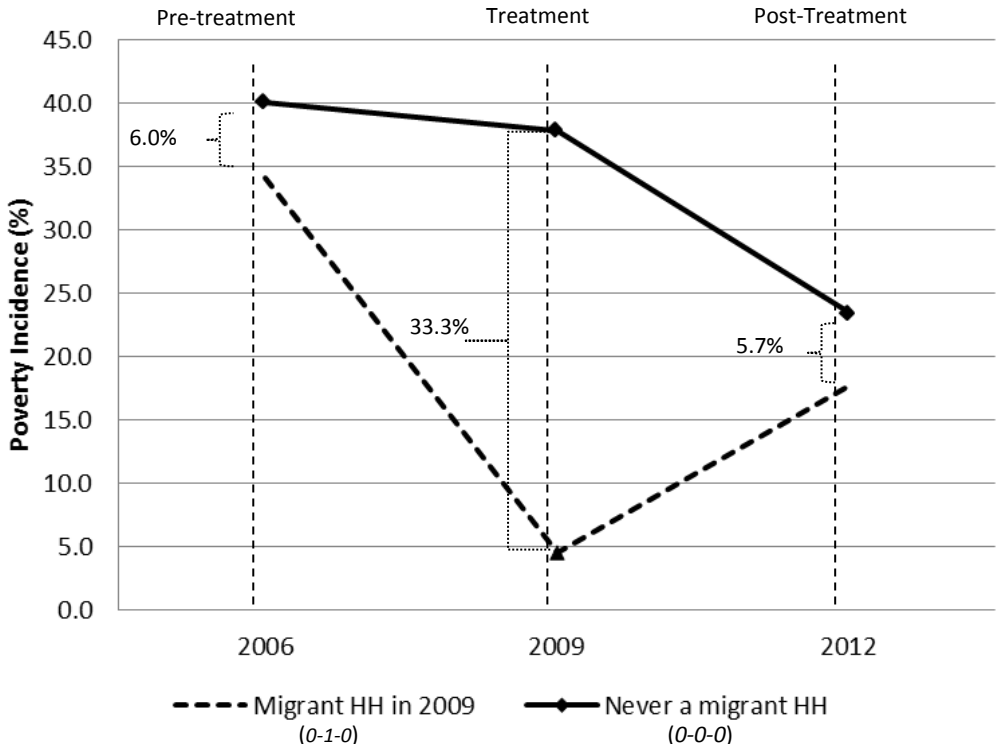
Consistent with these patterns, the poverty incidence of *0-1-0* households is also significantly lower compared to *0-0-0* households in 2009. In particular, the poverty incidence among *0-1-0* households is 33.3 percentage points lower than the estimate for *0-0-0* households. Losing an OFW member brought the poverty incidence among *0-1-0* households to higher estimates in 2012. Nevertheless, their poverty rates remained lower than those of *0-0-0* households during the period. It is also worthwhile to note that the poverty incidence of households which lost an OFW in 2012 did not go back to the pre-treatment levels.

Figure 4.8. Per capita income levels and poverty incidence before and after having an OFW member in 2009.

A. Per capita income



B. Poverty incidence



Note: Total number of observations= 3,042; *0-1-0*= 439 households; *0-0-0*=2,603 households

Source: Author's elaboration using the constructed panel dataset using CBMS data of Orion (2006, 2009 and 2012)

Table 4.8 presents the summary statistics for the key variables that describe the households in the three time periods (i.e., 2006, 2009 and 2012). The demographic characteristics, employment, education and location of the households in Orion have also changed over time. For instance, the average household size and the dependency ratios have declined in recent period. Although the dependency ratio remained to be less than one, the declining trend suggests an improvement in the situation of the households. This declining dependency ratio is more desirable from the point of view of the household since it indicates that there are proportionally more adult members in their productive age who can support the young and the old members over time. In terms of employment, the average number of members with job slightly increased in the latter period while the share of women among household working members remained low compared to men. There is, however, a slight increase in the ratio in the latter period which implies a minimal increase in the role of women in providing financial support for their households. Concerning education, the average years of schooling among adult members increased in 2009 but decline in 2012. Although majority of the households were living in rural areas in 2006 and 2009, a shift to urban area was recorded in 2012.

Based on similar justifications discussed in section 3.5.3, the abovementioned variables as explanatory variables in estimating the impact of international migration. In particular, the fixed effects models were estimated with (log) per capita income or poverty status of households as the dependent variable. The adoption of the fixed effects model is supported by the results of the Hausman test. In fact, the Hausman test for each model presented in Table 4.9 shows rejection of the null hypothesis and hence, fixed effects model is preferred over the random effects model. It is assumed that something within the household may affect or bias the predictor or outcome variables and hence, the need to control for this. The model removes the effect of time-invariant characteristics in order to examine the net effect of the predictors on the outcome variable. Since the interest of this analysis is to determine the impact of international migration, a variable that can also vary over time, the use of the fixed effects model is further justified.

The four estimated fixed effects models showed that the coefficient for the migration status variable, which is our variable of interest, is positive and significant. This again confirms that households with an OFW member have significantly higher (log) per capita income compared to their counterparts, holding other factors constant. In Model 1, it was found that household size and dependency ratio location are negatively related to household's per capita income while the number of employed adult members, the share of female working members, and the average years of schooling are positively related to household's per capita income.

Table 4.8. Summary statistics for the key variables, Orion: 2006, 2009 and 2012.

Indicator	2006				2009				2012			
	Mean	Std. Dev.	Min	Max	Mean	Std. Dev.	Min	Max	Mean	Std. Dev.	Min	Max
Log of per capita income	9.936	0.938	6.060	14.176	10.338	0.941	7.131	14.192	10.736	0.888	7.696	14.225
Income poor	0.332	0.471	0	1	0.276	0.447	0	1	0.243	0.429	0	1
SCI Poor	0.043	0.203	0	1	0.022	0.148	0	1	0.034	0.182	0	1
MPI Poor	0.007	0.082	0	1	0.002	0.043	0	1	0.005	0.071	0	1
Migration status												
Migrant HHs (migrant HH=1; non-migrant HH=0)	0.177	0.382	0	1	0.211	0.408	0	1	0.177	0.382	0	1
Demography												
Household size	5.189	2.066	1	19	5.184	2.094	1	16	4.023	2.032	1	16
Dependency ratio	0.736	0.724	0	7	0.736	0.742	0	6	0.688	0.735	0	6
Employment												
No. of adult members with job	1.428	0.982	0	9	1.422	0.998	0	7	1.476	1.027	0	7
Share of female working members (%)	0.263	0.356	0	1	0.264	0.354	0	1	0.280	0.356	0	1
Education												
average years of schooling of adult members	9.161	2.599	0	21	9.318	2.52	0	21	8.826	2.685	0	18
Location												
Living in urban area (urban=1; 0=rural)	0.422	0.494	0	1	0.415	0.493	0	1	0.608	0.488	0	1

Notes: The number of observations is 4,299 for each year. The dependency ratio is estimated as the ratio of those not typically not in the labor force (members aged 0-14 years old and those aged 65 years old and above) to those who are in their productive age (members aged 15-64 years old). Adult members refer to members who are at least 15 years old, which is the minimum age for an individual to be a part of the labor force based on the Labor Force Survey (LFS), either employed or unemployed.
Source: Author's estimation based on the constructed panel dataset using CBMS data of Orion (2006, 2009 and 2012)

Table 4.9. Fixed effects models (Dependent variable: Log of per capita income)

Variables	Model 1		Model 2		Model 3		Model 4	
	Coeff.	Robust Std. Err.	Coeff.	Robust Std. Err.	Coeff.	Robust Std. Err.	Coeff.	Robust Std. Err.
Migration status								
Migrant HH (migrant HH=1; non-migrant HH=0)	1.142***	0.026	1.029***	0.024	1.082***	0.025	1.025***	0.024
Demography								
Household size	-0.240***	0.005	-0.177***	0.005	-0.208***	0.005	-0.178***	0.005
Dependency ratio	-0.004	0.013	-0.022*	0.012	-0.016	0.013	-0.021*	0.012
Employment								
No. of adult members with job	0.246***	0.011	0.180***	0.010	0.205***	0.011	0.184***	0.010
Share of female working member (%)	0.003	0.027	0.013	0.025	0.002	0.026	0.007	0.025
Education								
Average years of schooling of adult members	0.044***	0.004	0.054***	0.004	0.051***	0.004	0.052***	0.004
Location								
Living in urban area	0.062***	0.019	-0.095***	0.019	0.019	0.022	-0.115***	0.022
Village level characteristics [1/]								
Unemployment rate (%)					-0.022***	0.001	0.012***	0.001
Share of employed persons in the agriculture to total number of employed (%)					-0.013***	0.002	-0.011***	0.002
Propn. of out-of-school children 6-16 years old (%)					-0.0001	0.001	0.001	0.001
Year dummies								
2009 dummy			0.358***	0.015			0.438***	0.017
2012 dummy			0.612***	0.016			0.711***	0.022
Constant	10.483***	0.049	9.962***	0.048	10.927***	0.053	9.908***	0.060
No. of observations	12,657		12,657		12,657		12,657	
sigma_u	0.523		0.521		0.523		0.510	
sigma_e	0.704		0.645		0.684		0.641	
Rho	0.356		0.395		0.369		0.387	
F| Prob > F	473| 0.000		651| 0.000		424| 0.000		505| 0.000	
Hausman test (fixed vs. random)								
Chi^2 | P-value	285.5|0.000		270.8|0.000		435.7|0.000		255.3|0.000	

Note: All variables in each model are significant at 1% level. Inverse probability weight for each household is used to account for attrition based on Fitzgerald, et al. (1998).
[1/] Village level characteristics refer to the barangay level estimates. Municipalities and cities in the Philippines are subdivided into barangays.
Source: Author's estimation based on the constructed panel dataset using CBMS data of Orion (2006, 2009 and 2012)

These results confirm that employment and education are likely to increase income of households. For instance, if a member who is previously unemployed decides to find a job, he can contribute to the increase in the household's per capita income. Household per capita income increases as the number of employed members in the household increases, holding other factors constant.

Meanwhile, a test was also conducted to determine if time fixed effects are required in the model.[51] The test rejects the null hypothesis that the coefficients for all the year dummies are jointly equal to zero and therefore, time fixed-effects are included in Model 2. This means that there are unexpected variations or special events that may have also affected the (log) per capita income of households during the period. The coefficient in the year dummies used in Model 2 shows that household's per capita income is generally higher in 2009 and 2012 compared to 2006. This pattern also suggests a general improvement in the welfare conditions of households in the communities over time as measured by per capita income.

The third fixed effects model (Model 3) presented in the Table includes controls for barangay level characteristics. In particular, Model 3 controls for the unemployment and education conditions in each village which is captured through unemployment rate, share of employed persons in the agriculture to total number of employed and proportion of out-of-school children 6-16 years old. Estimates show that households living in barangays with high unemployment rate and with high dependence on agriculture as a source of income tend to have lower per capita income. The high unemployment rate in a particular community may push some people to accept jobs with lower salary or wages, thereby contributing less to total household income. In the context of the Philippines, individuals employed in the agriculture sector earn lower income, on average, compared to other sectors (for instance, the manufacturing sector). Households living in areas which are still highly dependent on agriculture as a main source of income are more likely to be engaged in a similar activity and hence, may earn lower income compared to those living in areas which are less dependent on agriculture. Furthermore, it appears that households which belong to a community with relatively poor education conditions (as proxied by the proportion of out-of-school children) also tend to have lower income. This variable, however, is not seen to be significant in the estimated model. Model 4 use all the variables identified above as explanatory variables, which shows similar patterns as in Model 3 except for the location of households. In the process of estimating the models, the test for heteroscedasticity[52] was also conducted and the results failed to reject the null of homoscedasticity (i.e., constant variance). Therefore, heteroscedasticity-robust standard errors were estimated for each model.

[51] The *testparm* command in Stata is used to test if the coefficients for all the year dummies are jointly equal to zero.

[52] The command *xttest3* in Stata, a user-written program developed by Baum (2000), is used in testing for heteroscedasticity following the use of *xtreg, fe* command (which is the basic command used in estimating fixed effects model in Stata)

Examining further the four fixed effects model, it is seen that the estimated F statistic confirms that the models are highly significant. The *sigma_u,* which measures the standard deviation of the individual effect α_i is at least 0.510 while *sigma_e*, which measures the standard deviation of the idiosyncratic error $\boldsymbol{\varepsilon_{it}}$ is at least 0.641. The estimated *rho* (which is also known as the intraclass correlation of the error) for the models is at least 0.356 percent. This means that 35.6 percent of the variance is due to the differences across panels.

Furthermore, suppose that the migration status of households is correlated with the time-varying component of the error making the within estimator inconsistent. This means that there is a need to instrument for migration. Using an external variable migration network (*mignetwork1*) again as an instrument, as defined in Equation 3.4 in section 3.5.2, a panel IV model is estimated with (log) per capita income as dependent variable. Consistent with the results of the fixed effects model presented earlier, the panel IV estimates show that households with an OFW member have higher (log) per capita income compared to those without an OFW member, holding other factors constant (Table 4.10). In particular, both Models 1 and 2 show positive coefficient for the our variable of interest migration status, with the first model controlling for household characteristics and external events that happened during the period and the second model, in addition, controls also for the community characteristics.

Meanwhile, estimating the fixed effects logit model for the various binary outcome variables also show some interesting results. In particular, the impact of international migration on income poverty, SCI poverty and MPI poverty were estimated controlling for some household and community level characteristics, as well as specific events that happened during the period (Table 4.11). The results are consistent in showing that households with an OFW member are less likely to be poor compared to those without an OFW member. In fact, the odds of being income poor, SCI poor and MPI poor is significantly reduced. Given the estimated odds ratios, if a household switches from being a non-migrant to being a migrant household, its odds of being income poor gets multiplied by 0.035 which means that having an OFW member helps the household move out of poverty. In particular, sending an OFW member reduces the odds of being income poor by 96.5 percent, holding other factors constant. A similar pattern can be observed when examining the impact on SCI poverty. In particular, the odds of being SCI poor is reduced by 93.4 percent. Meanwhile, the coefficients of the variables are not significant for the model using MPI poverty as the dependent variable. This may be due to the fact that the proportion of MPI poor among households in Orion is low in the first place. Nevertheless, estimated odds ratio is still showing that the odds of being MPI poor can be reduced by having a migrant member. These results again confirm the significant impact of international migration on the poverty situation of households.

Table 4.10. Panel IV model using migration network (*mignetwork1*) as external instrument (Dependent variable: Log of per capita income)

Variables	Model 1		Model 2	
	Coeff.	Robust Std. Err.	Coeff.	Robust Std. Err.
Dependent variable: Log of per capita income				
Migration status				
Migrant HH (migrant HH=1; non-migrant	0.778***	0.109	0.759***	0.109
Demography				
Household size	-0.159***	0.009	-0.159***	0.009
Dependency ratio	-0.025*	0.013	-0.023*	0.013
Employment				
No. of adult members with job	0.145***	0.018	0.147***	0.018
Share of female working member (%)	0.021	0.030	0.015	0.030
Education				
Average years of schooling of adult	0.055***	0.004	0.052***	0.004
Location				
Living in urban area	-0.089***	0.025	-0.106***	0.025
Barangay Characteristics				
Unemployment rate (%)		0.002	0.013***	0.002
Share of employed persons in the agriculture to total number of employed		0.002	-0.010***	0.002
Proportion of out-of-school children 6-16 years old (%)		0.001	0.002*	0.001
Year dummies				
2009 dummy	0.336***	0.019	0.427***	0.019
2012 dummy	0.630***	0.026	0.734***	
First stage regression (Dependent variable: Migration status, i.e., migrant HH=1; non-migrant HH=0)				
Migration network	0.067***	0.004	0.066***	0.004
Demography				
Household size	0.141***	0.005	0.140***	0.005
Dependency ratio	-0.110***	0.011	-0.108***	0.011
Employment				
No. of adult members with job	-0.110***	0.006	-0.110***	0.006
Share of female working member (%)	0.103***	0.013	0.101***	0.013
Education				
Average years of schooling of adult	-0.014***	0.002	-0.015***	0.002
Location				
Living in urban area	-0.010	0.010	-0.005	0.012
Barangay Characteristics				
Unemployment rate (%)			0.0001	0.001
Share of employed persons in the			-0.002**	0.001
Proportion of out-of-school children 6-16			-0.0003	0.0005
Year dummies				
2009 dummy	0.028***	0.007	0.032***	0.009
2012 dummy	0.176***	0.009	0.173***	0.012
No. of observations	12, 508		12,508	
F	361.3		278.9	
Prob > F	0.000		0.000	
F-test for the exluded instruments				
F	326.1		319.3	
Prob > F	0.000		0.000	

Inverse probability weight for each household is used to account for attrition based on Fitzgerald, et al. (1998).

Source: Author's estimation using the constructed CBMS panel data of Orion (2006, 2009 and 2012)

Table 4.11. Fixed effects logit models using poverty status as dependent variable

Variables	Income poor		SCI Poor		MPI Poor	
	Odds Ratio	Bootstrap Std. Error	Odds Ratio	Bootstrap Std. Error	Odds Ratio	Bootstrap Std. Error
Migration status						
Migrant HH (migrant HH=1; non-migrant HH=0)	0.035***	0.006	0.066***	0.047	0.000002***	0.000003
Demography						
Household size	1.557***	0.036	1.521***	0.109	1.209	0.290
Dependency ratio	1.143**	0.070	0.933	0.124	0.569	0.421
Employment						
No. of adult members with job	0.506***	0.029	0.548***	0.070	0.709	0.726
Share of female working member (%)	1.061	0.112	2.190***	0.587	6.689	44.876
Education						
Average years of schooling of adult members	0.879***	0.013	0.761***	0.032	0.500	0.170
Location						
Living in urban area	1.407***	0.148	1.090	0.213	0.522	0.446
Barangay Characteristics						
Unemployment rate (%)	0.964***	0.007	1.069***	0.019	1.127	0.107
Share of employed persons in the agriculture to total number of employed (%)	1.036***	0.008	1.038**	0.018	1.071	0.238
Proportion of out-of-school children 6-16 years old (%)	0.998	0.004	0.996	0.015	1.072	0.084
Year dummies						
2009 dummy	0.557***	0.042	0.642	0.146	0.441	0.897
2012 dummy	0.717***	0.071	2.273***	0.574	1.770	2.364
No. of observations	6,302		1,166		169	
Wald Chi^2	897.6		200.9		75.9	
P-value	0.000		0.000		0.000	

Note*** significant at 1% level; ** significant at 5% level; * significant at 10% level

Source: Author's estimation using the constructed CBMS panel data of Orion (2006, 2009 and 2012)

4.7 Summary and Conclusion

Several local government units (LGUs) in the Philippines have implemented CBMS for more than one round. In fact, there are at least 291 LGUs in the country with more than one round of CBMS implementation as of 13 February 2017 (CBMS-Philippines, 2017). At least 85 of these LGUs have completed at least three rounds of CBMS and these include LGU-Orion in the province of Bataan. Since it is possible to track households over time, a systematic method can be adopted to construct a panel data containing the same households over time. Because Orion is one of the municipalities in the country which recorded the highest concentration of OFWs and is characterized by having sufficient economic activities, it offers an excellent setting for investigating the usefulness of CBMS panel data in understanding international migration and its link to poverty.

In constructing the panel dataset, a specific definition of the same household was used to match the households in Orion covering the three rounds of their CBMS implementation. In particular, a household in the current time period is considered the same as the household in the previous time period if there is at least one common member (except household helper) in both periods. This research attempts to follow the standard CBMS definition of the same household although the condition that the household should be living in the same dwelling unit is dropped in this research. For LGUs that are implementing another round of CBMS, CBMS-INCT encourages LGUs to assign the same household ID (*hcn*) as in the previous round to the household that is identified to be the same given the definition. However, it appears that this is only partially implemented by LGU-Orion during their CBMS field survey operations in 2012. In fact, only about a quarter of the 4,299 actual matches generated by the researcher were assigned the same household ID in 2009 and 2012. Given this, the researcher had to match the households using the information on its members, including their name, age and sex. The matching resulted in a total of 4,299 panel households which are found to be present in the three-year period covering the years 2006, 2009 and 2012.

It is acknowledged that the definition adopted in this study to identify the same household also has its limitations. For instance, since the definition of the same household is very relaxed as only one member of the household is required to be present in both periods, there are possibilities that some characteristics of the matched households will be different. In addition, it is possible that the migration status of the household will be affected by the changes in the household structure and composition. As in any other panel data analysis, attrition is one of the potential challenges that need to be addressed. Although our variable of interest, i.e., migration status, is found to be not highly correlated with attrition, it appears that attrition will not be a big concern. However, further tests were conducted and the results revealed that can be an attrition problem based on the other household characteristics. Given this, the inverse probability weights were used in the estimation following Fitzgerald, et al. (1998) to account for attrition.

Meanwhile, since the panel was generated by matching the same household, another important limitation of this panel dataset is that which concerns the examination of the characteristics of OFW members of these panel households. If the interest is on the OFW members, tracking individuals (including OFWs) instead of households would be more useful. This could be one of the possible areas for future research that can help refine the estimates concerning OFWs. In addition, tracking individuals instead of households can help refine the identification of the same household since the existing CBMS dataset contains information on all individual members of the household. This could provide a clearer understanding of the changes in the patterns, changes in the family structure and some possible reasons for the shifts from being a migrant household to non-migrant household and vice versa.

Although identifying the same household as defined in this study has some limitations, it offers a more practical way of matching the same households which can be adopted by LGUs in the Philippines given their capacity and the local context as it attempts to minimize the errors in matching the same household. In fact, the requirement that the households should have at least one common member is being used not only by CBMS but also by PSA and other researchers in the Philippines (e.g., (Mina & Imai, 2016). It is deemed that adopting a more complicated definition of the same household will also make it more difficult for the LGUs to adopt the same method for the purpose of analyzing their existing CBMS data over time. The LGUs in the Philippines with more than one round of CBMS may adopt a similar technique employed in this research in order to take full advantage of the availability of household level data for different periods. Nevertheless, given the difficulty in matching the same households after the data have been collected, it is strongly recommended that LGUs implementing another round of CBMS should assign the same household ID to the same household during the field survey operations. While this will entail more thorough training of the enumerators and field supervisors in terms of identifying the same household, it will make generation and the processing of panel data much easier for the LGUs. Given the recently increasing number of LGUs implementing CBMS in more than one round, the adoption of the CBMS-APP[53] using tablets during data collection can help facilitate the identification of the same household and individuals.

The use of the CBMS panel dataset has an important advantage over the other panel datasets used in earlier studies which merged datasets from different national surveys to generate a dataset that contains all the variables needed in the analysis, e.g., Ducanes and Abella, (2008b), Ducanes (2015). In using CBMS panel data, all variables required in the analysis come from the same database. In particular, the data contained in the database are collected using a single data collection instrument, thereby having more consistent variable definitions and reference periods. Employing panel data techniques in the analysis takes into account the time dimension, thereby addressing some of the limitations of the cross-section data. In fact, it allows one to control for variables that cannot be observed or measured (e.g., beliefs and cultural factors) or variables that

[53] See (Reyes, et al., 2014a) for more details about CBMS-APP.

change over time but not across entities (e.g., national and local policies and regulations). At the same time, it reduces the problems of identification in the presence of endogenous regressors. Estimates based on panel data are also usually more accurate since panel datasets since explanatory variables vary over two dimensions (i.e., individuals and time) instead of only one (Verbeek, 2012).

Based on the available information, there is no study yet in the Philippines which employed an in-depth analysis of CBMS panel data, particularly in understanding international migration and its relationship with poverty. This study, in fact, was able to demonstrate how the CBMS panel dataset can be used this kind of analysis. For instance, the constructed CBMS panel data allowed us to examine the patterns in migration and poverty among households over time. In particular, it has been useful in examining how per capita income levels and poverty status change as migration status of the household change over time. It has been found that having an OFW member during the reference period has the potential to increase the per capita income of households. Although losing an OFW member can also lead to a decline in per capita income of migrant households, their per capita income level remains relatively higher compared to those which never had a migrant household. In fact, compared to pre-migration levels, the gap between the incomes of these two groups of households has increased after the migrant household lost an OFW member with migrant households being in a better situation. This may imply that migration can also have some lagged effect on the per capita income levels of the households.

The use of the constructed panel dataset containing information on the same households over a three-year period is also an important contribution of this study as it attempts to address some of the methodological challenges in estimating the impact of international migration. In fact, this study employed some panel data techniques in the analysis (including fixed effects and panel IV estimation) results of which again confirmed the positive impact of international migration. However, further examination of the data may be explored in future research to determine which specific sub-groups of households are likely to gain the benefits. Concerning the instruments used, aside from the migration network variable (i.e., *mignerwork1*), it is also useful to explore the use of the distance variable (proxy for migration costs) as instrument for migration in employing the panel IV method. The specific location of the households being collected through the recently-developed CBMS-APP can be explored in order to have an accurate measure of distance at the household level. In addition, other econometric methods can also be employed in future research in order to address the limitations of the previous techniques and check the robustness of the results. For instance, since panel data allows the dependent variable to be observed over time, it is possible to estimate a dynamic model that includes its lagged value as one of the regressors. This is based on the assumption that the current status or behavior is dependent upon previous status or behavior. In particular, according to Arellano and Bond (1991) an IV estimation of the parameters in the first difference (FD) model using appropriate lags of the regressors as instruments can provide more consistent estimates. Furthermore, as seen in the three-period panel dataset, households can have different patterns in migration. For instance,

some households for the three period covered can be classified as always a migrant household, never a migrant household, migrant household in the first period only, migrant household in two periods, etc. Given this, it is also interesting to explore in future research the potential impact of migration based on these different migration patterns. The analysis could also be expanded to include other household outcomes as dependent variable, particularly those capturing the non-monetary dimensions of poverty.

5 Addressing the Migration Data Gaps in CBMS: A Pilot Census in Two Selected Villages in the Philippines

A more comprehensive understanding of international migration and its impact on poverty in the Philippines is challenged by the limited data at a more disaggregated level. Although existing national surveys (e.g., FIES, SOF, and LFS) collect relevant migration and remittances data, the information cannot be disaggregated down to the local level which should have been useful for local level planning. In fact, given the sampling design of these surveys, it is possible that some local governments may be missed or may have very few households covered which cannot be used to provide reliable estimates that are useful for local planning. At the same time, each of these surveys collects limited information on migration and remittances which prevents a more comprehensive examination of the relationship between international migration and poverty. Although data from these existing national surveys can be merged to come up with a dataset that includes all key variables, there is still a limitation in terms of the reference periods and conceptual definitions used. Given these limitations, the Community-Based Monitoring System (CBMS), as discussed in section 1.1, can complement the existing national datasets. Although it is used mainly as a local poverty monitoring tool by the LGUs in the Philippines, it generates a very rich database that can be used to examine and understand many development concerns. An examination of the existing CBMS cross-section and panel datasets as presented in Chapters 3 and 4 revealed that, indeed, some migration-related information are collected through CBMS, which allowed analysis of the relationship between international migration and poverty. However, the analysis conducted in these earlier chapters also pointed to some of the limitations of the current CBMS datasets which prevents a more comprehensive analysis on this topic.

Given the above, this Chapter aims to address the gap in migration data in the Philippines, particularly in terms of collecting additional household-level data which are necessary to understand the key migration issues that are relevant both at the local and at the national level. The additional data is aimed at providing a more thorough understanding of the migration phenomenon and how it can affect poverty among households. This Chapter consists of seven major sections. The first section discusses the research and data collection strategy adopted in this study while the second section presents the instruments used to collect both quantitative and qualitative data. In this section, the CBMS-HPQ versions used are examined and rationale for including additional questions in the rider questionnaire is explained. After explaining how the study sites were selected in the third section, a description of the poverty and migration profile of the two selected barangays is presented in the fourth section. The fifth section explains the key migration issues that were identified based on the collected data using the rider questionnaire. In particular, it discusses the role of migration networks, the measures of illegal migration, the patterns in return migration, remittance receipts and spending, changes in family structures and relationships and impact on children. The sixth section examines further the potential impact of international migration by first

comparing the pre- and post-migration status of migrant households. Similar to the previous chapters, this section also employs the IV method to estimate the impact of international migration on poverty given the concerns on the endogeneity of migration decisions. The migration network is also used as an instrument for migration but this Chapter makes use of a slightly different definition which will be explained in more detail in this section. Furthermore, to complement the analysis using the objective measures, this section also discusses the subjective measures of the impact of international migration which are based on the opinions of the respondents on the different migration issues. At the same time, the overall impact on communities is also examined based on the additional information collected through the qualitative techniques and based on the opinions provided by the respondents on relevant issues. The last section presents the summary and conclusion.

5.1 Research and Data Collection Strategies

Given the objectives of this study, one important component of this research is the review of the latest available CBMS-HPQs and identification of relevant migration questions contained in this data collection instrument. This also helped determine the specific information that are lacking in the current CBMS-HPQ given the various migration issues that are identified based on the review of the literature in Section 2. The new data collection instrument is designed to include the questions needed to obtain the necessary information that are not available in the CBMS-HPQ. The intention is to administer this new data collection instrument as a rider to the current CBMS-HPQ.

Following the CBMS methodology, this research was conducted with the participation of the local people, in coordination with the officials from the barangays and their respective municipalities (in the case of both barangays) and provinces (in the case of Barangay Saguing), as necessary. Prior to the conduct of the actual data collection, several field visits and meetings were conducted to explain the objectives of the research to the local officials and to prepare for the research-related activities. The requirements of the field work were also discussed during the meetings, e.g., some logistical concerns and the need for local enumerators who will participate in the data collection. The approval and support of the local officials was sought in order to help ensure smooth conduct of the planned activities.

Although the researcher is involved in all aspects of the field survey operations, additional enumerators were hired to assist in the data collection. In particular, in line with the CBMS methodology, the local people are tapped to assist in the conduct of the household interviews. As much as possible, enumerators in the previous CBMS rounds were tapped to assist in the data collection, which is particularly the case for Barangay Saguing. Given the schedule of the field activities, the availability of the enumerators and the unique characteristics of the study area, more CBMS enumerators were tapped to assist in the activities in Barangay Villa Angeles. When planning for the CBMS activities in Barangay Villa Angeles, it coincided with the ongoing CBMS implementation for the

entire municipality of Orion. To avoid duplication of activities, coordination was done with LGU-Orion to ensure that the planned activities would be implemented as scheduled. Since LGU-Orion, at that time, had decided to tap college students[54] from the municipality of Orion to serve as enumerators, the same group of enumerators were trained and hired to help in conducting the data collection in Barangay Villa Angeles.

All enumerators were required to undergo training in order to help ensure that they can properly administer the census. They are trained on how to administer both the CBMS-HPQ and the rider questionnaire. Aside from providing practical guides on how to conduct the interviews, the training ensured that enumerators have the correct understanding of the key concepts covered in both questionnaires. The training also involves some practical exercises to help ensure that the enumerators are prepared to conduct the household interviews. After conducting the relevant trainings, the data collection was conducted in November 2013 and in May 2015 in Barangay Saguing and in Barangay Villa Angeles, respectively, with revisits that were conducted in the succeeding weeks or months until all households, to the extent possible, are covered.

Using the standard CBMS-HPQ and the rider questionnaire that was developed under this research, household interviews were conducted in the two barangays. For the standard CBMS-HPQ, the paper-based census was implemented in Barangay Saguing while the CBMS-APP-based[55] census was conducted in Barangay Villa Angeles with enumerators using "tablets" during the actual interviews. For the rider questionnaire, the paper-based census was administered in the two barangays. Recall, however, that since the census was first conducted in Barangay Saguing, the rider questionnaire that was implemented in Barangay Villa Angeles was slightly revised to incorporate a few changes. The major changes in the second version of the rider questionnaire are described in the next section. These data collection instruments are in the Filipino language allowing for a much clearer understanding of the questions both for the enumerators and the respondents. Aside from these two household data collection instruments, the CBMS Barangay Profile Questionnaire was also administered in order to collect additional barangay level information that are useful in understanding the local context.

Again, as one of the important features of CBMS, all households in the study sites must be covered, to the extent possible. In line with this, a household master list was generated by the researcher using the previous CBMS dataset of each barangay to help ensure that all households would be accounted for. Every effort was made to cover all

[54] College students were available to participate in the trainings and serve as enumerators since the CBMS data collection activities were conducted during the summer period (i.e., May 2015). Hiring these students as enumerators is also under LGU-Orion's implementation of the government's Special Program for Employment of Students (SPES) which encourages employment during summer or Christmas poor but deserving students to pursue their education by augmenting their income through employment during summer or Christmas vacations.

[55] This refers to the adoption of the CBMS-Accelerated Poverty Profiling which is one of the recent innovations of CBMS-INCT that entails the use of latest information and communication technology tools (e.g., tablets) in implementing CBMS (Reyes, et al., 2014a)

households in each barangay. In many cases, revisits were scheduled for households where there is no available qualified respondent during the first visit. Following the standard requirement for the census, the most qualified respondent for the interview is the household head or the spouse but another adult member of the household who can provide accurate information about the household can also qualify as a respondent in cases the head or his spouse is not available at the time of the visit. In case, there is no qualified respondent at the first visit, it was noted in the list and a revisit was scheduled to ensure that the household will be covered. Although enumerators were trained on how to ensure completeness and accuracy of the information collected, there were still instances of missing responses in some of the questions. This highlights the importance of field editing in ensuring the completeness and consistency of the entries in the questionnaire. Again, in an effort to collect complete information for each household, revisits were also scheduled for households whose questionnaires were found to have some missing information after the questionnaires have undergone field editing.

Based on the master list for each barangay and during the course of the field work, it was found that several households no longer reside in the community and had moved to other places (e.g., in nearby municipalities or cities or abroad) resulting in a decline in the number of households covered compared to the previous CBMS round. In addition, there were houses/households whose owners/members are all residing abroad during the reference period which is very common in Barangay Saguing. In fact, 53 houses in the barangay were left unoccupied by the migrant members based on the CBMS census conducted in the barangay. These households are usually maintained by a caretaker who, in most cases, is a relative of the owners and who is also living within the barangay. There were also very few household occupants who declined to participate in the census despite all the efforts made.

After the household interviews and field editing, the responses in the paper-based interviews were encoded and processed. In the case of Barangay Villa Angeles where tablets were used in administering the CBMS-HPQ, the responses were directly encoded in the tablets where the CBMS encoding system is installed. However, further checking was done in the encoded data with some assistance from the technical personnel of LGU-Orion to help ensure accuracy and completeness of the collected data. On the other hand, in the case of Barangay Saguing, which used paper-based CBMS-HPQ, all field-edited questionnaires were encoded in the computers using the installed CBMS encoding system[56] provided by CBMS-INCT. Meanwhile, the researcher developed a Microsoft Excel-based encoding system taking advantage of the "data validation" feature of Microsoft Excel which restricts the type of data and acceptable values for each cell. This helped minimize errors in encoding of the field-edited CBMS rider questionnaires in both barangays. The encoded data in Microsoft Excel is, then, exported to Stata for further processing. In preparing the dataset, the appropriate variable names and labels were assigned for all information collected using the rider questionnaire.

[56] The author is grateful for CBMS-INCT for providing the CBMS encoding system that is used in encoding the field-edited CBMS-HPQs in Barangay Saguing.

Using the encoded data for both the CBMS-HPQ and the rider questionnaire, the initial results of the census were generated and presented to the community residents, officials of the barangay and some technical personnel from the municipality (in the case of both barangays) and province (in the case of Barangay Saguing). The community validation activity was conducted on 30 October 2014 in Barangay Saguing and on 29 January 2016 in Barangay Villa Angeles. These community validation activities are also in line with the CBMS methodology aimed at ensuring that the results of the census reflect the actual condition in the community. These activities also provided an opportunity to get feedback from the community regarding the issues and problems identified based on the results, as well as find some explanations and solutions to relevant issues.

To enrich the analysis, some qualitative techniques were also employed to collect additional information about the different migration issues. In particular, although the implementation of CBMS already includes the conduct of community validation activities as mentioned above, collecting more qualitative information is also found to be useful. The additional qualitative information which were collected through direct observation, informal interviews with residents and local officials and focus group discussions (FGDs) in the two barangays complemented the quantitative data. During the fieldwork, the researcher, through direct observation, gained further understanding of the local context. The researcher also had an opportunity to have more interactions with the locals, particularly in Barangay Saguing, when she had an opportunity to live with a household with a return migrant, as well as in a house owned by a current migrant. Aside from household interviews conducted as part of the CBMS census, the informal discussions with the people in the two barangays, including the local officials, have been useful in identifying the different issues facing migrants and their families. Furthermore, the community validation activities, which were conducted as part of the standard CBMS methodology, provided an opportunity to present the initial results of the census to the members of the community, including the residents and the local officials. Although one of the main objectives of the presentation is to validate and determine whether the results reflect the actual condition of the community, the activity also provided a venue to get feedback from the community residents about important problems of their community based on the initial results of the census.

Meanwhile, the FGDs conducted in the two barangays, in coordination with the residents and the local officials, allowed the researcher to get more information from the residents, including their insights on the various migration issues. The FGD was conducted on 11 July 2015 in Barangay Saguing and on 25 July 2015 in Barangay Villa Angeles. Unlike in the community-validation activities, the FGDs conducted are focused on a deeper understanding of the different migration-related issues. Before the conduct of the FGDs, a focus group discussion guide was developed by the researcher keeping in mind that it should be flexible enough to accommodate new questions. The guide lists all the important questions that need to be raised during the FGD. However, during the discussion, the facilitator can ask follow-questions depending on the responses provided by the participants. The researcher served as the facilitator during the FGDs while another person was tasked to record and document the responses of the participants.

Before the discussion, the purpose and expectations from the activity were clearly explained to the participants. The participants of the discussion include members of both migrant and non-migrant households living in each village. There were also return migrants who were able to share their experiences as migrants themselves. After discussing all the issues listed in the FGD guide, the participants were also asked to rank as a group the opinion questions listed in section H1 of the rider questionnaire which capture the different aspects of the potential impact of international migration, in general. This allowed further discussions among the FGD participants as the different migration issues contained in the list (e.g., impact on children and on relationship between husband and wife, impact on the communities, etc.) are raised while they were deciding on the ranking. The FGDs also provided a venue for the participants to share their stories and personal opinions on important migration issues given their own knowledge and experience in living in the community. The information obtained through these various methods helped in finding explanations for the results of the quantitative analysis and these were incorporated in the discussions in this Chapter to the extent possible.

5.2 Data Collection Instruments

5.2.1 The CBMS Household Profile Questionnaire

As mentioned in the previous chapters, LGUs must use the latest available version of the CBMS-HPQ when they implement CBMS. Since the data collection was conducted in the two barangays in two different periods, i.e., November 2013 and in May 2015 in Barangay Saguing and in Barangay Villa Angeles, respectively, two different versions of the CBMS-HPQ were administered. In particular, the CBMS-HPQ version 01-2011-01 (Annex C) is used in Barangay Saguing while CBMS-HPQ version 10-2013-01[57] (Annex D) was administered in Barangay Villa Angeles.

Based on the review of the standard CBMS-HPQs presented in the earlier chapters, it is acknowledged that migration-related data collected using these questionnaires are rather limited. At the household level, it collects information that can distinguish migrant households from non-migrant households and obtains information on the total amount of remittances (in-cash and in-kind) received by the household from its OFW member in the last 12 months. Although the questionnaire also collects data on other cash receipts, gift, support, relief and other income from abroad (other than from the OFWs), it provides an aggregate measure of the amount that also includes pensions, retirement, workmen's compensation and dividends. Hence, it is also not possible to have information on other remittances received from other relatives who are not part of the household.

[57] A more updated version of this questionnaire is CBMS-HPQ 11-2014-01 which basically contains the same set of migration-related questions.

Meanwhile, at the OFW member level, the CBMS-HPQ has undergone a few refinements particularly in terms of the extent of information that is collected for each OFW member. Unlike in CBMS-HPQ version 01-2011-01, the CBMS-HPQ version 10-2013-01 immediately asks on the first page the number of household members who are considered as overseas workers. This can guide the listing of household members in the next page of the questionnaire. Although both versions of the questionnaire adopt similar definition of OFW (see section 3.2 for the definition of OFW, particularly the discussion referring to CBMS-HPQ 01-2011-01) the CBMS-HPQ version 10-2013-01 explicitly indicates the cut-off age of 10 years old for OCWs who would fall in the specific categories of OCWs as listed in the manual. Given this, there might be a need to review this latter definition of OCW which uses this age as cut-off since an overseas contract worker as defined is one who fulfilling a work contract abroad. A more appropriate term may be overseas Filipinos rather than OCW.

Using the CBMS-HPQ version 01-2011-01, all relevant member-level information is collected for the OFW member (including demographic characteristic, migration information, education and literacy, and political participation). However, with the revisions incorporated in CBMS-HPQ version 10-2013-01, detailed questions pertaining to economic activity and other relevant characteristics as listed in items 9, 11, 12 and 13 in Table 5.1 are no longer collected. At the same time, the country where the OFW member is working is no longer asked in this updated version of the CBMS-HPQ. The decision to drop these questions is made by the Technical Working Group (TWG) involved in updating the CBMS questionnaires during that period in line with the call to harmonize all questionnaires that are being used in various surveys and censuses in the Philippines. Aside from the representatives of the CBMS International Research Network, included in the TWG are representatives from NAPC, DILG, PSA, NSCB and the Department of Social Welfare and Development (DSWD). Based on the agreements during the TWG meeting, these information and data concerning the country where the OFW member works is already collected by other agencies in the Philippines, including, for instance, the CFO. However, it is not possible to merge the data from CBMS and CFO to have in one dataset the information on the country and other individual characteristics of the OFW.

5.2.2 Rider Questionnaire to Collect Additional Migration-related Information

Although some important migration-related information are already collected in the standard CBMS[58], this research developed questionnaire containing additional questions which are deemed useful in having a more comprehensive understanding of the migration phenomenon in the context of the Philippines. This questionnaire, which serves as a rider to the standard CBMS-HPQ, is a 5-page questionnaire that collects

[58] In 2016, CBMS-INCT, with support from the UN-Women, developed and pre-tested a rider questionnaire which is designed to collect information on women migrants and return migrants. Note that the focus in on female migrants and excludes male migrants.

relevant migration-related information which are not captured in the standard CBMS-HPQ. In particular, there were questions that ask additional information on the following areas[59]: 1) return migrants; 2) more information about current migrants, including migration history and changes in their family structure and relationship due to migration; 3) role of migration networks; 4) individual remittance sending pattern and household remittance spending pattern; 5) household's living conditions prior to first migration experience; 6) investments made by the migrant households; 7) access to programs that specifically target OFWs and their families; 8) opinions on various migration issues and 10) some measures of illegal migration, particularly for migrants from Barangay Villa Angeles. The motivations for including additional questions on these topics are explained in the succeeding paragraphs.

Return migrants. One important channel by which international migration can affect individuals, households and communities is through the return of migrants. In fact, the acquisition of new skills and education of migrants at the country of destination could benefit the origin households and their communities upon their return (Murrugara, Larrison, & Sasin, 2011). For instance, people who returned from their work abroad can bring with them new skills or ideas (e.g., new language, professional skills, life skills, etc.) which they can use, for instance, in establishing new livelihood activities in the communities. This can benefit not only the migrants and their families but also the other members of the communities. Furthermore, Wahba (2015) highlighted that one of the benefits from return migration is that it can ease credit constraints among migrants, especially for those who were able to accumulate savings abroad, allowing them to set up a business when they return. Migrants may earn higher wages upon return if they invested in their human capital while abroad. However, one of the limitations of the standard CBMS-HPQ is the lack of questions that will identify a return migrant or if return migrant is preset in the household. At the same time, no information is collected on whether these return migrants set up a business or reintegrate in the domestic labor market which will have implications on how their households benefit from international migration. This information will also help local planners in terms of designing reintegration programs. The collected data, if expanded to more sites, can generate a database of return migrants which is currently lacking in the Philippines. This database, for instance, can help in targeting return migrants when implementing a specific reintegration program. At the same time, it is important to know if some of these return migrants still plan to work again abroad and hence, a different type of program may be necessary.

[59] The contents of the rider questionnaire is also based on the review of the questionnaires used in the Survey of Overseas Filipinos (SOF) in the Philippines, as well as the data collection instruments developed for the joint project of the Institute for Public Policy Research (IPPR) and the Global Development Network (GDN) entitled "*Development on the Move: Measuring and Optimising Migration's Economic and Social Impacts*" by Chappell, Agelescu-Naqvi, Mavrotas, & Sriskandarajah (2010).

Table 5.1. Migration-related information collected using CBMS-HPQ versions 01-2011-01 and 10-2013-01

	Information collected	CBMS-HPQ Version	
		01-2011-01	10-2013-01
		Saguing	Villa Angeles
HOUSEHOLD LEVEL	1. Indicator for having an OFW member	✓	✓
	2. Amount of remittances (in-cash and in-kind) received by the household from its OFW member in the last 12 months	✓	✓
	3. Other cash receipts, gift, support, relief and other income from abroad including pensions, retirement, workmen's compensation, dividends from investments, etc.	✓	✓
MIGRANT-LEVEL (i.e., OFW member)	4. Name of the OFW member	✓	✓
	5. Relationship to the household head	✓	✓
	6. Country where the OFW member is working	✓	
	7. Type of occupation abroad	✓	✓
	8. *Demography*: sex, date of birth, birth registration, civil status, religion, indigenous group	✓	✓
	9. *Migration*: Length of stay in the barangay, place of residence prior to moving to the barangay	✓	✓ (place of residence 3 years ago)
	10. *Education and literacy*: if member is studying, current educational level; type of school (private or public), highest education attainment; literacy	✓	✓
	11. *Community/Political participation*: membership in a community organization; type of community organization; registered voter; able to vote in the last election	✓	✓ (registered voter; able to vote in the last election)
	12. *Economic activity*: if member has a job/work- type of job/work; industry/sector; nature of employment; number of hours worked in the past week; desire for longer hours of work; looked for additional work; class of worker; if a member does not have a job -looked for work in the past week; job search method; reasons for not looking for work; last time the member looked for work; current availability for work; willingness to do work; membership in Social Security System (SSS) or Government Service Insurance System (GSIS)	✓	
	13. *Characteristics of household members*: passed the board or bar exam; profession passed in the board or bar exam; solo parent; reason for being a solo parent; with physical or mental disability; type and cause of disability; ownership and use of a Persons with Disability (PWD) identification (ID); senior citizens; ownership and use of a senior citizen's ID	✓	

Note: To date, the latest version of CBMS-HPQ is version 11-2014-01. This version collects the same set of migration-related information as in CBMS-HPQ version 10-2013-01.

More information about current migrants[60]. Although some pertinent information about the current OFWs are collected in the standard CBMS-HPQ, there are no available information that will provide a much deeper understanding on how the migration of a household member can affect their families back home. In particular, it would be useful to know the economic activities and earnings of the migrants prior to migration. This can give an idea on how the movement of the member abroad will affect their household income. For instance, if migrants earn higher income or send remittances which is higher compared to their pre-migration income, it can indicate an improved living conditions based on income measure. Furthermore, it is also useful to determine the length of stay abroad, frequency of coming home and frequency of communication with their families back home. The length of stay abroad can have an effect on the degree to which international migration can affect households. For instance, recent migrants could still be adjusting to their work and living conditions abroad and hence, some of them may not be able to send remittances at the initial period of their stay abroad. At the same time, some of them may be still be paying their migrations costs. Given this, it is likely that migrants who have stayed for abroad for a short period may not generate an impact yet on their household. Meanwhile, the frequency of coming home and communication can indicate the degree of ties that exist between the migrants and their families in the Philippines. For instance, having a migrant who are able to come home more frequently or are able to communicate with their families more frequently are more likely to send more remittances or have more influence on household as compared to those who are able to do so in a less frequent manner.

To understand some social implications of international migration, it is also useful to collect information on how the migrant's relationship with his family is affected due to his migration. For instance, the impact on members left behind may be different if the head of the household is the one who migrated rather than any other members of the household. The head of the households normally plays a bigger role in the family and leaving his family back home can affect the relationships and the dynamics within the household. In addition, it is useful to capture the changes in the relationships between husbands and wives and between parents and children because of migration. Furthermore, since CBMS-HPQ version 10-2013-01 drops the country of destination in the list of questions, this information is collected in the rider questionnaire. At the same time, the specific location of migrant abroad could be useful in determining where the migrants are concentrated within a particular country, which could be useful in understanding the importance of social networks not only at the level of country but also at the level of city. Hence, the questionnaire asks questions on the specific name of the city where the OFW is working. However, unless the question on country of destination is included again in the CBMS-HPQ, the rider questionnaire should retain this question.

[60] In the rider questionnaire, the current migrant is termed as "absent migrant" so that enumerators can easily understand the concept and can easily distinguish them from the "return migrant". Note that the rider questionnaire that was administered in the two barangays is in the Filipino language.

Role of migration networks. In earlier studies, e.g., McKenzie (2006) and Winters, de Janvry and Sadoulet (2001), the importance of migration network has been highlighted, particularly in terms of increasing the probability of other members of the community to migrate as well. In fact, Winters, de Janvry and Sadoulet (2001) highlighted that the community can have as much influence on the decision to migrate as the potential migrant's relatives in influencing the likelihood of migration. Earlier migrants could be the source of information about opportunities abroad and conditions about the destination country and hence, can potentially lower the costs of subsequent migration (Massey, 1990; Munshi, 2003). Recall that the data collected through CBMS allows for the generation of a migration network variable, which is defined earlier in Chapters 3 and 4 as the share of migrant households to total number of households in the barangay interacted with the number of adult members in the household. However, to help improve the measure of migration network, this research collected additional information on how the migration network is actually helping or encouraging the people to migrate. For instance, migration network can actually be a source of information, financing and other forms of assistance for the potential migrants, before, during and after migration. These include, for instance, assistance to finance migration costs or provision of accommodation during the first migration episode. For people who moved abroad without a job ready (including those who move abroad through backdoor means or who are holding a tourist visa but with a plan of working and staying abroad), the presence of migration networks can also play a role. For instance, knowing somebody who is living abroad could help these people find a job. Therefore, additional questions concerning these are added in the rider questionnaire with the aim of developing a new instrumental variable that can also capture migration network.

Individual remittance sending pattern and Household spending pattern. As highlighted by Ducanes (2010), migration statistics in the Philippines collected through FIES faces a problem of "missing remittances". In particular, the amount of remittances based on FIES is found to be underestimated as the estimates are significantly lower than the estimates from BSP and World Bank. He explains that these could be due to the rise in electronic banking, the increase in the amount of remittances spent on real estate and undercounting of overseas workers in household surveys. These important limitations in the FIES may be addressed by administering the CBMS-HPQ together with the rider questionnaire that was developed for this research. This is primarily because, as designed, the questionnaires collect information on all remittances received by the households which are sent through informal and formal channels (including banks), while at the same time, capturing the remittances spent on purchase of real estate. The issue of undercounting in household surveys may also be addressed since CBMS is a census of all households in a particular community, thereby collecting information on all overseas workers in a particular area. In an ideal scenario, implementing CBMS-HPQ and the rider questionnaire in more sites in the Philippines, to the extent possible can provide a very rich database that can address the limitations in migration data in the country.

Although the standard CBMS-HPQs reviewed collects information on the amount of remittances (in-cash and in-kind) received by the household in the last 12 months, there is no available information on the dynamics by which OFWs are sending these remittances. Since the information is an aggregate amount of all remittances received from all OFW members, it does not provide information on the amount of remittances sent by the individual migrants which helps in determining the differences in the patterns of remittance sending across migrants with different characteristics. While the frequency and mode of sending remittances adopted by the migrants can be due to many factors, the pattern can provide some indication on the availability and accessibility of money transfer facilities in a particular country of destination. This can also be linked to the amount of remittances received by migrant households.

Furthermore, some recognize that women are trusted more by migrants in taking control of the remittances they send to their households, as in the case of Filipino migrants in Italy (International Organization for Migration, 2004). It is assumed that if women are trusted to claim the remittances, it is more likely for them to have more control[61] over the remittances compared to the other members of the households, especially if remittances is sent for use of the entire household and not for a specific member of the household only or for a specific purpose. It is generally recognized that the way remittances is spent is an important factor that determine how international migration and remittances could affect households. For instance, remittances spent on human capital, such as education of the children, could have greater impact on the household welfare in the long run. Hence, collecting information on who claims the remittances sent by the migrants will help confirm this pattern.

Aside from directly benefiting their households through remittances, international migrants can also be a source of financial support for their communities. Hence, it would be useful to know whether international migrants are sending support to their communities in the form of remittances. Moreover, an emerging issue in the area of migration is what is called the "reverse remittances", which basically refer to money sent from non-migrants to migrants abroad to support them in difficult times or to finance education and housing[62]. Given this, it is also interesting to see whether this pattern can also be observed in the context of the Philippines. For instance, sending money to migrants abroad, particularly during difficult times, could indicate a deeper problem that need to be addressed. On the other hand, sending remittances to the migrant, especially in-kind remittances, may also indicate strong ties between the migrant and his family back home. For example, non-migrant member of the household

[61] Depending on the relationship between the migrant and person who claims the remittances, the migrant can also demand more control over the remittances, particularly in terms of how the remittances should be spent.

[62] Mazzucato (2011) expanded the conceptualization of reverse remittances beyond monetary terms. She found that most of the remittances from the origin communities are in the form of services rendered, including child care, help in migrant's investments in housing and business and services to help in obtaining documents for the regularization of their stays abroad. This study, however, focuses on the monetary aspects.

in the Philippines may send Filipino food or non-food items to their migrant member abroad.

It is also possible that some households (either migrant or non-migrant households) also receive remittances from relatives or friends who are not part of their household. Although the standard CBMS-HPQ collects information on the amount of cash receipts, gift, support, relief and other income from abroad other than those from their OFW member, the reported figure is an aggregate of different items including pensions, retirement, workmen's compensation, dividends from investment, etc. Given this, it is useful to add questions that will gather details on the amount of remittances received by the households from a relative who is not classified as member of their household, as well as other information that will explain the dynamics in sending these remittances. This will allow a more comprehensive measure of the monetary remittances which could be used further in analyzing the impact of migration that channels through remittances.

Another limitation of the CBMS-HPQs reviewed is that the data on remittances captures only that portion of the savings of the migrant that are sent back home. In the Philippine context, it is very common that a migrant sends remittances to their families back home since one of the most important motivations for migration is to have sufficient earnings that will allow them to support their families. However, in some instances, the migrant would prefer to repatriate their savings upon return to retain control on how the money will be spent (Ashraf, D., Aycinena., Martinez, & Yang, 2015). This could have some implications on the extent to which migration and remittances from migrants can affect household income. Since CBMS does not collect information on the return migrants and the amount savings they bring home upon return, the rider questionnaire that was administered in the two selected villages included some questions on return migrants as mentioned above. At the same time, in case the migrant returns in the last 12 months (which is the reference period used), there are questions that will indicate whether the money is brought home by the migrant himself upon return. In relation to remittance spending, there are cases that migrants have to repay first the debts incurred to finance the migration costs in the Philippines. Information on this is also captured in the rider questionnaire since respondents are asked whether the remittances they received are spent or not in major expenditure items (including repayment of debts connected to migration) and if so, the amount spent on these items.

Investments made by the migrant households. In relation to the previous item above, the way remittances are allocated to consumer goods or to human and physical investments determines how migration and remittances can affect the poverty situation of households and communities. It is therefore, useful to examine how households are investing their remittances. In fact, some may use the remittances to invest on business, to purchase properties or durable items and to pay for the education of their children. Investments made by the households can provide more benefits to the households in the long run.

Household's living conditions prior to first migration experience. The changes in the living conditions of households can be tracked using the CBMS data, particularly if a panel dataset can be generated. However, directly asking the respondents on their living conditions prior to the first migration of their OFW member can also be very useful, especially for LGUs with cross-section data only. A set of question may be asked to obtain information on the changes in the characteristics of their houses and in their access to some basic facilities.

Access to programs that specifically target OFWs and their families. Currently the Philippine government is implementing a few programs that target OFWs and their families. For instance, there are programs that provide scholarships to OFW dependents in the Philippines, scholarship and incentives for OFWs/seafarers, loan assistance, training on financial literacy, business counselling or livelihood assistance, and health assistance. However, it is not clear whether households in a particular community have access to any of these programs. Although the current CBMS questionnaire include some general categories and other types of programs of the government, adding these specific programs that are intended for OFWs and their families would be useful.

Opinions on various migration issues. To complement the objective measures of the impact of international migration that are collected in the standard CBMS-HPQ and the rider questionnaire, it is also useful to examine the potential impact of international migration based on the subjective measures by asking the opinions of the respondents. For instance, it is useful to get their opinion on how international migration has affected their households and the community, in general. This will capture not only the economic impact but also the some of the potential social impacts of international migration as a whole. It is also relevant to ask their opinions on the various issues concerning migrants and their households and communities.

Measures of illegal migration.

Being an illegal migrant can affect the amount of income he can earn abroad and hence, the amount of remittances he can send to his family back home. In addition, migrants who left for abroad through illegal means may not have access to formal channels for sending remittance. Unless these migrants are able to tap informal channels, they will find it difficult to send remittances to their households. Given the definition of OFW[63] that is adopted in CBMS, the questionnaire is able to partly capture illegal migration. However, given the sensitivity of the information and difficulty in collecting accurate information on this issue, there is no specific question in the CBMS-HPQ that asks whether the OFW is legal or not. Acknowledging the presence of irregular migrants in some countries and the importance of measuring illegal migration, it is useful to explore other methods of collecting information on illegal migration in order to understand the extent of the problem. One of the methods that can be implemented is the list randomization technique. Given this, the rider questionnaire includes some question that can be used to implement this technique.

[63] Refer to sections 3.2 for the definition of OFW as used in CBMS.

After reviewing the literature and identifying the important information that are lacking in the existing CBMS given the context of the Philippines, the researcher prepared a draft rider questionnaire containing the relevant questions. It is important to note that questionnaire are in the Filipino language in order to allow for a much clearer understanding of the questions both for the enumerators and the respondents. The first draft of the questionnaire was pre-tested in a few households which help in finalizing the structure and the phrasing of the questions. Some revisions in the first draft were incorporated, thereby producing Version 1 of the rider questionnaire (Annex K). This version was administered in Barangay Saguing (Mabini, Batangas) in November 2013. However, given the lessons learned from the data collection activities in Barangay Saguing, a few more refinements were made in the questionnaire before it was administered in Barangay Villa Angeles (Orion, Bataan) in May 2015. Hence, Version 2 of the rider questionnaire (Annex L) was administered in Barangay Villa Angeles. Although the Filipino versions of the rider questionnaire were administered in the barangays, an English translation of version 2 of the questionnaire is provided in Annex M for reference. The important changes in the rider questionnaire are as follows:

1) In Version 1 of the rider questionnaire, Sections I and J attempt to collect information on the contact details of the absent migrant (including his/her name, e-mail address, telephone number or home address) and contact details of the Filipino association the migrant is a member of (including name of the association, name of contact person, e-mail address or telephone number) where the identified OFW is a member of. This is to explore the possibility of expanding the research by collecting some relevant data and information directly from these OFWs wherever they are in the world. However, given the difficulty in collecting information on their contact details, these information were missing for most of the migrant households in Barangay Saguing. Because of this, Version 2 dropped these questions in the questionnaire.

2) Acknowledging the presence of illegal migration among Filipino migrants and their vulnerability to harassment or abuse in their country of destination, Version 1 of the rider questionnaire includes a few questions that can partly capture illegal migration. In particular, Question (49) asks whether the migrant member has a job arranged prior to moving abroad. This provides some measure of Filipinos who travel abroad without a working visa, but perhaps a tourist visa, in the hope of eventually finding a job once they are abroad. In addition, Question (11) asks the main reason for the return of the migrant and identifies in the list of possible answers two reasons that may be linked to illegal migration. In particular, codes 6 indicates that the return is voluntary because of illegal status abroad and code 7 indicates that the migrant has been deported (which, may also be due to illegal status abroad). While these information can serve as proxy to illegal migration, another way of measuring illegal migration rates is incorporated in Version 2 of the questionnaire. In particular, in Version 2 of the questionnaire, aside from including Questions (49) and (11), some questions are added which are necessary for the

implementation of the list randomization techniques which can be used to measure of illegal migration rate.

3) Questions under Section D2 (Other Remittances) which capture details on the other remittances received by the household from abroad other than its OFW member were asked only to migrant households in Version 1. However, in Version 2, these questions were asked to all households in the barangay, whether or not they are classified as migrant household at the beginning.

4) In question (69) of Version 2 which asks how much of the remittances was spent on each of the major items listed, an additional category was added to determine whether households also spent part of the remittances to repay the loan that is used to finance migration. This category was not included in Version 1 of the rider questionnaire.

5.2.3 Other data collection instruments used

Aside from the CBMS-HPQ and the rider questionnaire, this study also employed the use of other instruments in collecting the relevant information. The CBMS-BPQ (Annex E), which is designed to gather supplementary information to the CBMS-HPQ, was administered to collect pertinent information about the barangay, including data on the physical and demographic characteristics, as well as the available basic services and service. The collected information helps provide a general view of the situation in the barangay. In addition, since FGDs were conducted in each of the two villages to collect more qualitative information, an FGD guide (Annex N) was also prepared to guide the facilitator (the researcher) on the topics that will be discussed during the discussions. This serves only as a guide and some follow-up questions were asked by the facilitator to further understand the context of the responses provided by the FGD participants. The FGDs cover issues relating to perceived impact of migration and remittances on the community, role of migration network, remittance investments, gender relations and effects on children left behind, among others.

5.3 Selecting the Study Sites

To address the migration data gaps in the current CBMS, a pilot census to administer the CBMS-HPQ, together with the new data collection instrument, was conducted in two villages in the Philippines as conducted. The sites were selected based on a set of criteria. Aside from having a high concentration of OFWs, the study sites should be characterized by the presence of some economic activities in the area. The selection of the sites is also limited to those areas with earlier rounds of CBMS implementation. Given the limited time and resources, it was decided that only two barangays (villages) will be covered in this study. Taking into account the criteria, the selection process starts by identifying the regions in the Philippines with the highest concentrations of OFWs as presented earlier in Figure 1.3. Based on the ranking, CALABARZON and Central Luzon recorded the highest concentration of OFWs with 18.4 percent and 13.9 percent,

respectively. Given this, the selection process proceeds by identifying LGUs in the Philippines with earlier rounds of CBMS data and with relatively high concentration of OFWs. Consistent with the list of municipalities covered in Chapter 3, the municipality of Mabini in CALABARZON region and the municipality of Orion in the Central Luzon region were selected. Recall that these two municipalities recorded the top two largest proportions of migrant households among all the sites covered in Chapter 3. In particular, the proportion of migrant households in Mabini and Orion is 34.6 percent and 16.6 percent, respectively.

Using the available CBMS data in Mabini and Orion which was collected in the previous round[64], the barangays in each municipality were ranked according to highest concentration of OFWs and presence of economic activities. Barangay Saguing (rural) in Mabini and Barangay Villa Angeles (Orion) belong to the top barangays based on these criteria. In fact, these two villages recorded relatively large proportions of migrant households coupled with some economic activities. In Barangay Saguing, most of the residents are engaged in activities related to construction, wholesale and retail trade, manufacturing, transportation and storage and accommodation and food service activities. On the other hand, most of the residents in Barangay Villa Angeles are engaged in activities related to transportation, wholesale and retail trade, public administration, construction, health and education. After a few field visits and meetings with the local officials of these barangays, some members of the community, officials of the municipality (in the case of Barangay Saguing and Barangay Villa Angeles) and province (province of Batangas in the case of Barangay Saguing) it was decided that these two barangays would be covered in this study. The approval and support of the local officials and members of the community were obtained during these meetings.

5.4 Description of the Study Sites

Based on the collected CBMS data, the two selected barangays, Barangay Saguing (rural) and Barangay Villa Angeles (urban), exhibited a relatively high incidence of international migration. In particular, based on the collected data for the 188 households in Barangay Saguing, about 14.1 percent of its 908 residents were currently living overseas (Table 5.2). Among all households in the barangay, 37.2 percent reported that they have at least one OFW member. Meanwhile, Barangay Villa Angeles had a total of 288 households with a population of 1,133. The barangay had 88 households reporting that they have at least one migrant member accounting for about 30.6 percent of the households in the barangay. Given this, about 9.4 percent of the barangay's population were living or working abroad.

[64] In ranking the barangays, the 2009 CBMS census of Mabini and the 2012 CBMS census in Orion were used.

Table 5.2 Number of households and population, by barangay

Indicator	Saguing		Villa Angeles	
	No.	%	No.	%
Total No. of Households	188		288	
No. of Migrant Households	70	37.2	88	30.6
Total Population	908	--	1,133	--
Currently living in the barangay	780	85.9	1,026	90.6
Currently living abroad [1/]	128	14.1	107	9.4

[1/] Among the 128 individuals in Barangay Saguing who were currently living abroad, 110 can be classified as OFWs while 18 are students or children who are temporarily living with their parents abroad and are expected to return to the Philippines within the next 5 years.

Source of basic data: CBMS Census: Barangay Saguing, Mabini, Batangas (2013) and Barangay Villa Angeles, Orion, Bataan (2015)

Many residents in the two barangays were encouraged to migrate and find employment in other places, especially abroad, mainly because of the lack of better economic opportunities in their communities. Clearly, pursuit of economic opportunity emerged as one of the major reasons for migrating abroad based on the responses of the FGD participants in both barangays. In Barangay Saguing, a coastal barangay, majority of the residents used to work as fishermen although farming and weaving of handicrafts made of *buri* (palm leaf) and rattan were also common among the residents several years ago. On the other hand, a large proportion of the residents in Barangay Villa Angeles also worked as farmers as the area used to be mainly agricultural land, with fishing as another main source of income for the barangay residents, which is later supplemented by the earnings from jobs in manufacturing companies and other establishments in nearby cities and municipalities. However, since these livelihood activities failed to provide many households an adequate and steady income to support their household needs, including food, shelter and education, many residents shift to more lucrative sources of livelihood, particularly overseas work. For instance, the small income from fishing, farming and weaving in Barangay Saguing was one of the main reasons cited why many residents decided to leave the country to work or live abroad. In Barangay Villa Angeles, many residents also opted to work abroad when they lost their jobs in the 1990s because of the closure of the US Navy military base in nearby municipality of Subic in Zambales which negatively affected many establishments in nearby municipalities and provinces where most of the barangay residents used to work.

For some residents, working in the nearby urban cities is still not a promising option. Participants in FGDs in both barangays confirmed that although one could get a higher paying job in the cities, the high cost of living would leave them with too little money which is insufficient to support their families. Hence, working abroad is still preferred by many. They believe that the income they will earn abroad would allow them to provide their family with adequate food, good education for their children and enough financial resources to cover other expenses. As relayed by one of the residents in Barangay Saguing, their OFW member could earn at least twice as high as their income in the Philippines in the same type of job and even less number of working hours. Since some

of the OFW jobs provide free food and lodging in addition to their monthly salaries, OFWs can save more and can send larger amount of remittances to their families in the Philippines.

5.4.1 Poverty Profile of Households

The CBMS core poverty indicators presented in Table 5.3 reveal the similarities and differences in the poverty profile between the two study sites covered in this study. Although both barangays generally do not have a huge problem in most of the dimensions, households in Barangay Villa Angeles (urban) appear to be relatively better-off in many of the indicators compared to those living in Barangay Saguing (rural), particularly in terms of basic education (among children 6-16 years old), housing, sanitation and income. However, it is noted that income poverty is still relatively high in both sites but with the proportion of income poor households being higher in Barangay Saguing (20.2%) than in Barangay Villa Angeles (12.2%). Income poverty in Barangay Saguing is high despite the low unemployment rate in the village which is recorded at 1.5 percent. Many residents in the barangay are employed but their jobs provide them with income that is not sufficient to meet their household's basic food and non-food needs. This, in fact, is reflected in the types of jobs that are common to the residents of the barangay (e.g., unskilled in construction workers, house helpers, etc.). Since this pattern remains in the barangay, many residents still resorted to working abroad in order to earn income that is higher than what they could earn locally. On the other hand, despite the lower poverty incidence in Barangay Villa Angeles, the barangay recorded a double-digit unemployment rate (i.e., 13.3%). Although a large proportion of the population is looking for a job, the limited employment opportunities available for them locally has pushed them to look for job somewhere else, including abroad.

Although poverty appears to be less of a concern in terms of health and nutrition, and sanitation, housing, and peace and order, the problems concerning education and access to safe water need some attention. In fact, there were 15 children 6-16 years old in the two barangays combined who are not enrolled in school during the reference period. This poses a concern since children within this age range are supposed to be enrolled in primary or secondary schools. The estimated proportion of out-of-school children 6-16 years old is higher in Barangay Saguing at 5.9 percent compared to Barangay Villa Angeles at 2.2 percent. Meanwhile, the lack of access to safe water is also an important issue, particularly in Barangay Villa Angeles where 8.3 percent of the households reported that they did not have access to safe water. Since access to safe water is one of the important basic needs, appropriate intervention is necessary to address this concern.

Table 5.3 CBMS core poverty indicators, by barangay

Indicator	Saguing		Villa Angeles	
	No.	%	No.	%
Total No. of Households	188		288	
No. of Migrant Households	70	37.2	88	30.6
Total Population	908	--	1,133	--
Currently living in the barangay	780	85.9	1,026	90.6
Currently living abroad [1/]	128	14.1	107	9.4
Health				
Children 0-4 year old who died	0	0.0	0.0	0.0
Women who died due to pregnancy related-causes	0	0.0	0.0	0.0
Nutrition				
Malnourished children 0-5 year old	1	0.1	0	0
Basic Education				
Children 6-12 years old not attending elementary	9	7.6	23	20.4
Children 13-16 years old not attending high school	21	30.0	14	19.7
Children 6-16 years old not attending school	11	5.9	4	2.2
Housing				
Households living in makeshift housing	4	2.1	0	0
Households who are informal settlers	3	1.6	2	0.7
Water and Sanitation				
Households without access to safe water	1	0.5	24	8.3
Households without access to sanitary toilet facility	3	1.6	0	0
Income				
Households with income below poverty threshold	38	20.2	35	12.2
Households with income below food threshold	13	6.9	21	7.3
Households experienced food shortage	2	1.1	0	0
Employment				
Unemployed members of the labor force	5	1.5	44	13.3
Peace and Order				
Victims of crime	0	0	1	0.3

[1/] Among the 128 individuals who were currently living abroad, 110 can be classified as OFWs while 18 are students or children who are temporarily living with their parents abroad.

Source of basic data: CBMS Census: Barangay Saguing, Mabini, Batangas (2013) and Barangay Villa Angeles, Orion, Bataan (2015)

5.4.2 Characteristics of Migrant and Non-migrant Households

Based on the CBMS census conducted in the two villages, the proportions of migrant households in Barangay Saguing and Barangay Villa Angeles are 37.2 percent and 30.6 percent, respectively. Although the average household size is larger in Barangay Saguing compared to Barangay Villa Angeles, migrant households appear to be larger (and with more adult members) than non-migrant households in both sites (Table 5.4). This suggests that OFWs tend to come from bigger households, in general. Meanwhile, in

terms of dependency ratios[65], Barangay Villa Angeles recorded the same estimates for both migrant and non-migrant households. However, Barangay Saguing recorded a lower ratio for the former group compared to the latter group of households, implying a lower burden on the productive members of migrant households. The collected CBMS data also revealed that each OFW member left around three household members in the Philippines, on average, which gives an indication of the degree of dependence of left-behind members on their migrant member, especially if these members are unproductive members.

Table 5.4. Composition of migrant (M)and non-migrant (NM) households, by barangay

	Saguing				Villa Angeles			
	All HHs	M	NM	Diff. (M-NM)	All HHs	M	NM	Diff. (M-NM)
No. of households	188	70	118		288	88	200	
Proportion of HHs (%)	100	37.2	62.8		100	30.6	69.4	
Household size (including OFWs)	4.8	5.7	4.3	1.4	3.9	4.4	3.7	0.7
Mean HH members aged 15 years old and above	3.7	4.6	3.1	1.5	3.2	3.6	3.0	0.6
Mean HH members less than 15 years old	1.2	1.1	1.2	-0.1	0.1	0.2	0.1	0.1
Mean HH members aged 15 years old and above who are employed	1.8	2.4	1.4	1.0	1.3	1.7	1.2	0.5
Dependency ratio	0.7	0.6	0.8	-0.2	0.5	0.5	0.5	0.0
Ratio of members left behind to OFW		3.2				2.9		
Households with multiple migrants (%)		34.3				14.8		

Source of basic data: CBMS Census: Barangay Saguing, Mabini, Batangas (2013) and Barangay Villa Angeles, Orion, Bataan (2015)

It is noted that some households in the two barangays have multiple migrants, i.e., more than one migrant member. In most cases, having an OFW member encourages the remaining members of the household to also work abroad, especially among the residents of Barangay Saguing where about 34.3 percent of the migrant households reported having more than one member abroad. Barangay Villa Angeles, on the other hand, recorded a smaller proportion at 14.8 percent. Note that it is much easier for OFWs in Italy (where majority of the OFWs from Barangay Saguing work) to bring with them their family members through reunification[66], which partly explains the relatively

[65] The dependency ratio is estimated as the ratio of those not typically not in the labor force (members aged 0-14 years old and those aged 65 years old and above) to those who are in their productive age (members aged 15-64 years old).

[66] Family reunification is allowed by law when a foreigner residing in Italy possesses a residence permit that is valid for at least a year. In addition, foreigners who are in Italy for work, study, asylum, humanitarian protection, religious reasons or family reasons may also apply for family reunification. Italy, in general, has a liberal family reunification policy. (International Organization for Migration , 2010)

high percentage of households with multiple migrants in Barangay Saguing. It is possible for some temporary migrants in Italy to become permanent residents or acquire citizenship which contributes to the increase in the likelihood of migrating to Italy. On the other hand, overseas jobs usually taken by OFWS from Barangay Villa Angeles require that they migrate alone without bringing any member of his family. This one of the reasons why there is relatively less households in Barangay Villa Angeles with multiple migrants.

Interestingly, a significant proportion of migrant households in Barangay Villa Angeles (37.5%) reported that their head is working abroad during the reference period (Table 5.5). The proportion is lower among migrant households in Barangay Saguing (9.6%). Although having a household head who lives and works abroad may mean higher income for the household, it may affect the family relationships and possibly, the psycho-social wellbeing of children who were left behind. Examining further the profile of the household heads, it appears that heads of migrant households are older on average compared to their counterpart in non-migrant households. While both groups of households are headed mostly by male, the proportion of male-headed households is lower among migrant households. This observation can be explained partly by the fact that for some migrant households, the wife takes the headship when her husband leaves for abroad as she decides on many household concerns.

Table 5.5. Characteristics of the heads of migrant (M) and non-migrant (NM) households, by barangay

	Saguing			Villa Angeles		
	M	NM	All HHs	M	NM	All HHs
No. of households	70	118	188	88	200	288
Proportion of HHs (%)	37.2	62.8	100.0	30.6	69.4	100.0
Mean age (years)	58.1	52.6	54.6	54.0	53.6	53.7
Male (%)	71.4	75.4	73.9	64.7	72.0	69.8
Civil Status						
Single	1.4	8.5	5.9	2.3	10.0	7.6
Married	70.0	72.9	71.8	68.2	66.0	66.7
Widow/er	24.3	12.7	17.0	25.0	15.5	18.4
Divorced/separated	4.3	0.9	2.1	2.3	3.5	3.1
Common-law/Live-in	--	5.1	3.2	2.3	5.0	4.2
Employed (%)	45.7	60.2	54.8	48.9	51.0	50.4
Education level (%)						
Preparatory education or no grade at all	0.0	0.0	0.0	1.1	1.0	1.0
Elementary	35.7	33.9	34.6	15.9	11.5	12.9
Secondary or post-secondary	44.3	42.4	43.1	34.1	43.0	40.3
College or postgraduate	20.0	23.7	22.3	48.9	44.5	45.8
Working abroad (%)	9.6			37.5		

Source of basic data: CBMS Census: Barangay Saguing, Mabini, Batangas (2013) and Barangay Villa Angeles, Orion, Bataan (2015)

Meanwhile, majority of the household heads in both barangays are either married or have common-law arrangements. It is, however, apparent that the proportion is slightly lower among migrant households when compared to their counterparts in non-migrant households. Furthermore, the proportion of employed household heads is also lower among migrant households compared to non-migrant households in both sites. This suggests more dependence on the migrant member in terms of providing for the family. For instance, for some households where the husband leaves for abroad, the wife who assumes the headship of the household takes care of the children while relying completely on her husband for financial support. This issue also came up during the FGDs in both barangays and is in fact, more common among couples with younger children.

Looking at the educational attainment of household heads, notable patterns also emerge. In fact, data show that heads of households in Barangay Villa Angeles are generally better-educated than those in Barangay Saguing. In fact, a significant proportion of household heads in Barangay Villa Angeles have attained at least tertiary education while most of the heads in Barangay Saguing have reached at least secondary education. Focusing on tertiary education, the proportion of household heads who reached at least college is higher among non-migrant households (23.7%) than among migrant households (20.0%) in Barangay Saguing. The opposite pattern is true in the case of Barangay Villa Angeles where the proportion of heads in migrant households who reached at least college education is higher at 48.9 percent compared to those in non-migrant households at 44.5 percent. These results suggest that households in Barangay Villa Angeles (including both migrant and non-migrant households) are generally headed by more educated individuals compared to those in Barangay Saguing.

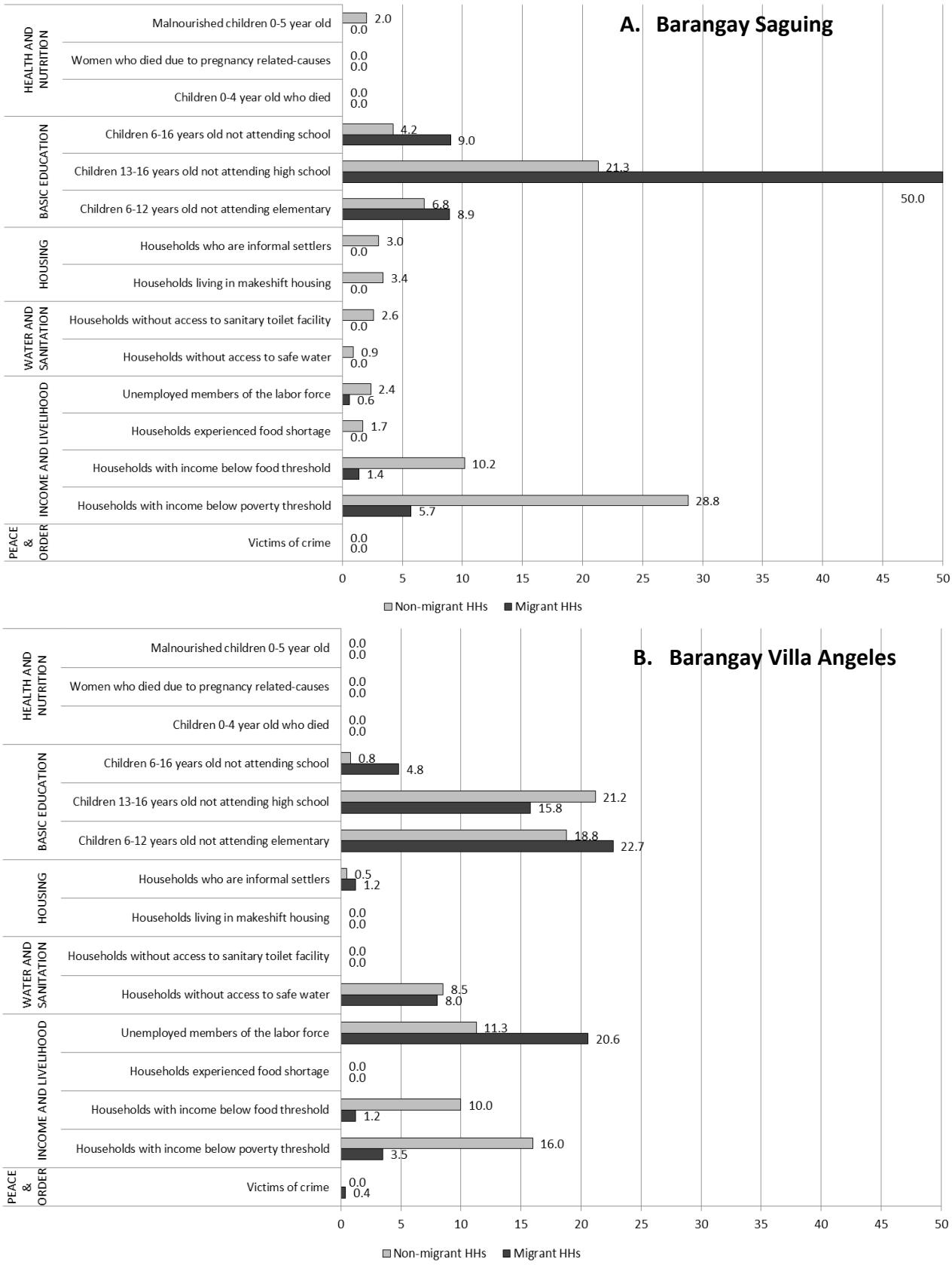
A simple comparison between migrant and non-migrant households in the two barangays covered in the present study revealed that migrant households are indeed generally better-off in most of the poverty indicators (Figure 5.1). In Barangay Saguing, migrant households appear to have better living conditions based on all dimensions of poverty except education. In fact, the proportion of children 6-16 years old in migrant households is larger by 4.8 percentage points compared to those in non-migrant households. Note that the estimates for migrant households include all children within the specific age range who belong to migrant households. These children belong to households with at least one migrant member regardless of the migrant's relationship to the child (i.e., it could be his mother, father, sister, grandmother, grandfather and so on.) Examining more closely the patterns for different age groups, it appears that younger children (i.e., 6-12 years old) in migrant households recorded higher school participation rates compared to non-migrant households. For older children in Barangay Saguing, the proportion of children 13-16 years old not in high school in migrant households is significantly larger compared to those who belong in non-migrant households. Although half of the children aged 13-16 years old in migrant households are not attending high school, some of them may be enrolled in school but are still in elementary school (i.e., lagging behind) and others may have just started their tertiary

education, particularly the older ones. An opposite pattern is observed for a similar group of children in Barangay Villa Angeles as migrant households recorded higher high school participation rates compare to non-migrant households. Meanwhile, migrant households in Barangay Villa Angeles are also better-off compared to non-migrant households in terms of all indicators except on education, informal settlement, unemployment and crime indicators.

In both barangays, the incidence of poverty is significantly lower among migrant households. Despite the low unemployment rate in Barangay Saguing, the barangay recorded a high poverty rate especially for non-migrant households. This suggests that the income earned by employed residents in the community is not enough to meet the basic food and non-food needs of their households. In Barangay Villa Angeles, members of migrant households recorded a higher unemployment rate (20.6%) compared to their counterparts in non-migrant households (11.3%). The high unemployment rate also explains partly the high incidence of poverty in the barangay. Individuals who fail to find employment also fail to contribute to total household income. Figure 5.2 further confirmed that migrant households in both barangays generally have higher per capita income compared to non-migrant households although it is observed that there are still many households in Barangay Villa Angeles which are in the lower tail end of the income distribution, particularly the non-migrant households.

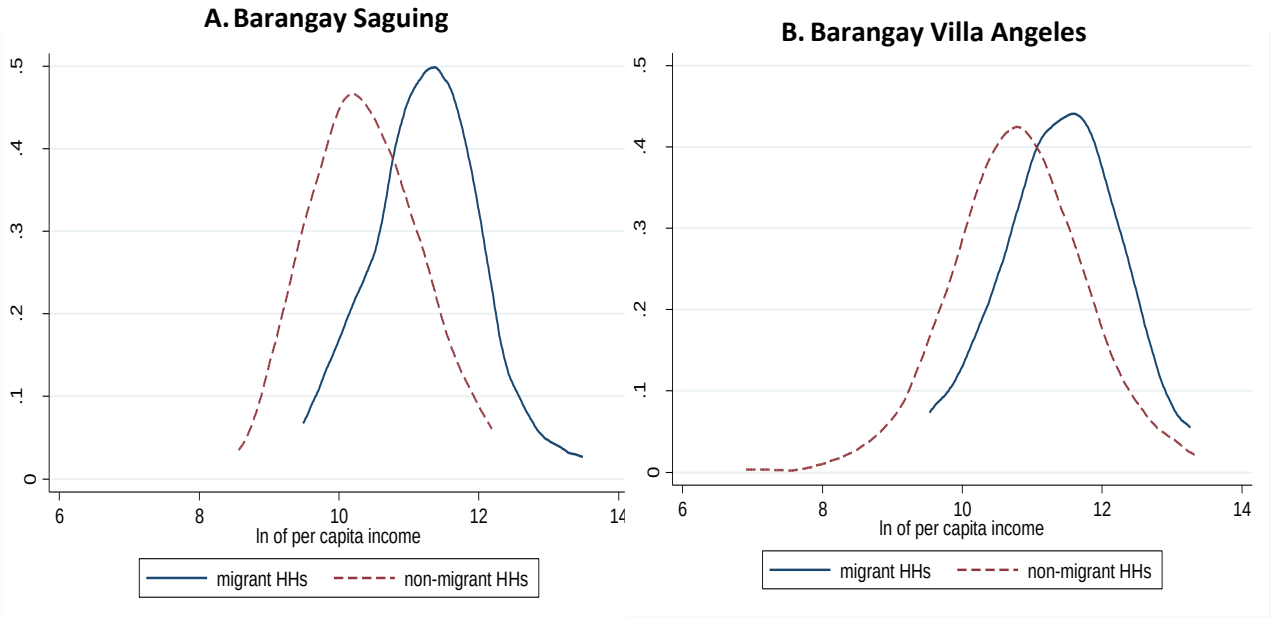
Focusing on the income status of migrant households, Figure 5.3 further confirms that majority of the migrant households in both barangays currently belong to the upper income quintiles (i.e., fourth and fifth income quintiles). In particular, 70.0 percent and 63.2 percent of the migrant households in Barangay Saguing and Barangay Villa Angeles, respectively, belong to these richest income quintiles. The higher income among migrant households is partly due to the contribution of remittance income to their total household income. In fact, remittances accounted for about 55-64 percent of the total income of migrant households in the fourth and fifth income quintiles. Although there were few migrant households who still belong to the poorest group, it is noted that most of them have a migrant who left the country recently, particularly for those in Barangay Saguing. It is likely that migrants who left for abroad only recently have not yet generated much impact on the households, especially in terms of improving their living standards.

Figure 5.1 CBMS core poverty indicators of migrants and non-migrant households, by barangay



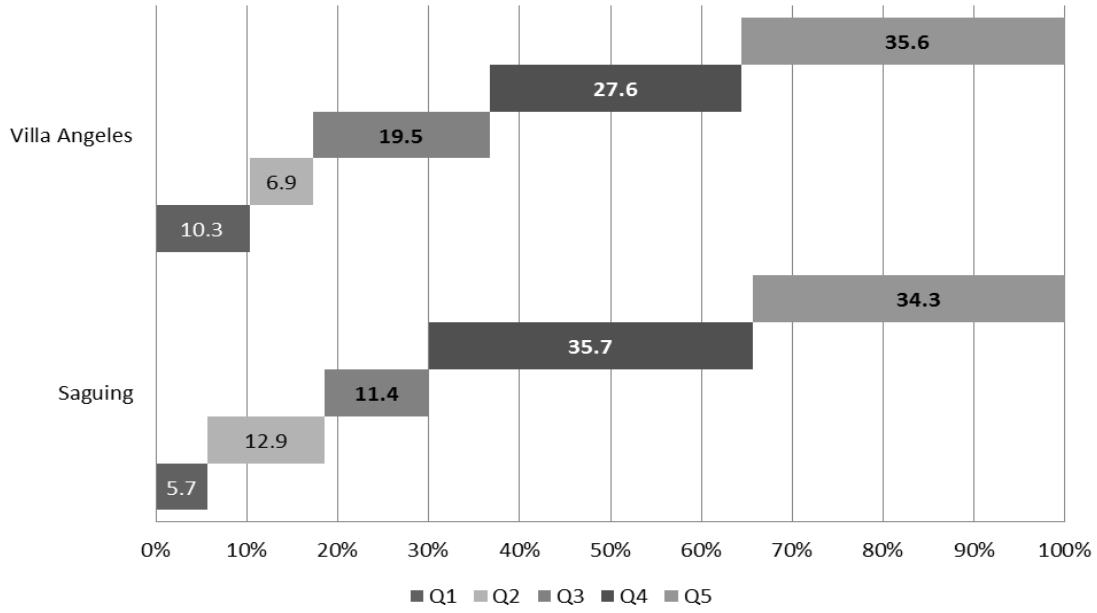
Source of basic data: CBMS Census: Barangay Saguing, Mabini, Batangas (2013) and Barangay Villa Angeles,

Figure 5.2 Income distribution of migrant and non-migrant households, by barangay



Source of basic data: CBMS Census: Barangay Saguing, Mabini, Batangas (2013) and Barangay Villa Angeles, Orion, Bataan (2015)

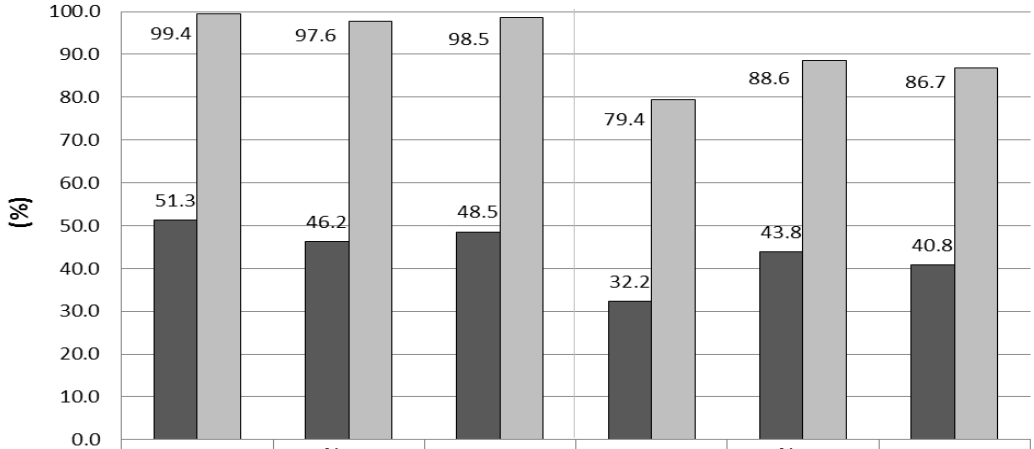
Figure 5.3. Distribution of migrant households by income quintile, by barangay



Source of basic data: CBMS Census: Barangay Saguing, Mabini, Batangas (2013) and Barangay Villa Angeles, Orion, Bataan (2015)

Examining more closely the employment data, both barangays exhibited lower labor participation rates[67] when compared to the latest national data of around 63 percent. Labor force participation rates in Barangay Saguing and Barangay Villa Angeles are 48.5 percent and 40.8 percent, respectively (Figure 5.4). Labor force participation and employment rates are relatively higher among migrant households in Barangay Saguing as compared to their non-migrant counterparts. Meanwhile, the opposite pattern is observed in Barangay Villa Angeles whereby migrant households exhibited lower labor force participation and employment rates. A number of earlier studies (e.g., Chami, et al, 2005) argued that remittances may reduce labor supply and the incentive to work thereby promoting dependency on remittances. While this observed pattern in Barangay Villa Angeles does not directly imply that having an OFW member discourages members of migrant households to work, it gives some insights on the extent of dependence of left-behind members on their members who were abroad in terms of income. However, based on the information collected during the FGDs, there is a general perception that some family members who are left behind tend to become highly dependent on the remittances they receive from their OFW member and hence, giving them less incentive to work. In some cases, however, the decision to participate in the labor market or not is made by the couple since one of them has to focus on taking care of their children and on managing their household while the partner is working abroad.

Figure 5.4 Labor force participation and employment rates among migrant and non-migrant households, by barangay



	Saguing			Villa Angeles		
	Migrant HHs	Non-Migrant HHs	All HHs	Migrant HHs	Non-Migrant HHs	All HHs
LFPR	51.3	46.2	48.5	32.2	43.8	40.8
Employment rate	99.4	97.6	98.5	79.4	88.6	86.7

Note: LFPR- Labor force participation rate

Source of basic data: CBMS Census: Barangay Saguing, Mabini, Batangas (2013) and Barangay Villa Angeles, Orion, Bataan (2015)

[67] Labor force participation rate is the number of persons who are employed and unemployed but looking for a job divided by the total working-age population (i.e., persons aged 15 years old and above)

5.4.3 Profile of Overseas Filipino Workers

The overseas Filipino workers (OFWs)[68] accounted for about 12.1 percent and 9.4 percent of the total population in Barangays Saguing and Villa Angeles, respectively (Table 5.6). In particular, there were 110 OFWs in Barangay Saguing and 107 OFWs in Barangay Villa Angeles during the reference period, less than 4 percent of which still belong to income poor households. These OFWs are around 40 years old and have been working abroad for 8-10 years, on average. Nevertheless, there are OFWs which have been working abroad for much longer time. In fact, more than 15 percent of the OFWs in both barangays have been working abroad for at least 20 years. This also confirms that international migration is not a recent phenomenon in these villages. In fact, based on the information gathered during informal discussions with the local people and during the FGDs, working abroad has been a common economic strategy adopted by many households in these communities for several years.

Majority of the OFWs are male, which shows that international migration still continue to be dominated by men. This pattern is more evident in the case of Barangay Villa Angeles where at least 7 in 10 OFWs working abroad are men. In the Philippine society, men, particularly the husbands, are usually expected to take the main responsibility as the financial provider for their families causing more men to work overseas if better opportunities in their home country are not available. In the case of Barangay Saguing, however, since majority of the migrants move to Italy to work (mainly due to the presence of migration network), the share of female OFWs is only 3.6 percentage points lower than men. As will be presented in the succeeding discussions, migrants who go to Italy usually work as household helpers, a type of work which is more common among women.

More detailed examination of the characteristics of the OFWs from both barangays revealed that they are mostly the sons or the daughters who normally provide financial support to their parents, siblings and even their own children who are currently living in the Philippines. There is also a significant proportion of sons-in-law or daughters-in-law among the OFWs from Barangay Villa Angeles. One of the common arrangements for these households is for the migrant son-in-law/daughter-in-law to allow his/her spouse and/or children to live with his/her parents-in-law who can also help in taking care of their children. This highlights the importance of extended family arrangement which is common in these barangays, as well as in other places in the Philippines. Although this pattern is observed in Barangay Villa Angeles, this arrangement is not necessarily due to the movement of the migrant abroad. In fact, this arrangement may be existing even prior to the migration of the member abroad, which is very common in the Philippines. Meanwhile, data showed that almost 70 percent of the OFWs from both barangays are

[68] Although the focus of this paper is on the OFWs, it is important to mention that there are also members of the households who went abroad and are not classified technically as OFWs but as overseas Filipinos (OFs) given the definition of OFW discussed in the earlier chapters. A total of 18 individuals covered under the CBMS census can be classified as overseas Filipinos but not OFWs, most of whom are male (61.1%). Half of them are between 13 to 16 years old.

married and majority has at least one child who may have been left behind in the Philippines. In particular, 67.9 percent and 73.3 percent of the OFWs from Barangays Saguing and Villa Angeles, respectively, have at least one child. While a few of them bring their children to live with them abroad, especially for those working in Italy, majority of them still left their children in these barangays.

Table 5.6. Profile of Overseas Filipino Workers (OFWs), by barangay

	Saguing	Villa Angeles
Number of OFWs	110	107
Share of OFWs to total population (%)	12.1	9.4
Mean age (years)	40.3	39.2
Average number of years abroad	10.1	8.8
Proportion of income poor OFWs (%)	3.6	3.8
Sex (%)		
Male	51.8	73.6
Female	48.2	26.4
Position in the household (%)		
Son/Daughter	49.1	37.4
Head	15.5	7.9
Son in law/Daughter in law	12.7	36.7
Wife/Spouse	11.8	6.5
Other Relatives	4.6	2.9
Father/Mother	3.6	0.7
Others	2.7	7.9
Civil Status		
Married	68.2	69.8
Single	22.7	20.9
Divorced / Separated	7.3	5.0
Widow/er	0.9	2.2
Unknown	0.9	2.2
Parent indicator (%)[1/]		
With child/children	67.9	73.3
Without child/children	32.1	26.7

[1/] This indicator is derived from the questions contained in the rider questionnaire.
Source of basic data: CBMS Census: Barangay Saguing, Mabini, Batangas (2013) and Barangay Villa Angeles, Orion, Bataan (2015)

In terms of educational attainment, OFWs seem to be better-educated compared to their non-OFW counterparts aged 22 years old and above. Almost half of the OFWs from Barangay Saguing (i.e., 48.2%) and more than 72 percent of OFWs from Barangay Villa Angeles reached at least college education (Table 5.7). This may be linked to the type of job demanded in their countries of destination. As will be discussed later, many of the OFWs from Barangay Saguing are working as unskilled workers (e.g., household helpers) in Italy[69] while many of the OFW from Barangay Villa Angeles are skilled workers in countries in the Middle East, including Saudi Arabia[70] and United Arab Emirates. Data showed that the proportion of OFWs who reached at least college education is higher compared to the estimates for the non-OFWs. Others see this pattern

[69] In this study, Most of the OFWs in Italy are located in the cities of Modena, Milan and Florence.

[70] In this study, most of the OFWs in Saudi Arabia are located in Riyadh, Jeddah and Jubail while most of the OFWs in the United Arab Emirates are located in Abu Dhabi and Dubai.

as negative because it appears that the more educated residents are the ones who leave and work abroad. This is related to the issue of "brain drain" as has been discussed in many of the earlier studies, e.g., Alburo and Abella (2002), Bollard, McKenzie, Morten, & Rapoport (2009) whereby more skilled individuals migrate from poor to richer countries can potentially erode the stock of qualified human resource and affect the country's development in the long-run. However, this may also be viewed as positive since this could provide some incentives for the people to invest in human capital, particularly in education of its household members given the possibility of working and earning higher income abroad. In addition, high-skill migration can also be beneficial for the Philippines as long as there is transfer of skills and knowledge to the country.

Table 5.7. Educational attainment of OFWs and non-OFWs (aged 22 years old and above), by barangay

	Saguing			Villa Angeles		
	OFWs	Non-OFWs	Total	OFWs	Non-OFWs	Total
Number of OFWs (22 years old & above)	110	465	575	135	654	789
Sex						
Male	51.8	46.5	47.5	74.1	43.6	48.8
Female	48.2	53.6	52.5	25.9	56.4	51.2
Education level						
Preparatory educ. or no grade at all	0.0	1.3	1.0	0.0	0.6	0.5
Elementary	5.5	26.7	22.6	2.2	11.9	10.3
Secondary or post-secondary	46.4	45.8	45.9	25.2	37.0	35.0
College or postgraduate	48.2	26.2	30.4	72.6	50.5	54.3

Source of basic data: CBMS Census: Barangay Saguing, Mabini, Batangas (2013) and Barangay Villa Angeles, Orion, Bataan (2015)

In terms of employment, data showed differences in the patterns between the two barangays. Majority of the OFWs from Barangay Saguing work as *laborers and unskilled workers* (60.9%), a large chunk of which work as domestic helpers in private households in their countries of destination (Table 5.8). Despite the relatively high proportion of college-educated OFWs from Barangay Saguing as discussed earlier (i.e., 48.2%), most of them ended up working as domestic workers in Italy. Although there are many factors that influence this pattern, it suggests that OFWs are willing to be underemployed with respect to their training and skills in exchange for a higher income abroad. In other words, taking jobs in the host country with a lower status than the jobs they could have had in the Philippines is acceptable for them since it allows them to earn higher income. In fact, the average salary they receive from abroad in an unskilled work is generally higher than the salary they would have received if they work in the Philippines. This, in fact, is one of the common reasons for migration based on the responses of the participants during the FGD.

Table 5.8. Types of occupation, industry and country of destination of OFWs from, by sex and by barangay

	Saguing			Villa Angeles		
	Male	Female	Both Sexes	Male	Female	Both Sexes
No. of OFWs	**57**	**53**	**110**	**76**	**31**	**107**
Types of occupation [1/]						
Laborers and unskilled workers	43.9	79.3	60.9	4.0	3.2	3.7
Service workers and shop & market sales workers	17.5	5.7	11.8	1.3	22.6	7.5
Professionals	8.8	5.7	7.3	18.4	32.3	22.4
Technician and associate professionals	7.0	1.9	4.6	11.8	3.2	9.4
Plant and machine operators & assemblers	7.0	--	3.6	19.7	--	14.0
Trade and related workers	5.3	--	2.7	30.3	12.9	25.2
Clerk	--	1.9	0.9	4.0	16.1	7.5
Special occupations	--	--	--	4.0		2.8
Managers/Supervisors	--	--	--	6.6	3.2	5.6
Unspecified	10.5	5.7	8.2	--	6.5	1.9
Industry [2/]						
Activities of households as employers	40.4	83.0	60.9	--	12.9	3.7
Transportation and storage	14.0	--	7.3	13.2		9.4
Accommodation and food service activities	8.8	--	4.6	1.3	6.5	2.8
Construction	7.0	--	3.6	27.6	--	19.6
Administrative &support service activities	5.3	1.9	3.6	--	--	--
Manufacturing	5.3	--	2.7	15.8	12.9	15.0
Electricity, gas, steam, & air conditioning supply	--	1.9	0.9	19.7	--	14.0
Human Health & Social Work Activities	1.8	3.8	2.7	5.3	32.3	13.1
Wholesale & retail trade; Repair of Vehicles and Motorcycles	1.8	1.9	1.8	2.6	3.2	2.8
Information and Communication	--	1.9	--	4.0	3.2	3.7
Others	3.5	--	2.7	9.21	22.6	13.1
Unspecified	12.3	5.7	9.1	1.32	6.45	2.8
Country of destination						
Italy	36.8	67.9	51.8	1.3	--	0.9
Spain	24.6	15.1	20.0	1.3	--	0.9
Saudi Arabia	12.3	1.9	7.3	30.3	22.6	28.0
United Arab Emirates	3.5	5.7	4.6	17.1	12.9	15.9
Canada	3.5	1.9	2.7	4.0	6.5	4.7
Qatar	3.5	--	1.8	7.9	3.2	6.5
Singapore	3.5	--	1.8	4.0	--	2.8
Cyprus	--	3.8	1.8	--	--	--
United States of America	1.8	--	0.9	7.9	35.5	15.9
Greece	--	1.9	0.9	1.3	--	0.9
Japan	--	1.9	0.9	--	3.2	0.9
Taiwan	1.8	--	0.9	4.0	--	2.8
United Kingdom	1.8	--	0.9	1.3	3.2	1.9
Australia	--	--	--	--	6.5	2.8
Unspecified	7.0	--	3.6	1.32	--	0.9
Others [3/]	--	--	--	18.46	--	14.0

[1/] The occupational groups are based on the 1992 Philippine Standard Occupational Classification (PSOC). [2/] The industry groups are based on the 2009 Philippine Standard Industrial Classification (PSIC). Other industries not included in the top categories are as follows: agriculture, forestry and fishing; arts, entertainment & recreation; professional, scientific & technical activities; other service activities; activities of extra -territorial organizations & bodies; financial & insurance activities; and education. [3/] Includes other countries not included in the top countries of destination within each barangay as follows: Libya, Angola, Austria, Bahrain, Brunei, China, Guam, Kuwait, Macau, The Netherlands, Papua New Guinea & Oman. Source of basic data: CBMS Census: Barangay Saguing, Mabini, Batangas (2013) and Barangay Villa Angeles, Orion, Bataan (2015)

In an earlier study conducted by Semyonov and Gorodzeisky (2004) on a sample of households drawn from primary sending areas in the Philippines, they found that the earnings of overseas worker are higher than their earnings in the Philippines by a factor of five for men and by a factor of four for women. Interestingly, Barangay Saguing also exhibited the same pattern as in the municipal level since Mabini has been known for its high concentration of OFWs who are working in Italy. As confirmed during the FGDs, the lack of better employment opportunities in their municipality and in the country, in general, push these over-educated Filipinos to work in domestic services abroad. In a report of prepared by the International Organization for Migration (2010), they highlighted many of the Filipinos who work in Italy take on more than one job which provides them additional earnings.

Meanwhile, a significant proportion of OFWs from Barangay Villa Angeles work as *professionals* (22.4%) such as nurses and engineers or as trade and related workers (25.2%) such as pipe fitters, welders, painters and factory workers, among others. Many of the OFWs are involved in construction activities for buildings and civil engineering works (19.6%) although there are also several OFWs who work in manufacturing companies (15.0%) and companies that provide electricity, natural gas, steam and the like through permanent infrastructure (network) of lines, mains and pipes, as well as activities that provide air conditioning supply (14.0%). The relatively high proportion of college-educated OFWs from Barangay Villa Angeles, as highlighted in the previous discussions, is also linked to the high proportion of OFWs who work in sectors that require high skills. While a significant proportion of the OFWs from the barangay went to Saudi Arabia (28.0%), there are also many OFWs who go to other countries such as USA (15.9%) and United Arab Emirates (15.9%). Data for Barangay Villa Angeles show that majority of the OFWs who went to this country are also skilled workers.

Examining the patterns among male and female OFWs, it is noted that the most common types of occupation and industry and country of destination among OFWs from Barangay Saguing is the same for both sexes. In particular, most of the OFWS in both groups were working as *laborers and unskilled workers* in Italy. On the other hand, a different pattern emerged among OFWs from Barangay Villa Angeles. For instance, most of the male OFWs from the village work as *trade and related workers* while most of the female OFWs work as *professionals* (e.g., nurses) abroad. Although many of the male OFWs work in the construction industry, female OFWs work in human health and social work activities. This observation can also be linked to the destination countries of these OFWs since a significant proportion of male OFWs work in Saudi Arabia while a large share of female OFWs are working in USA.

5.5 Understanding the Key Migration Issues Identified Based on the Rider Questionnaires

5.5.1 Role of Migration Networks

In general, having access to a migration network could increase the probability of other members of the community to migrate as well McKenzie (2006). In fact, knowing someone in the community who has been living or working abroad and learning about the experiences of migrants themselves can encourage more people to migrate as well. This is especially true if people see the improvements in the economic situation of the migrants' households in the home country. The migrant network mainly include friends or relatives but the other members of the community also play a role since they also can offer valuable information that can facilitate migration of potential migrants. As Winters, de Janvry and Sadoulet (2001) highlighted, the community can have as much influence on the decision to migrate as the potential migrant's relatives. Interactions with relatives and members of the community allow information about migrants to spread easily, thereby promoting more migration (Massey, 1990; Munshi, 2003). This suggests that there is greater propensity to migrate in communities with larger migration networks.

The CBMS census conducted in the two sites reveal that about 77.8 percent of the OFWs from Barangay Saguing reported knowing someone (a relative or a friend) from the community who is living abroad before they migrated (Table 5.9). This is significantly larger than the figure for Barangay Villa Angeles which is estimated at 44.8 percent. In addition, the estimated proportion in both barangays is generally higher among female OFWs than among male OFWs which may suggest that migration network can play a more important role for female OFWs than for male OFWs. Although the data collection strategy is different, this pattern is also in line with the results of a pre-migration survey conducted by Scalibrini Migration Center (2005) among 952 OFWs (more than 80 percent of which are female OFWs), which found that among those who were preparing to migrate for the first time, 66 percent reported that they knew a friend or relative in their destination country.

Although the succeeding discussions highlight the positive role of migration networks in an individual's migration experience, it appears that there can also be some negative effects. For instance, based on the informal interviews and FGD in Barangay Saguing, there are cases when some potential migrants simply rely on their migration network to facilitate their migration abroad and lose their incentive to invest on education and skills development that should have given them higher chances for migration abroad. In addition, there are some potential migrants may attempt to migrate abroad through backdoor means and rely on their migration network in finding a job abroad.

Table 5.9. Role of migration networks, by sex and by barangay

	Saguing			Villa Angeles		
	Male	Female	Both Sexes	Male	Female	Both Sexes
Number of OFWs	**57**	**53**	**110**	**76**	**31**	**107**
Migrants who knew an OFW before leaving for abroad	71.4	84.6	77.8	44.6	45.2	44.8
Source of information on opportunities abroad						
Relatives/Friends	54.4	69.8	61.8	34.2	25.8	31.8
Government Agency	15.8	22.6	19.1	22.4	32.3	25.2
Private employment agency	22.8	3.8	13.6	30.3	22.6	28.0
Online advertisements by employer	--	1.9	0.9	10.5	19.4	13.1
Print advertisements by employer	1.8	--	0.9	2.6	--	1.9
Employer in the Philippines	3.5	--	1.8	--	--	--
Unspecified	1.8	1.9	1.8	--	--	--
Sources of financing for initial migration [1/]						
Own savings	28.1	13.2	20.0	46.1	61.3	50.0
Borrowed money from friends/relatives	61.4	71.7	65.5	32.9	32.3	31.8
Borrowed money from banks	5.3	1.9	3.6	1.3	3.2	1.8
Pawned properties	3.5	1.9	0.9	2.6	3.2	1.8
Employer	--	5.7	4.6	13.2	3.2	9.1
Salary deduction	1.8		0.9	5.3	--	4.5
Unspecified	1.8	1.9	1.8	2.6	--	1.8
Migrants accompanied by relatives/ friends during the first migration	47.4	54.7	50.9	17.6	19.4	18.1
Accommodation during the first stay abroad						
Provided by the company	17.5	7.6	12.7	61.8	48.4	57.9
Employer's house	14.0	9.4	11.8	7.9	6.5	7.5
Relative's house	59.7	67.9	63.6	11.8	19.4	14.0
Friend's house	--	5.7	2.7	--	3.2	0.9
Apartment/room (own expense)	7.0	7.6	7.3	13.2	19.4	15.0
Unspecified	1.8	1.9	1.8	5.3	3.2	4.7

[1/] The respondent can provide multiple answers to the relevant question.

Source of basic data: CBMS Census: Barangay Saguing, Mabini, Batangas (2013) and Barangay Villa Angeles, Orion, Bataan (2015)

Source of information on opportunities abroad

It is recognized that migrant network could play an important role, especially in the OFW's first migration experience, as it allows people to have better access to information. The responses provided to the questions in the rider questionnaire revealed that the OFWs' relatives or friends are, indeed their main sources of information about opportunities abroad, especially for OFWs in Barangay Saguing. In fact, about 61.8 percent of OFWs in the barangay got the information from their relatives or friends, which confirms the importance of having close relationship with people who are already abroad in obtaining information about work opportunities. Those who are working in Italy can also have the opportunity later on to bring their spouse and children from the Philippines through family reunification which further facilitates migration of the migrant's family members[71]. As previously mentioned, having access to

[71] Government agencies and private employment agencies can also play a role in making information available to potential migrants although data showed that they are not the main source for many of the OFWs in this

migration network can lower the costs of subsequent migration. Given the migration experience of their household member, there are left- behind members who also intend to go abroad once there is an opportunity although data for both barangays showed very few observations. In particular, only 41 individuals (21 of which are female) in both barangays or 3.0 percent of the total population who are in their productive age reported that they have plans to work abroad in the future.

Based on the responses in the opinion questions that were asked among household respondents in the two barangays using the rider questionnaire, majority of them *somewhat agree* or *strongly agree* that Filipinos are encouraged to leave for abroad because they see others migrating as well (i.e., 68.6 percent for Barangay Saguing and 55.7 for Barangay Villa Angeles). While migration network can affect people's decision to migrate, it can also influence their choice in selecting a specific city or country of destination. It is deemed that having network connections in the potential country of destination can also encourage potential migrants to move in the same country as these connections will allow them to adjust to the new environment and facilitate their social and economic assimilation. This generalization is supported by the qualitative information collected from the FGDs conducted in the two barangays. In particular, some of the participants in the FGD relayed that having a household member who is already living or working in a particular country is one of the factors for choosing their destination country since this will facilitate their migration. Being informed about the foreign destination and the available opportunities abroad, as well as the presence of a family member in that particular country influenced their migrant member's decision.

Assistance before and during the first travel abroad

Migration network also played an important role in getting other forms of assistance which facilitate the migrant's first travel experience. In terms of financing their first migration, majority of the OFWs from Barangay Saguing also sought help from their relatives or friends with about 65.6 percent of them borrowing money from their relatives or friends. This pattern is observed for both male and female OFWs, although more significant for the latter. The importance of migration network in financing the first migration appears to be less for migrants coming from Barangay Villa Angeles where half of the OFWs relied on own savings to finance their first migration rather than from relatives or friends. In addition, it was relayed by the FGD participants in Barangay Villa Angeles that they are also aware of employment agencies in their area which implement a system that allows an individual to work abroad even if he has limited resource to finance the initial migration costs. The agencies themselves can initially pay for the migration-related expenses of the potential migrant with the agreement that the OFW pays the agency once he is already abroad by simply deducting on a regular basis the corresponding amount from his salary. This type of arrangement is, however, not captured yet in the data collected in the barangay using the rider

study. Access to internet also makes it easier for people to access more information on jobs that are available in a potential country of destination. In Barangay Villa Angeles, a list of available jobs, including overseas jobs, is regularly posted in the information board of the municipality and of the barangay. This allows people who do not have regular access to internet to be informed about these opportunities

questionnaire. Meanwhile, in terms of facilitating their travel, at least half of the OFWs from Barangay Saguing reported that a friend or a relative travelled with them during their first migration experience although the proportion is significantly lower for OFWs from Barangay Villa Angeles (at 18.1%), This again implies a more significant role of networks for those OFWs coming from Barangay Saguing.

Assistance during first stay abroad

Early migrants oftentimes provide other support to their families and friends when they are already abroad, especially during the latter's first migration experience. In fact, many migrants relied on their relatives abroad for their accommodation during their first stay abroad, particularly among OFWs from Barangay Saguing where 63.6 percent of them stayed in a relative's house abroad. Based on the information collected during the informal discussions and during the FGDs, OFWs from Barangay Saguing who moved to Italy relied on their families and friends for this kind of support. This form of assistance is especially important for those who migrated without a job already arranged for them and for those who travelled with a tourist visa in the hope of finding a job once abroad. Meanwhile, given the nature of their job and the country of destination, majority of the OFWs from Barangay Villa Angeles live in houses provided by their employers and this is especially true for male OFWs working in Saudi Arabia, whose law requires employers to provide housing (or housing allowance) to their employees[72], particularly during the first migration episode.

Defining a New Migration Network Variable

Another objective of adding additional questions on migration network is to develop a new instrumental variable which can also define a migration network . Instead of simply measuring migration network as a share of migrant households in the total number of households in the barangay (interacted with the number of adult members in the household), as has been used in the previous chapters, this study improves the measurement of migration network. In particular, the collected data in the rider questionnaire determines how migration network is actually influencing the migration of the households. For instance, as discussed above, migration network can actually be a source of information, financing and other forms of assistance for the potential migrants, such as accommodation during the first migration episode. For people who moved abroad without a job ready (including those who move abroad through backdoor means or who are holding a tourist visa but with a plan of working and staying abroad), the presence of migration networks can also play a role. For instance, knowing somebody who is living abroad could help these people find a job.

For the purpose of this study, an OFW is considered to have relied on migration network if it satisfies at least one of the following conditions: 1) knew another migrant/OFW

[72] As noted earlier, quite a number of OFWs from Barangay Villa Angeles are also working in the United Arab Emirates (UAE). Only recently (as of July 2016), the government of UAE also requires companies with at least 50 workers to offer free accommodation to its Filipino and other South Asian workers who are paid $540 or less per month.

from the community before leaving for abroad; 2) with relatives or friends as source of information; 3) accompanied by relatives/friends during the first migration; and 4) with accommodation provided by relatives/friends during the first stay abroad. Based on this definition, migration network appears to be more relevant and important for less-educated individuals. Data for all OFWs in both barangays revealed that the importance of migration network may vary across individuals with different the educational level. In particular, the proportion of OFWs who relied on migration network during their first migration experience is declining as the number of years of schooling of the individuals increases (Table 5.10).

Table 5.10. Role of migration network, by educational level of migrants

	Years of schooling			
	1-6 years	7-10 years	11 years and above	All OFWs
No. of OFWs	**9**	**55**	**152**	**216**
Knew another migrant/OFW from the community prior to first migration	66.7	64.8	60.4	61.8
With relatives or friends as source of information	77.8	58.2	40.8	46.8
Accompanied by relatives/friends during the first migration	55.6	34.0	34.9	35.6
With accommodation provided by relatives/friends during the first stay abroad	77.8	52.7	34.9	41.2
OFWs with access to migration network [1]	**88.9**	**74.6**	**70.4**	**72.2**

[1] OFWs with positive response to at least one of the indicators above.

Notes: All figures are in percent. There is one migrant with missing information on educational attainment and hence, not included in the tabulation. Households with 1-6 years of education

Source of basic data: CBMS Census: Barangay Saguing, Mabini, Batangas (2013) and Barangay Villa Angeles, Orion, Bataan (2015)

To further examine the role of migration network, particularly in influencing the likelihood of migration, a simple logistic regression analysis was conducted while controlling for some household characteristics. The dependent variable is a dummy indicating whether the household sends at least one OFW or not. For the migration network variable, two definitions will be adopted. The first definition is based on the definitions employed in the previous Chapters where migration network is the estimated as the share of migrant households to total number of households in the barangay interacted with the number of adult members per household. To apply a similar definition in this section, but in a smaller scale, migration network is estimated as the share of migrant households to total number of households in each *purok*[73] interacted with the number of adult members per household (*mignetwork4*). Meanwhile, the second definition of migration network used in the analysis takes into account access to this network during the first migration experience. In particular, this second migration network which we label as *mignetwork4*[74] captures the OFWs who actually relied in their migration network and is estimated as the proportion of migrants in each *purok* with access to migration network which is captured in terms of (1)

[73] A *purok* is a political subdivision of a barangay.

[74] Further discussion on these variables is provided in section 5.6.2.

knowing another migrant/OFW from the community prior to first migration; (2) providing potential migrant with information; (3) accompanying them during the first migration experience; and (4) providing them accommodation during the first stay abroad. Same as in *mignetwork,* the proportion is also interacted with the number of adult members in each household in order to have heterogeneity across households. The list of variables used in estimating the model in this section and in the succeeding sections of this chapter, together with their definition and summary statistics, is presented in Table 5.11.

Table 5.11.Definition and summary statistics of the key variables used in the analysis

Variable Name	Variable description	Mean	Std. Dev.
Log of per capita income	Logarithm of annual per capita income	10.866	0.900
Migration status	Migrant household (household has at least one OFW member)=1; Non-migrant household=0	0.332	
Household size	Number of household members, including OFW	4.288	2.072
Dependency ratio	Estimated as the ratio of those not typically not in the labor force (members aged 0-14 years old and those aged 65 years old and above) to those who are in productive age (members aged 15-64 years old)	0.564	0.625
Number of adult members with job	Number of member 15 years old above with job		
Share of female working members	Share of female working members aged 15 years old and above to total number of working members aged 15 years old and above	0.307	0.374
Average years of schooling	Average years of schooling of members 20 years old and above	10.836	2.480
Living in urban area	1 if the household lives in an urban area; 0 if the household lives in a rural area	0.605	
mignetwork3	Share of migrant household to total number of households in the *purok* × number of adult members 20 years old and above per household	1.141	0.712
mignetwork4	Share of migrants in each *purok* who relied on migration network during their first migration× number of adult members 20 years old and above per household	0.330	0.270

Note: See section 5.6.2. for a more detailed explanation on how variables *mignetwork3* and *mignetwork4* are estimated.

Results of the simple logistic regression analysis confirm the significant role of migration network in migration decisions. The log likelihood ratio chi-square test statistic for both models suggests that the overall model with five predictors is significant (Table 5.12). In the first model, the odds ratio of 1.554 for *mignetwork* indicates that access to migration network increases the odds of having a migrant member by a factor of 1.554. A similar result is seen for the second model which uses the variable *mignetwork1,* as defined earlier. However, having access to migration network increases the odds of having a migrant member by a factor of 2.844, which is higher than the estimate for the first model. This is somewhat expected since the second

model captures the role of migration not only in terms of influencing more people and encouraging more people to migrate (which is what is captured by *mignetwork1*) but also in terms of actually providing information and assistance during the first migration experience by accompanying them in their travel and providing accommodation during the first stay abroad.

Table 5.12. Estimating the effects of migration network on the odds of migration (Dependent Variable: Migration status, i.e., migrant HH=1; non-migrant HH=0)

Variables	Model 1		Model 2	
	Odds Ratio	Std. Error	Odds Ratio	Std. Error
mignetwork3	2.519***	0.725		
mignetwork4			9.173***	7.18
Demography				
Household size	0.879	0.078	0.920	0.07
Dependency ratio	1.288	0.247	1.258	0.24
Employment				
No. of adult members with job	1.383**	0.190	1.447***	0.19
Share of female working member (%)	1.004	0.003	1.005*	0.00
Education				
Ave. years of schooling of adult members	1.164	0.060	1.171***	0.06 0
Location				
Living in urban area	0.900***	0.219	1.202	0.34
Constant	0.032***	0.021	0.026***	0.01
No. of observations	449			449
LR chi (5)	61.8			59.3
Probability > Chi^2	0.000			0.00

*** Significant at 1% ; ** Significant at 5% ; * Significant at 10%

Note: The model was estimated using a logistic regression model. Refer to Table 11 for the specific definition of each variable.

Source: Author's estimation using CBMS Census of Barangay Saguing, Mabini, Batangas (2013) and Barangay Villa Angeles, Orion, Bataan (2015)

5.5.2 Measures of Illegal Migration

Although the Philippines has established a strong legal framework to regulate labor migration, there exists a relatively high level of unauthorized or illegal migration that coincided with the increase in international migration. While the government has put in place policies that would prevent illegal migration, such as measures that will deter illegal recruitment of workers, there are still many Filipinos who try to migrate and work abroad outside the legal boundaries. In fact, some people who do not want to comply with the legal documentary requirements or are simply not able to provide such requirements deal with illegal recruiters and "fixers"[75]. Aside from this, overstaying

[75] Fixers are individuals "whether or not officially involved in the operation of a government office or agency who has access to people working therein, and whether or not in collusion with them, facilitates speedy completion of transactions for pecuniary gain or any other advantage or consideration". (GOP, 2007)

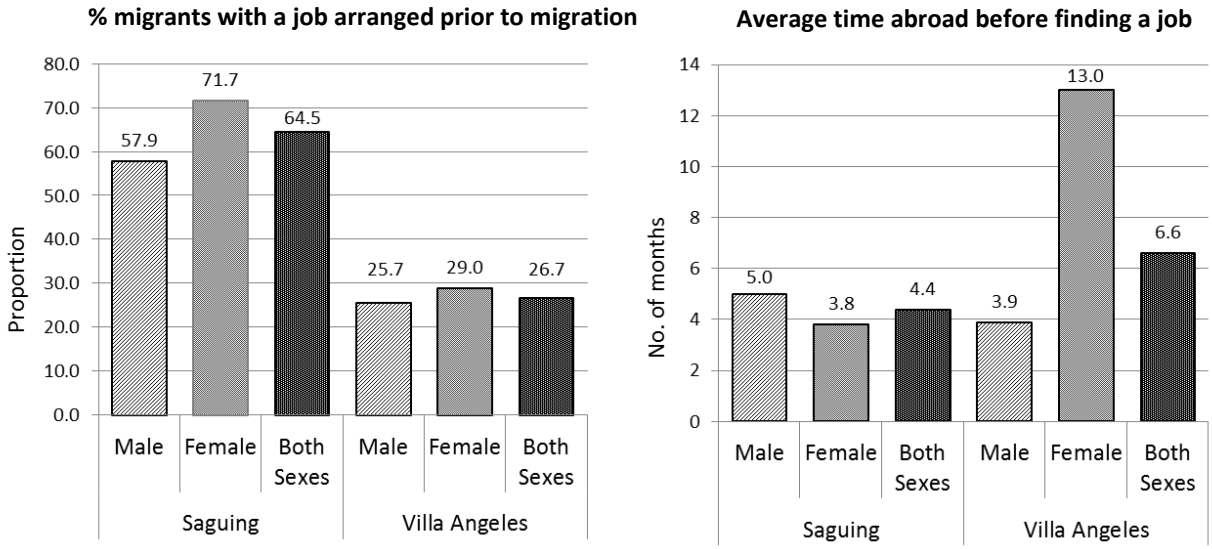
among those who use a tourist visa to gain entry in a foreign country is a common illegal practice among migrants. These illegal migrants, therefore, include those who have no valid residence or work permits to stay in the foreign country. In Filipino jargon, they are also referred to as "TNT" (i.e., *tago nang tago*) which means "always hiding" as not to be found and caught by immigration authorities. It is important to note that, in general, migrants who did not go through regular channels may find themselves in vulnerable positions before, during and after their travel. This makes it more likely to face harassments or be subjected to more abuses in their country of destinations. Given this, it is important to tackle and measure illegal migration rates to inform policymakers and to update any of the existing policies to help potential and current migrants. In this context, the rider questionnaire that was administered in the two barangays included a few questions that capture this phenomenon.

Migrants without a Job arranged Prior to Migration

Data indeed showed that a significant proportion of the OFWs left the country without a job arranged before leaving for abroad. The proportion of OFWs which reported that no job is arranged for them before moving abroad is 64.5 percent and 26.7 percent for Barangay Saguing and Barangay Villa Angeles, respectively (Figure 5.5). The proportion is higher for female OFWs than for male OFWs. This suggests that it is likely for female OFWs to face more risks abroad, especially if they extend their stay and lose their legal rights to stay in a foreign country. Based on the informal discussions and FGD conducted in Barangay Saguing, residents relayed that that many of the OFWs from their barangay usually leave for Italy with a tourist visa with the hope of finding a job once they are in the destination country. This implies that if the OFW fails to find a formal job and get a working permit within the period that he is legally allowed to stay in a particular destination country, he may be classified as an illegal migrant if he continues to stay in the country. This could later put him in a situation where it would even be more difficult to find a formal job. Even if he finds a job, it is more likely that he will be offered a lower wage by his employer and will be receiving less benefits or rights as a worker given his status.

Indeed, it appears that OFWs who did not have a job arranged for them prior to migration experienced difficulty in finding a job abroad. Among those OFWs who still needed to look for work in the destination country, the average length of time before actually obtaining a job is about 4.4 months and 6.6 months for Barangay Saguing and Barangay Villa Angeles, respectively. The average waiting time is significantly longer for male OFWs (5 months) than for female OFWs (3.8 months) in the case of Barangay Saguing. This is again related to the fact that most of the OFWs from this barangay moved to countries, like Italy, where the most in-demand job is being a domestic worker, a type of job where women are more preferred than men. On the other hand, the average waiting time is significantly longer for female OFWs (13 months) than for male OFWs (3.9 months) in the case of Barangay Villa Angeles. Given the skills required for the available jobs in their foreign country of destination, it is more difficult for these women to find a job there if no prior job arrangement was made.

Figure 5.5. Availability of job prior to migration and finding a job abroad, by sex and by barangay



Source of basic data: CBMS Census: Barangay Saguing, Mabini, Batangas (2013) and Barangay Villa Angeles, Orion, Bataan (2015)

Measuring Illegal Migration Through List Randomization Techniques

Since migrants who are classified as illegal did not go through proper documentation, measuring illegal migration rates is extremely difficult. Many of the existing migration-related surveys also do not capture this information because of the sensitivity of the information. While there may be existing approaches in measuring this phenomenon (e.g., "residual methods" in USA, survey approaches and using data on border apprehensions and amnesty program applications, etc.), this research focused on the use of list randomization technique given the sensitivity of the information that will be collected. List randomization was introduced by Miller (1984; in McKenzie and Siegel, 2013) as a method of collecting sensitive information. Adopted in migration studies, this research largely follows the method employed by McKenzie and Siegel (2013) to measure illegal migration rates. In line with this, the rider questionnaire that was administered to migrant households in Barangay Villa Angeles[76] includes additional questions aimed at eliciting the legal status of the OFW without directly asking the question.

The list randomization method was implemented by randomly dividing the migrant households into two groups. To make the implementation of the method simple, the randomization was done by tossing a coin to determine whether the household will be assigned to the first or to the second group. Households in the first group were provided

[76] The rider questionnaire that was implemented in Barangay Villa Angeles was the revised version of the questionnaire administered in Barangay Saguing given the lessons learned from the data collection activities and realizing the significance of illegal migration in understanding the migration phenomenon. Hence, the list randomization technique was implemented only in Barangay Villa Angeles.

a list of three (3) statements and were asked how many of these statements they regard as true. The three statements in the list are as follows[77]:

(1) At least one member of my household plans on opening a new business in the next five years.
(2) The economic situation of my household has improved considerably over the past five years.
(3) Corruption in my country is a less serious problem than ten years ago.

Meanwhile, households in the second group were provided four statements and were also asked which of these statements they regards as true. The statements include the three questions above plus an additional statement that relates to illegal migration. In particular, the fourth statement in the list is as follows:

(4) This household has a member currently residing abroad without a legal residence permit.

Since the respondents are required only to give the number of statements which are true and not which of the statements are true, it is expected that they will provide more truthful answers. The proportion of households with a member residing abroad without the proper documentation is, then, estimated by subtracting the mean number of responses between the two groups. Although this technique can provide some useful results, its limitations should also be acknowledged. For instance, one of the limitations as highlighted by McKenzie and Siegel (2013), this method can produce larger confidence intervals compared to estimates that can be obtained when migrants are asked directly. Although the sample used in this analysis is rather limited, it offers some interesting patterns. Expanding the use of this technique in more barangays or LGUs in the Philippines could provide more useful results, which can help in informing decision-makers on the extent of illegal migration problem among the Filipino migrants.

For this research, a total of 84 respondents in Barangay Villa Angeles provided their answers to the abovementioned questions (Table 5.13). After randomization, 52 migrant households were assigned to the first group and 32 were assigned to the second group. Examining the means for group A and group B, it can be noted that the two groups have similar characteristics based on the set of characteristics presented in the Table. In particular, based on the results of the t-test, the two groups are not significantly different in terms of the proportion of male-headed households, age, civil status, educational attainment and employment status of the household head, household size, dependency ratio and proportion of poor households. This implies that randomization is able to balance the two groups in terms of these observable characteristics and hence, comparing the differences in the responses of the two groups can provide a good estimate of the illegal migration rate. One important limitation, however, is that this particular study is able to cover only a small sample of respondents which prevents a more accurate measure of illegal migration. Extending the use of this method to more sites within a particular area can improve the estimates.

[77] The language used in the actual data collection instruments administered to the households is Filipino.

Table 5.13. Test of randomization and list-randomized measures of illegal migration

	Treatment Mean (Group A) N=52	Control Mean (Group B) N=32	T-test P-value
Male-headed households	0.654	0.594	0.549
Age of HH head	55.407	53.501	0.613
Married HH Head	0.712	0.625	0.416
Tertiary-educated HH head	0.173	0.219	0.610
Employed HH head	0.423	0.563	0.219
Household size	4.308	4.563	0.539
Dependency ratio	0.484	0.581	0.396
Income poor	0.020	0.063	0.314
Mean number of true statements for Group A	2.190		
Mean number of true statements for Group B	1.821		
Estimated illegal migration rate	0.369		
90% confidence interval	[0.052,0.686]		

Source of basic data: CBMS Census: Barangay Villa Angeles, Orion, Bataan (2015)

Subtracting the mean responses of the two groups (i.e., 2.190 for group A or the treatment group and 1.821 for group B or the control group), the illegal migration rate is estimated to be at 36.9 percent. This estimate is higher than the estimated proportion of households in Barangay Villa Angeles with an OFW member who left without a job arranged prior to migration, which is only about 26.7 percent. This latter figure, which is also used as a proxy to measure illegal migration, might be lower because it specifically measures illegal migration rate at the individual level. On the other hand, the illegal migration rate estimated using the list randomization technique is measured at the household level (i.e., the question asks if there is *at least* one member currently residing abroad without a legal residence permit). Another factor that may have contributed to the difference in the estimates is that some of the OFWs who initially left for abroad as a legal worker (i.e., with job arranged prior to migration) might have lost their valid work permit abroad but extended their stay there to continue seeking for economic activities. These workers will, then, be added to the number of illegal migrants, thereby increasing the estimate of illegal migration rates based on the list randomization technique.

Many of these illegal Filipino migrant would rather stay abroad in the hope of eventually finding a job that will allow them to support their daily living expenses an send remittances to their households. In most cases, they received lower wages and benefits than regular worker. Being an illegal migrant puts them in more vulnerable positions Given, this, some of them simply decided to return to the Philippines to be with their family rather than face some other risks abroad because of their illegal status. Data on return migrants which was collected using the rider questionnaire showed that there were only two Filipino migrants who came home voluntarily because they did not have the legal right to stay in the foreign country. More details about the characteristics of return migrants, their migration history, main reasons for return and situation after return are discussed in the succeeding section.

5.5.3 Return Migration

In the neo-classical approach to international migration, return migration is considered as a consequence of failed migration experience such that the expected benefits from migration, including higher earnings in the destination country, is not achieved. On the other hand, NELM considers return migration as an outcome of successful migration experience as the migrant achieved his goals or target, such as higher income and accumulation of savings (Cassarino, 2014). In the current literature on return migration, there are two alternative categories of migrants depending on their motivations for return which determine partly the duration of the migrant's stay abroad. *Life cycle* migrants decide the length of their stay abroad which balances the marginal benefit from higher savings overseas against the marginal utility cost of overseas work while *target earners* stay overseas until they are able to reach their earnings goals which will allow them to invest in an entrepreneurial activity (Yang D. , 2006b).

The rider questionnaire developed for this research allows collection of information on migrants who returned to the Philippines which is lacking in existing national surveys. In particular, to understand the context of return migration in the country and identify the key issues that are relevant for the returnees, information on the characteristics of the return migrants, their migration history, reasons for return and situation after return were collected in the two barangays using the rider questionnaire. For the purpose of household interviews, a return migrant is defined as a member of the household who has experienced living or working abroad but is currently living in the Philippines. The return may be temporary or permanent.

Patterns in Return Migration

Based on the collected data, a total of 50 residents in Barangay Saguing and Barangay Villa Angeles have returned from their work abroad, with 17 in the former and 33 in the latter (Table 5.14). Since male members of the households are the ones who usually work abroad in the first place, a large proportion of the return migrants are men. Majority are at least 50 years old and most of them have college education. At the same time, a significant proportion of the return migrants is married and currently serves as the head of their household. Similar patterns are observed when data are disaggregated by barangay.

Most of the return migrants in the two sites combined worked abroad in 5 years or less. However, the disaggregated data showed that this is specifically the case among return migrants in Barangay Villa Angeles (Table 5.15). The pattern observed in Barangay Saguing is different as most of the return migrants worked abroad for a longer period, i.e., more than ten (10) years. In particular, eight of the 17 return migrants in the barangay worked for at least six years abroad. The fact that Italian law allows OFWs to bring their families with them through family reunification increases the likelihood of staying and working abroad for a longer period.

Table 5.14. Profile of return migrants, by barangay

	Both Sites		Saguing		Villa Angeles	
	No.	%	No.	%	No.	%
No. of return migrants	**50**		**17**		**33**	
Sex						
Male	36	72.0	9	52.9	27	81.8
Female	14	28.0	8	7.1	6	18.2
Age (in years)						
20 to 29	3	6.0	1	5.9	2	6.1
30 to 39	10	20.0	2	11.8	8	24.2
40 to 49	9	18.0	2	11.8	7	21.2
50 to 59	16	32.0	8	47.1	8	24.2
>=60	12	24.0	4	23.5	8	24.2
Educational attainment						
Elementary graduate	4	8.0	3	17.7	1	3.0
High school graduate	2	4.0	2	11.8	---	---
Incomplete college	9	18.0	3	17.7	6	18.2
College graduate	34	68.0	9	52.9	25	75.8
Civil status						
Married	36	72.0	11	64.7	25	75.8
Single	6	12.0	3	17.7	3	9.1
Widow/er	5	10.0	3	17.7	2	6.1
Divorced/separated	2	4.0	---	---	2	6.1
Common Law / Live-in	1	2.0	---	---	1	3.0
Current position in the HH						
Head	30	60.0	11	64.7	19	57.6
Son/Daughter	9	18.0	3	17.7	6	18.2
Son in law/Daughter in law	5	10.0	---	---	5	15.2
Wife/Spouse	4	8.0	3	17.7	1	3.0
Father/Mother	1	2.0	---	---	1	3.0
Other Relatives	1	2.0	---	---	1	3.0

Source of basic data: CBMS Census: Barangay Saguing, Mabini, Batangas (2013) and Barangay Villa

In general, the decision to return can also be influenced by the situation in their host country (e.g., employment opportunities) and the economic conditions and links with their home country (e.g., job prospects or family ties). For instance, the most common reason for return among migrants in Barangay Villa Angeles is that the OFW's employment contract abroad has ended. Many of the return OFWs from this barangay worked previously in countries in the Middle East (including Saudi Arabia) and with contracts that typically last for two years, on average. Based on the information collected through informal discussions and FGDs, it is common for these OFWs to take the opportunity to renew their contract in the same company or host country or seek another employment opportunity elsewhere, especially if the amount of savings they had is still not sufficient to ensure a better future for themselves and their family. Many of them stay in the Philippines while looking for another contract overseas. In fact, 42.0 percent of all return migrants covered had plans of leaving again for abroad. The probability of these migrants to work again abroad may be higher due to their work experience abroad and the network they have established while working overseas.

Table 5.15. Return migration patterns, by barangay

	Both Sites		Saguing		Villa Angeles	
	No.	%	No.	%	No.	%
No. of return migrants	**50**		**17**		**33**	
No. of years abroad						
5 years or less	21	42.0	5	29.4	16	48.5
6 -10 years	10	20.0	4	23.5	6	18.2
more than 10 years	19	38.0	8	47.1	11	33.3
Main reasons for return						
End of his/her employment contract	18	36.0	1	5.9	17	51.5
To have a vacation [5/]	7	14.0	5	29.4	2	6.1
Has earned and saved enough money	5	10.0	---	---	5	15.2
To with his/her family in the Philippines	5	10.0	5	29.4	---	---
To retire	3	6.0	---	---	3	9.1
Has resigned from his/her job	2	4.0	---	---	2	6.1
Came home voluntarily because he/she was not legally allowed to stay in the country	2	4.0	---	---	2	6.1
Others [1/]	8	16.0	6	35.3	2	6.1
Country of previous work abroad						
Saudi Arabia	9	18.0	2	11.8	7	21.2
Italy	6	12.0	6	35.3	---	---
Japan	6	12.0	---	---	6	18.2
United Arab Emirates	5	10.0	---	---	5	15.2
Greece	4	8.0	4	23.5	---	---
Spain	3	6.0	2	11.8	1	3.0
USA	2	4.0	1	5.9	1	3.0
Qatar	2	4.0	---	---	2	6.1
Others [2/]	13	26.0	2	11.8	11	33.3
Previous occupation abroad						
Laborers and Unskilled Workers	20	40.0	9	52.9	11	33.3
Trade and Related Workers	12	24.0	3	17.7	9	27.3
Plant and Machine Operators and Assemblers	7	14.0	2	11.8	5	15.2
Managers/supervisors	4	8.0	---	---	4	12.1
Technician and Associate Professionals	4	8.0	2	11.8	2	6.1
Others [3/]	3	6.0	1	5.88	2	6.1
Previous industry abroad						
Activities of Households as Employers	14	28.0	10	58.8	4	12.1
Construction	11	22.0	1	5.9	10	30.3
Electricity, Gas, Steam & Air Conditioning Supply	7	14.0	---	---	7	21.2
Transportation and Storage	6	12.0	4	23.5	2	6.1
Manufacturing	6	12.0	---	---	6	18.2
Others [4/]	6	12.0	2	11.8	4	12.1

[1/] Other reasons include : 1) To start a new job or to set up a new business; 2) The person he/she went to live in abroad also came home; 3) Problem with employer; 4) To get married in the Philippines; 5) Concerns about security in the foreign country; 6) Relatively low salary; 7) Personal health problems

[2/] Other countries include the United Kingdom, Canada, Australia, Singapore, Taiwan, Angola and those which did not specify the country they used to work

[3/] Other jobs include market sales workers and jobs which were unspecified by the respondent.

[4/] Other industries include: 1) Arts, Entertainment and Recreation; 2) Wholesale and Retail Trade; 3) Activities of Extra-Territorial

Organizations and Bodies; and other industries not specified by the respondent

[5/] These are migrants who were currently in the Philippines during the interview. The strict definition of "return migrants" shall exclude this group of households if their stay in the Philippines is less than 3 months.

Source of basic data: CBMS Census: Barangay Saguing, Mabini, Batangas (2013) and Barangay Villa Angeles, Orion, Bataan (2015)

Meanwhile, the main reasons for return among migrants from Barangay Saguing are to have a vacation or to be with their family in the Philippines. Strictly speaking migrants who have return for vacation for a period less than three months should not be included in the total returnees. Their employment abroad simply allows them to take regular vacations in the Philippines for a short period of time (particularly for those who are classified as legal migrants) and return abroad to continue their contract. These patterns are also consistent with the fact that majority of the migrants left for abroad more than once. In particular, 73.8 percent and 63.9 percent of the current OFWs in Barangay Villa Angeles and Barangay Saguing, respectively, left for abroad for at least twice, indicating that their migration is temporary in nature and that circular migration is very common.

Based on the cited reasons for return, migrants can also be classified as failed migrants and successful migrants. About 16.0 percent of the return migrants whose reasons for return may indicate a failed migration as follows: 1) illegal status in the destination country; 2) personal problems with the employer; 3) concerns on safety; 4) relatively low salary; and 5) health concerns. On the other hand, 42.0 percent of the returns can directly indicate a successful migration as the reasons for the return include the following: 1) has earned and saved enough money; 2) to retire in the Philippines; 3) to be with his family in the Philippines; 4) to have a vacation; and 5) to start a new job or to set up a new business [78].

Post-migration Situation of Return Migrants and Their Households

Further examination of the employment status of the return migrants revealed that majority of them (i.e., 62.0%) were unemployed when the interview was conducted (Table 5.16). This is at par with the estimates of Arcinas (1991) who found that more than half of the 506 returning migrants in the Philippines had not found local employment at the time of their survey. Recall that one of the most common reasons for return to the Philippines among the return migrants in the present study is that the employment contract has ended (although most of them still intend to work again abroad). Unless these migrants are able to find a new job abroad or in the Philippines should they decide to stay, this would mean a decline in total household income. If migrant households invested in productive activities, the decline in total income may be compensated by the earnings from these investments. However, based on the collected data, very few return migrants put their money in an entrepreneurial activity (i.e., only 7 of the 50 return migrants). While some of the migrants appear to return home for life cycle considerations, many are non-investors which may also be due to low earnings and savings while working abroad.

[78] The other reasons mentioned by the respondents cannot directly indicate a successful or a failed migration and hence, not included in the reported figures here. Further details on the response is necessary to be able to identify clearly whether the reason for return indicates a successful or a failed migration.

Table 5.16. Post-migration situation of return migrants and their households, by barangay

	Both Sites		Saguing		Villa Angeles	
	No.	%	No.	%	No.	%
Return Migrants						
Total no. of return migrants	**50**		**17**		**33**	
Skills or ideas learnt from abroad						
New language	28	56.0	9	52.9	19	57.6
Professional skills	21	42.0	7	41.2	14	42.4
Life skills	12	24.0	7	41.2	5	15.2
New social issues	2	4.0	1	5.9	1	3.0
None	10	20.0	3	17.6	7	21.2
Current employment indicator						
Employed	19	38.0	8	47.1	11	33.3
Unemployed	31	62.0	9	52.9	22	66.7
Return migrants who established a business	7	14.0	3	17.6	4	12.1
Return migrants with a desire to go abroad again	21	42.0	9	52.9	12	36.4
Households with Return Migrants						
HHs with return migrants	43	9.0	14	7.4	29	10.1
Income poor households	3	7.0	1	7.1	2	6.9
HHs with current migrant member	11	25.6	8	57.1	3	10.3

Source of basic data: CBMS Census: Barangay Saguing, Mabini, Batangas (2013) and Barangay Villa Angeles, Orion, Bataan (2015)

At the household level, data showed that 43 households (translating to 9.0 percent) in the two barangays combined have at least one member who has returned from abroad. The proportion is slightly higher for households in Barangay Villa Angeles (10.1%) compared to Barangay Saguing (7.4%). It can be noted that there are still a few households with return migrants which were classified as income poor (i.e., 3 of the 43 households with return migrants). For migrants who have returned home recently, the loss of the earnings due to the return contributes to a decline in their total household income, especially if the migrant remains unemployed. Meanwhile, for migrants who have returned several years ago, there may be no investments made by their households in human capital or in productive activities which should have helped ensure sufficient income to meet their basic food and non-food needs in succeeding years after their return. For these households, the remittance earnings and savings were mainly used for household consumption. Interestingly, at least a quarter of all the households with a return migrant still have at least one current migrant member. This is more common in the case of Barangay Saguing where a large proportion of the households have multiple migrants. While some of the migrants have returned home, some remained abroad to continue working and sending remittances to their origin households.

It is generally acknowledged that people who lived and worked abroad can learn new skills or ideas while overseas. In general, the acquisition of new skills and knowledge by migrants at the country of destination could benefit the origin households and their communities upon their return (Murrugara, Larrison, & Sasin, 2011). Given this, return migrants can be considered as agents of innovation as they bring these new skills to their home country. The knowledge and skills they have learned from abroad can also contribute to the development of their origin communities and their country in the long-run. This, in fact, highlights another channel by which international migration can affect households and communities. Based on the collected data among the return migrants in the two villages, majority of them (i.e., 56%) learned a new language (e.g., Italian, Arabic, etc.). However, unless this new skill gives them advantage over others in some types of jobs (e.g., those requiring people with knowledge of these languages), it cannot directly lead to a positive change. Meanwhile, 42.0 percent learned new professional skills (e.g., construction, social care, etc.) and 24.0 percent learned life skills (e.g., driving or cooking new dishes). Learning new professional skills or some life skills, coupled with sufficient savings, can allow them to engage in more innovative practices or entrepreneurial activities which could contribute to their household's income and lead to long-term benefits. Although learning about different social issues is not a very common response, a few return migrants reportedly became more aware and informed about environmental issues given their experience in living and working abroad.

Meanwhile, slightly different trends are observed for the two barangays when opinions are sought regarding care about the environment among return migrants (Table 5.17). Although many of the respondents from Barangay Saguing are neutral about this, strong agreement is expressed by respondents from Barangay Villa Angeles with regard this concern. In addition, most of household respondents *somewhat agree* that Filipinos who lived abroad care more about gender and ethnic equality when they return. In particular, 42.9 percent and 33.0 percent of the respondents in Barangay Saguing and Barangay Villa Angeles, respectively, *somewhat agree* on this statement. In terms of involvement in politics and social issues, most of the respondents in Barangay Saguing *somewhat agree* that return migrants helped the country by getting involved in these issues while most of the respondents in Barangay Villa Angeles have a neutral position regarding this statement. Among the three relevant issues on return migration, it appears that return migrants have less concern in politics and social issues compared to issues of gender and equality and environment as reflected in the estimated average scores based on all the responses. This provides additional insights on how return migrants can influence their communities and the country, in general.

Table 5.17. Opinion of respondents about return migration by degree of agreement or disagreement, by barangay

	Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly Disagree	Don't Know	Ave. Score
	1	2	3	4	5		
1. Filipinos who lived abroad care more about gender and ethnic equality when they return.							
a. Saguing	18.6	42.9	25.7	4.3	1.4	7.1	2.2
b. Villa Angeles	26.1	33.0	23.9	8.0	5.7	3.4	2.3
2. Filipinos who return from abroad help the country by getting more involved in politics and social							
a. Saguing	10.0	34.3	32.9	12.9	7.1	2.9	2.7
b. Villa Angeles	18.2	21.6	31.8	15.9	9.1	3.4	2.8
3. Filipinos who lived abroad care more about the environment when they return.							
a. Saguing	17.1	32.9	35.7	5.7	4.3	4.3	2.4
b. Villa Angeles	30.7	29.6	26.1	5.7	3.4	4.6	2.2

Note: The total number of respondents is 70 and 88 for Barangay Saguing and Barangay Villa Angeles, respectively, all of which are members of migrant households.
Source of basic data: CBMS Census: Barangay Saguing, Mabini, Batangas (2013) and Barangay Villa Angeles, Orion, Bataan (2015)

5.5.4 Remittances Receipts and Spending

According to NELM, migration is a decision made jointly by the migrant and the wider society, including his household (Stark, 1991). The decision to migrate is also made with some degree of altruism towards the interest of their family or household. Therefore, the income derived from migration of a household member is expected to be shared with those who do not migrate through remittances. In line with this, remittances is considered to be one of the important channels by which migration could affect households. The increased income through remittances could potentially increase the households' income and improve their welfare conditions.

With a combined total of 158 migrant households, one in every three households in the two barangays has at least one member who is working abroad. Although the migrant member may have lost their income at home, this can be compensated by the remittances they send to their origin households. If the amount of remittances sent by the migrant is higher than the income he earned while he was still in the home country, his household is expected to experience higher income levels, holding other factors constant. Based on the information collected through the FGDs, one of the main reasons for working abroad is, indeed, to contribute significantly to the income to their household by sending remittances.

As in the previous chapter, the more traditional definition of remittances is adopted in this section. In particular, remittances refer to money (in-cash and in-kind) sent by OFWs to their households in their home country. Although the standard CBMS-HPQ obtains information on the total amount of in-cash and in-kind remittances received by the households from their migrant member abroad in the last twelve months prior to

the interview, the information cannot be disaggregated a the individual level. Given the limited information available in the standard CBMS core questionnaire, additional information were collected using the rider questionnaire to understand the patterns in sending and spending of the remittances. The remittance-related questions that collect household and individual level information cover the following: 1) the individual who sent the remittances; 2) the amount of remittances sent by the OFW member of the household; 3) for whom the remittances are sent; 4) the person who usually claims the remittances 5) mode of sending remittances; 6) the frequency of remittance sending; 7) how the remittances are spent by the households; 8) the OFWs who are receiving remittances from the household members living in their home country (i.e., reverse remittances); and 9) international remittances sent by individuals who are not member of the household[79].

Remittance Receipts of Migrant Households

Based on the collected CBMS data for both barangays, it is noted that not all migrant households received remittances from their members abroad during the reference period (Table 5.18). In particular, only 91.4 and 96.6 percent of the migrant households in Barangay Saguing and Barangay Villa Angeles, respectively, received remittances. This means that some households did not have direct benefits from their migrant member through the remittance channel. Meanwhile, among those households which received remittances, data revealed heavy reliance on these receipts as it accounted for more than half (i.e., 55.3% and 58.4% for Barangays Saguing and Villa Angeles, respectively) of their total household income. Remittance-recipient households in both villages received a significant amount of annual remittances reaching more than P60,000 per year on a per capita basis and with households in Barangay Villa Angeles recording higher average annual amount compared to Barangay Saguing. This reflects the significant contribution of OFWs in providing financial support to the members of their households back home. Comparing it with the annual per capita poverty threshold in the Philippines which is around P18,935, it appears that remittance-recipients have more than enough income to meet their basic food and non-food needs.

The amount of remittances that households received in the last 12 months prior to the interview can also depend on the length of time that the OFW member has been abroad. For instance, if the household has an OFW who have left only in recent months, the accumulated amount of remittances will cover only the period when the OFW is away. It is also possible that the OFW who have just left for abroad in recent months may not be able to send remittances, particularly if he is still establishing himself abroad. To check if this pattern can be observed in the case of the two villages under this study, the data was further examined. Data showed that only 8 of the 217 OFWs (translating to 3.7 percent) in both barangays combined have left the country in less than 12 months. These eight OFWs belong to eight households and data showed that five of them were not able to send remittances.

[79] This information was asked among all households in Barangay Villa Angeles only using the Version 2 of the rider questionnaire as discussed in section 5.2.

Table 5.18. Remittances received by migrant households, by barangay

	Saguing	Villa Angeles
Total number of migrant households	70	88
Migrant HHs which received remittances from OFW (%)	91.4	96.6
Mean share of remittance to total HH income (%)	55.3	58.4
Mean annual remittance (in pesos)	157,266	195,507
Mean annual per capita remittance (in pesos) [1/]	61,888	69,219

[1/] The annual per capita poverty threshold in the Philippines is around P18,935. This means that, on average, remittance-recipients have more than enough income to meet their basic food and non-food needs.
Note: Since the focus of this table is on the remittances sent by OFW members to their origin households, the figures reflected in the table do not capture those remittances received by the households from non-members which are in smaller amounts compared to the remittances from OFW members.
Source of basic data: CBMS Census: Barangay Saguing, Mabini, Batangas (2013) and Barangay Villa Angeles, Orion, Bataan (2015)

Remittance Behavior of OFWs

One important advantage of the dataset used in this study over the other existing datasets is that data on remittances can be measured down to the individual level. Hence, aside from conducting analysis at the household level, this study is able to capture individual level patterns. Table 5.19 supports the results above as it shows that not all OFWs sent remittances to their households in both villages. In fact, data on remittance behavior of OFWs showed that only 97.2 percent of OFWs from Barangay Villa Angeles sent remittances to their origin households during the past 12 months prior to the interview. The proportion is even lower for those OFWs from Barangay Saguing with only 63.6 percent. Furthermore, the average amount of annual remittances sent by the OFWs from Barangay Villa Angeles is almost double the amount received from OFWS from Barangay Saguing.

It appears that the amount of remittances sent by the migrants varies depending on migrants' characteristics such as age, sex, education, civil status, position in the family, occupation and country of destination. One important advantage of the datasets used in this research is the possibility of disaggregating the data based on these important factors. Data showed that younger OFWs sent more remittances, on average, with those aged between 20 to 35 years old recording the largest average remittances among the different age groups. In addition, the amount of remittances sent by male OFWs is larger than that of female OFWs, on average. In fact, the amount sent by men is almost double the amount sent by women. This is contrary to popular belief but is consistent with the findings of Semyonov and Gorodzeisky (2005) which confirmed that men send more remittances than women to their origin households in the Philippines. Although there are many factors that could affect this pattern, this may be related to the gender gap in earnings abroad. In fact that, male OFWs generally earn higher income than female OFWs allowing them to send larger amount of remittances (assuming that the level of expenses is equal for both men and women).

Table 5.19. Amount of annual remittances sent by individual OFWs, by characteristics of OFWs and by barangay

		Saguing		Villa Angeles	
		No.	**Ave. Amount**	**No.**	**Ave.**
Number of OFWs		**110**		**107**	
No. of OFWs who sent remittances		70	110,679	104	208,919
Proportion of OFWs who sent remittances		63.6		97.2	
Sex	Male	34	117,190	73	246,570
	Female	36	104,753	31	
Age	below 20 years old	---	---	4	92,500
	20-35 years old	24	117,327	26	228,208
	35-50 years old	31	84,867	52	222,812
	50 years old and above	15	153,925	21	182,381
Years of education	1-6 years	5	214,584	3	94,667
	7-10 years	26	87,255	18	270,611
	11-16 years	39	113,180	82	202,007
Civil Status	Single	17	80,480	25	163,520
	Married	48	124,369	70	228,523
	Divorced/separated	3	98,700	5	153,000
	Widow/er	1	16,000	1	150,000
	Common-law/Live-in			2	360,000
	Unknown	1	105,600		
Position in the household (%)	Son/Daughter	34	80,774	43	165,419
	Head	16	144,807	32	220,788
	Son-in-law/Daughter-in-law	6	146,261	4	563,100
	Wife/Spouse	10	71,331	10	234,500
	Other relatives	1	74,400	10	153,400
	Grandchildren			4	352,500
	Father/Mother	2	502,280		
	Others	1	22,500		
With children left behind	With at least one child in the Philippines	50	123,426	52	233,969
	Without a child living in the Philippines	20	79,215	49	189,045
Occupation	Laborers and unskilled workers	50	104,781	4	280,000
	Service Workers and Shop and Market Sales	6	147,063	8	78,250
	Professionals	5	190,688	23	199,087
	Technician and Associate Professionals	4	64,985	9	211,333
	Clerks	1	39,013	8	162,175
	Trade and Related Workers	2	92,475	26	216,354
	Corporate Executives, Managers, Managing Proprietors and Supervisors	---	---	6	343,333
	Plant and machine operators	2	98400	14	271,143
	Special Occupations	---	---	3	168,000
Country	Italy	37	84,681	1	76,000
	Saudi Arabia	8	131,754	30	260,980
	USA	1	360,000	16	150,813
	United Arab Emirates	4	85,287	16	153,125
	Spain	9	200,263	1	240,000
	Canada	1	74,250	5	76,000
	Qatar	---	---	6	180,533

Note: Missing responses are not included in the estimation.

[1] Includes sending of remittances through friends/relatives who went home, door-to-door, sent together with the remittances sent by spouse/relatives, automatic allotment by the company which is directly sent to the OFWs family or brought home upon return [2] Includes only the top 7 destination countries

Source of basic data: CBMS Census: Barangay Saguing, Mabini, Batangas (2013) and Barangay Villa Angeles, Orion, Bataan (2015)

According to Bollard, et al. (2009), it is the higher income of migrants which explains much of the higher remittances instead of their family situations. Based on the information on salaries provided by the household respondents, male OFWs received salary which is about 7.3 percent higher than female OFWs coming from both barangays. Although men generally send higher remittances than women, this is observed in selected countries only, including countries in the Middle East (e.g., Saudi Arabia, United Arab Emirates and Qatar). In fact, the opposite pattern is true in the case of Italy such that female OFWs sent larger amounts of remittances to their families in the Philippines. Based on the collected data, female OFWs in Italy earned higher income (i.e., about 28.2 percent higher) compared to male OFWs, particularly among those who work as household helpers. This is because women have an advantage over men in this type of work. In addition, it is common for OFWs in Italy to take extra jobs in addition to their regular jobs in order to earn more to allow them to send larger amount of remittances than they would send if they only had a single job. As relayed by their families during the informal discussions and during the FGD in Barangay Saguing, this is especially true among migrants in Italy. In fact, the pressure to take on multiple jobs is one of the issues facing Filipino migrants in Italy according to the report of the International Organization for Migration (2010).

There are some evidences in earlier studies, e.g., Bollard, et al., (2009), of the positive relationship between education and the amount of remittances sent conditional on remitting. This means that more educated migrants send higher amounts of remittances. Less-educated individuals are most likely to be earning less compared to highly-educated individuals and hence, are likely to send smaller amounts of remittances. Given this, it is interesting to see if these patterns can also be observed in the case of migrants in Barangay Saguing and Barangay Villa Angeles. Combining all observations in the two barangays and focusing only the two groups of households with sufficient number of observations, it is deemed that migrants who are more educated (i.e., with 11-16 years of education) sent higher average amounts of remittances compared to those who are less educated (i.e., with 7-10 years of education). In fact, more educated migrants sent an average annual remittances amounting to P173,377 while less educated migrants sent an average of P162,264. However, when including the third group of migrants which include the least educated migrants (i.e., 1-6 years of education), the tabulations show a slightly different pattern. For instance, although the number of observations is very few, OFWs with less education appears to have sent the largest amount of remittances to their households. These less-educated OFWs who sent large amounts of remittances are mostly working in Italy as domestic helper and have been working abroad for a relatively long duration. The links that they have with their families back home and the possibility of retiring in the Philippines in the near future could have influenced the amount of remittances they sent. This is consistent with the general expectations that more-educated migrants tend to have lower intentions to return than less-educated migrants (Faini, 2007). In other words, less-educated migrants are likely to have higher intentions to return than more-educated migrants and hence, send larger amounts of remittances, on average. The study conducted by

Rodriguez and Horton (1995) also found that return migrants are somewhat less educated than those who are still abroad, which also suggests that those who have less education are more likely to return. This is because less-educated individuals may experience more difficulty in integrating and in obtaining permanent resident status in the destination country compared to those who are more educated.

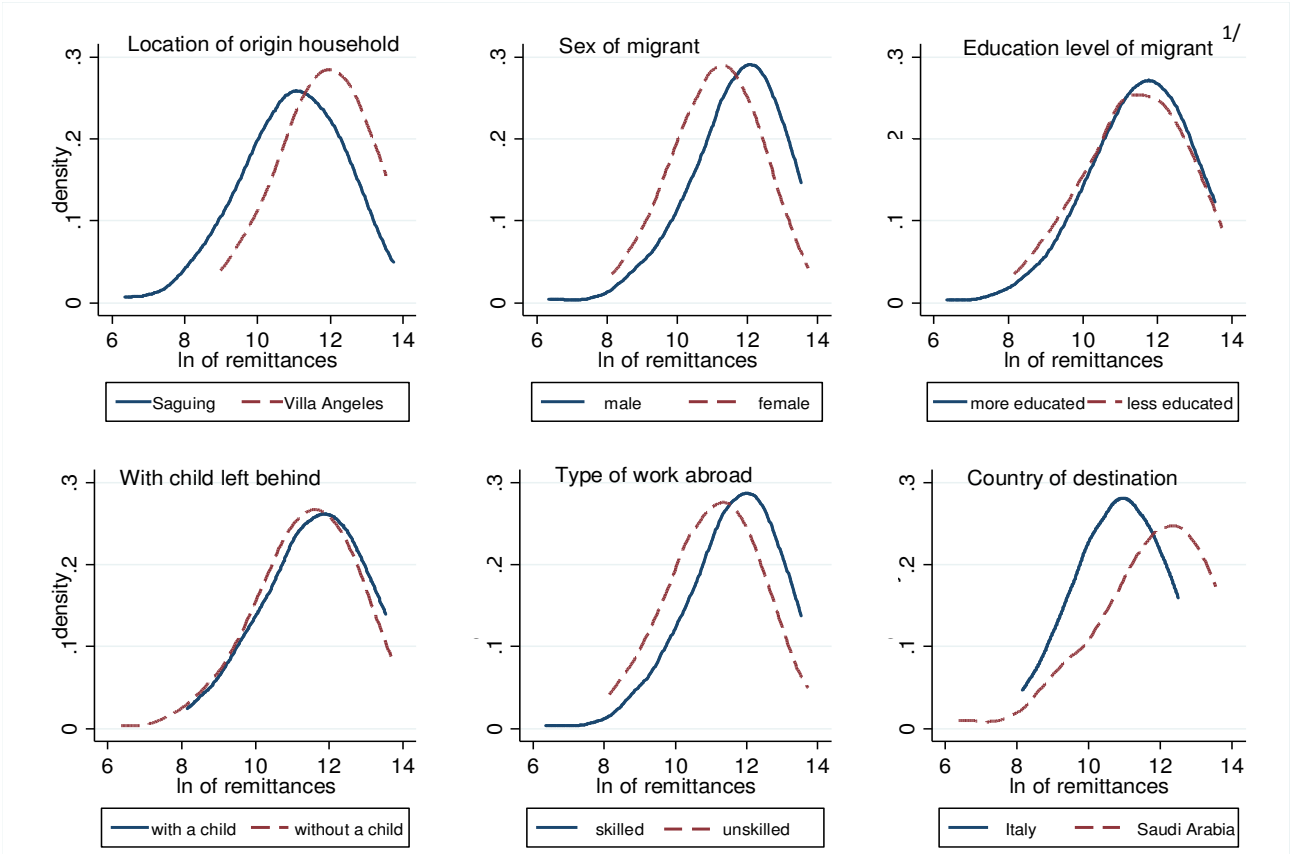
In terms of civil status and focusing only on the two groups with sufficient number of observations, OFWs who are married tend to send larger amount of remittances compared to single OFWs. Although there are more OFWs who are the sons or the daughters of the current household head, the average amount of remittances sent by OFWs who continue to be considered as the household head despite physical distance is significantly larger than the former. This may be due to the fact that heads of households are expected provide financial support to the members they left behind. In addition, OFWs who left a child in the Philippines sent larger amounts of remittances, on average, compared to those without a child living the Philippines. This is because most parents decide to go abroad to allow them to support their families back home, especially their children's needs. It is worth noting, however, that if it is the son-in-law or the daughter-in-law who works abroad, the amount of financial support is significantly larger than the two groups of migrants mentioned earlier. Although there are only few observations, a common arrangement among households is for the son-in-law/daughter-in-law to let his/her partner live with the latter's parents or original families while he/she is abroad. In this way, the other household members can also help in taking care of his/her family while he/she is away.

Meanwhile, OFWs who work as *laborers and unskilled workers* sent relatively smaller amount of remittances compared to those who have other types of occupation abroad. Skilled workers, in general, sent larger amount of remittances compared to those who are unskilled. For instance, focusing on types of occupation with sufficient number of observations in our dataset, it appears that OFWs who are *trade and related workers* or *professionals* sent larger amount of remittances to their families compared to those who work as *laborers and unskilled workers*. There are several possible reasons that could explain this pattern. First, skilled workers abroad are more likely to earn more compared to unskilled workers, thereby having more capacity to remit larger amount. For instance, OFWs who work as *laborers and unskilled workers* from the two barangays have an average monthly wage of P37,029 while *professionals* earn an average of P59,893 per month. In addition, skilled workers are the ones who are more likely to be the legal migrants than the unskilled workers and therefore, can access more formal channels for sending remittances (e.g., banks) that can offer lower transaction costs. Using the proxy measure for illegal migration, data for both barangays show that the proportion of OFW skilled workers who left for abroad with a job already arranged for them (68.1%) is significantly larger than the estimate for unskilled workers (26.1%).

The amount of remittances that an OFW is able to send home also varies depending on the country where he is working. For instance, OFWs in Italy sent lower amounts of remittances compared to those countries in the Middle East, including Saudi Arabia,

United Arab Emirates and Qatar, which is again related to the type of jobs where OFWs in these countries are engaged in and the level of income these migrants earn. In addition, the probability of family reunification in Italy may also be one of the factors that could lead to lower remittances. Figure 5.6 indicates the pattern in the amount of remittances sent by migrant by characteristics and confirms the results highlighted in the previous discussions. In particular, the OFWs who sent larger amounts of remittances, on average, are: 1) from Barangay Villa Angeles; 2) male; 3) more educated; 4) with a child in the Philippines; 5) skilled worker; and 6) working in Saudi Arabia (compared to Italy).

Figure 5.6. Distribution of annual remittances sent by migrant member, by characteristics of OFW



Note: 1/ For the purpose of comparison, more-educated migrants are defined as those who have at least 11 years of schooling years while less- educated migrants are those who have at most 10 years of education. Note that in the case of the Philippines, individuals with 10 years of education are expected to have finished secondary school. Meanwhile, individuals who achieved at least 11 years of education are simply assumed to have reached at least first year of tertiary education.

Although the average amount of remittances sent by women is less when compared to that of men, as highlighted earlier, the proportion of female OFWs who sent remittances to their households is larger compared to their male counterparts in both barangays (Table 5.20). This pattern is more obvious among OFWs working in Italy and Spain. Recall that most of the OFWs in these countries were working as household helpers, a type of work wherein women are more preferred over men. Hence, male OFWs in these countries have higher chances of being unemployed for a time or of receiving less wages,

especially if they have an illegal status in their country of destination. Furthermore, based on the information collected during the focus group discussions, women are more likely to have stronger connections with their families in the Philippines as manifested in the patterns of sending remittances. Given this, it appears that women OFWs are more reliable sources of remittances than male OFWs.

Table 5.20. Remittance sending patterns among OFWs, by sex and by barangay

	Saguing			Villa Angeles		
	Male	Female	Both Sexes	Male	Female	Both Sexes
Number of OFWs	**57**	**53**	**110**	**76**	**31**	**107**
Proportion who sent remittances	59.7	67.9	63.6	96.1	100.0	97.2
Average amount of annual remittances sent (in pesos)	117,190	104,753	110,794	246,570	120,258	208,919
Frequency of sending remittances						
Monthly	88.9	87.5	88.2	82.9	66.7	78.0
During special occasion or emergency	5.6	7.5	6.6	5.7	20.0	10.0
Once every 2 months	0.0	2.5	1.3	5.7	6.7	6.0
Twice a month	0.0	2.5	1.3	5.7	3.3	5.0
Once every 6 months	2.8	0.0	1.3	0.0	3.3	1.0
Weekly	2.8	0.0	1.3	0.0	0.0	0.0
Mode of sending remittances						
Money transfer agencies (e.g., western union)	41.7	42.5	42.1	67.1	66.7	67.0
Banks	47.2	35.0	40.8	30.0	33.3	31.0
Others [1/]	11.1	22.5	17.1	2.9	0.0	2.0
For whom the remittance is sent						
For a specific member/s of the household	22.2	17.5	19.8	30.0	20.0	27.0
For the entire household	77.8	82.5	80.3	70.0	80.0	73.0

[1/] Includes sending of remittances through friends/relatives who went home, door-to-door, sent together with the remittances sent by spouse/relatives, automatic allotment by the company which is directly sent to the OFWs family or brought home upon return

Source of basic data: CBMS Census: Barangay Saguing, Mabini, Batangas (2013) and Barangay Villa Angeles, Orion, Bataan (2015)

With regard to remittance sending patterns, data show that a majority of those OFWs who sent remittances to their households do so on a monthly basis while others do so in lesser frequency. The less frequent sending of remittances for some OFWs may also be due to the high cost of sending remittances. Some tried to save remittance costs by sending in huge amounts and in less frequency, particularly if the transaction fees for sending is fixed up to a certain amount of money to be sent. Meanwhile, some OFWs sent remittances only during special occasion, (e.g., birthday of a family member, Christmas holidays) or during emergency. The latter suggests that remittances could serve as

insurance for the households in times of need as having a member abroad can provide them greater economic security. This is also in line with the NELM which views migration as a decision is made not at the individual level but rather at the household or at a wider social entity and as such, it is considered as one way of not only maximizing income but also of minimizing the risks.

Most of the OFWs sent their remittances through more formal channels, such as money transfer agencies and banks. Some of the important considerations in selecting the mode for remittance sending are the reliability of the services and the costs involved. It is deemed by some that sending remittances through banks and money transfer agencies are the more secured way of sending remittances to their families. The availability and accessibility of banks and money transfer agencies (e.g., Western Union) for households in the two barangays encourages the OFWs to send their remittances through these channels. Data, however, showed that there were also some OFWs who opted to send their remittances through other modes which they find more convenient for them and for their families, such as door-to-door deliveries, through friends or relatives who went home (Filipino practice of *padala*), sent together with the remittances sent by spouse/relatives, automatic allotment by the company which is directly sent to the OFW's family, or brought home upon return. Note that there are only two migrants (out of the 267 current and return migrants) who brought home the "remittances" when they came home. Comparing the two barangays, it appears that OFWs in Barangay Saguing relied more on the more informal channels (e.g., sending through friends/relatives) than among those in Barangay Villa Angeles. Again, this pattern may related to the fact that relatives and friends or the migration network of OFWs from Barangay Saguing play an important role in an individual's entire migration experience. There are, in fact, more households in Barangay Saguing with multiple migrants (i.e., at least two OFW members) compared to Barangay Villa Angeles. Hence, it is also more likely that OFWs from Barangay Saguing would opt to send their remittances through a family member who is returning to the Philippines for vacations of for other purposes. Data showed that the remittances sent by these OFWs are mainly for use of the entire household and are usually spent to cover various household expenses. Some OFWs also sent remittances to cover the expenses of a specific member/s of the household, for instance, to cover health expenditures when a member of the household got hospitalized.

Remittance Spending Patterns

As highlighted by Semyonov and Gorodzeisky (2004) in a study of migration in the context of the Philippines, households which received remittances are likely to achieve better economic conditions. However, it should be recognized that the extent of benefits that households can derive from migration largely depends on the intrahousehold allocation of remittances. Hence, from the economic point of view, it is interesting to determine how households spent their remittance income. In general, the way remittances are allocated to consumer goods or to human and physical investments affects how remittances can impact development. According to Adams and Cuecuecha (2010), there are different views on how remittances are spent and how they can affect economic development. The first view recognizes the fungibility of remittances and

hence, spent at the margin like income from other sources. The second view claims that remittances can lead to behavioral changes at the household level and that there is a tendency for remittances to be spent on consumption goods instead of investment goods. The third view is based on the permanent income hypothesis which treats remittances as transitory type of income and therefore, households are likely to spend them more at the margin on investment goods (i.e., human and capital investment goods) than on consumption goods. For instance, Yang (2006a) found that positive exchange rate shocks resulted in increased educational expenditures in the Philippines, which can be considered an investment on human capital that can lead to development in the long run.

Given the above, the expenditure patterns of the migrant households in the two barangays are examined and it is found that a large chunk of the remittances were spent on food, education and savings. In particular, majority spent the remittances they received in the last 12 months on food (i.e., 88.6% of households in Barangay Saguing and 94.3% of households in Barangay Villa Angeles) (Table 5.21). More or less one-third of the total remittances received by the households were allotted for food. While some people believed that spending remittances on conspicuous consumption might not provide long-term benefit, others argue that consumption spending can lead to an increased local demand thereby generating more employment and livelihood opportunities for the people, in general (Ang, Sugiyarto, & Jha, 2009). However, based on the patterns in remittance spending, it appears that households in the two barangays also put priorities on investing in human capital. In fact, a significant proportion of households allotted a portion of their remittances for the education of their children. At least 16 percent of the total remittances received by migrant households in both barangays were spent on education of their children. It is recognized that spending remittances on children's education has the potential to generate long-term benefits not only to the individual and their respective households but also to their communities and to the entire country, in general. Additional discussions on how migration affects children, aside from education, are presented in section 5.5.5.

Meanwhile, a significant proportion of the migrant households in both barangays (i.e., 47.1% in Barangay Saguing and 54.5% in Barangay Villa Angeles) reported that they saved at least 14% of the remittances they received for future needs. These results are also in line with the latest estimates for the Philippines released by the Philippines Statistics Authority (2015) whereby about 39.1 percent of the OFWs in the Philippines are reported to have savings from the cash remittances they sent. The share of savings to total remittances is, however, higher based on the national estimate as majority of the OFWs were reported to set aside less than 25 percent of their cash remittances. In general, migrants who have plans to return to the Philippines in the future are more likely to have some savings as they can use these savings for consumption or investment when they return.

Table 5.21. Remittances allocation of migrant households in the last 12 months, by barangay

	Saguing		Villa Angeles	
No. of migrant HHs	70		88	
Remittance-recipient HHs (%)	91.4		96.6	
Mean remittances (in pesos)	157,266		195,507	
Share of women among those who claim the remittances (%)	57.1		75.0	
Type of Expenditure	**Proportion of HHs (%)**	**Ave. Share to Total Remittances (%)**	**Proportion of HHs (%)**	**Ave. Share to Total Remittances (%)**
Food	88.6	33.5	94.3	29.8
Education	55.7	16.3	69.3	17.4
Savings	47.1	14.2	54.5	16.0
Health	75.7	12.9	65.9	8.1
Utilities	77.1	9.5	88.6	15.6
Appliances/furniture	17.1	3.3	42.0	5.0
Loan repayment	25.7	2.8	43.2	4.3
Properties (e.g., land, house)	10.0	2.2	12.5	2.2
Business	4.3	0.6	5.7	1.1
Others	24.3	4.7	2.3	0.5

Source of basic data: CBMS Census: Barangay Saguing, Mabini, Batangas (2013) and Barangay Villa Angeles, Orion, Bataan (2015)

Although a significant proportion of the households also spent their remittances on other items such as health, utilities (e.g., water and electricity bills), appliances or furniture and payment of loans (including loans or credit they availed of to finance their migration expenses), the share of each of these expenditures item is less compared to the share of food, education and savings. The large spending on health may indicate that remittances enhanced spending on health or medical care (as in Pernia (2008) and Ducanes (2015)), but a much deeper analysis of the collected data using sound econometric techniques, for instance, may be necessary to determine if the increased spending on health is indeed due to the remittances received by their households. In fact, there are also other authors (e.g., Edillon (2008) and Ang, Sugiyarto and Jha (2009)) who claimed that remittances do not have significant influence on spending on health care in their study of the impact of international migration and remittances in the Philippines. Concerning loan repayment, the figure reported includes all type of loans availed by the household. However, since the rider questionnaire administered in Barangay Villa Angeles included a separate category that specifically captures loans that were availed to finance the migration expenses of the migrant member, some information can be provided. In particular, 23.5 percent of the migrant households in the barangay reported that they used part of the remittances (17.6%, on average) to pay for the migration expenses incurred by their migrant member.

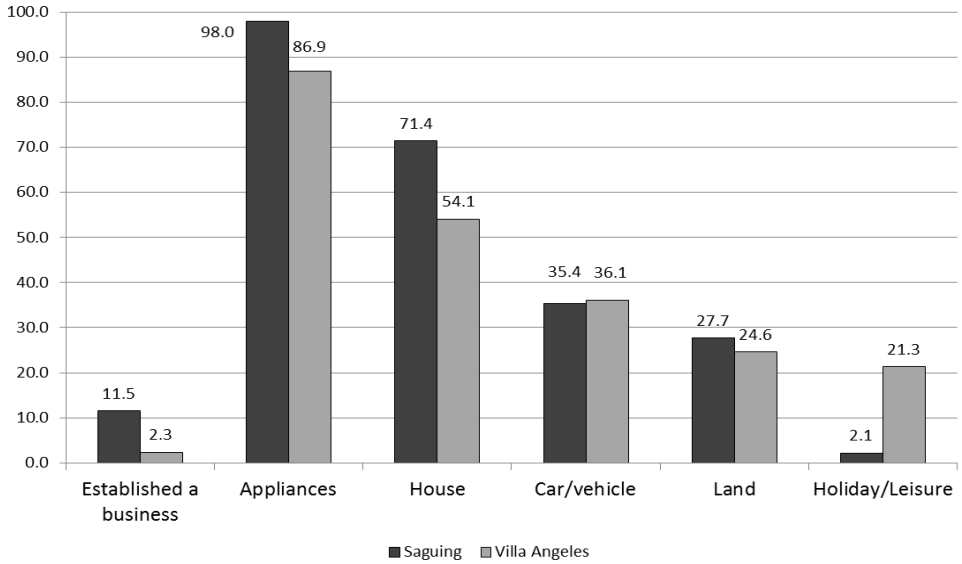
Investing on Assets and Productive Activities

In general, investing on productive activities is more likely to contribute to future income which can lead to long-term benefits. However, only one in every ten remittance recipient households spent part of the remittances they received in the last 12 months on properties (including houses or lands which could potentially be used in productive activities). In addition, very few households in the two sites spent the remittances on entrepreneurial activities. In fact, only 5.7 percent of the migrant households in Barangay Villa Angeles used part of the remittances for a business and this figure is even lower for Barangay Saguing at 4.3 percent. According to the participants of the FGDs, the remittances households received after spending on the essentials like food and education is, in most cases, not enough for them to invest in businesses. Assuming that these households have an intention to invest in an entrepreneurial activity, this pattern suggests that many remittance recipient households did not have enough savings yet to invest in an entrepreneurial activity. In some instances, as relayed by the FGD participants in Barangay Villa Angeles, the members who are left behind were also afraid of the risks involved in managing a business. In fact, some participants relayed that they were afraid of being blamed by their OFW member if the business fail or does not do well. This linked to the lack of education or skill among those who are left behind which prevents them from engaging in entrepreneurial activities or even exploring other ways of earning additional income using the remittances they received. While the local governments have implemented a few programs and initiatives aimed at providing livelihood trainings, these have not been successful in terms of achieving their objectives as these programs have not reached most of the migrant households in the two barangays. Based on the informal interviews with the local officials and discussions during the FGDs, there are no specific government programs that are implemented in their communities that target OFWs and their families. This is also confirmed by the responses in the rider questionnaire concerning access to some of these programs.

Expanding the reference period beyond the past 12 months and looking at the behavior of migrant households before and after they had an OFW member, results showed that indeed very few of them established a business since they had an OFW member (Figure 5.7). Those few households which engaged in entrepreneurial activities put up a small store (e.g., "*sari-sari"* store or a small convenience store, boutique shop, hardware shop*)* or engaged in public transportation services (e.g., tricycle, jeepney services) to provide additional source of income for their household. According to Reyes, et al., (2014b), the age, educational attainment and skills of OFW members, as well as the length of sending OFWs are the facilitating factors in a household's decision to engage in an entrepreneurial activity. On the other hand, the number of dependents, food expenditure, level of wages and salaries and construction of shelter are some factors that inhibits households to invest in business. It might have beein useful to see if the pattern is the same in the case of Barangay Saguing and Barangay Villa Angeles but a similar analysis is not possible given the limited number of observations. Meanwhile, the few households who put up a business, established their businesses in the town

center or in a nearby city where they believe their business will thrive instead putting them up in their own communities.

Figure 5.7 Investments and big purchases of migrant households since they had an OFW member



Source of basic data: CBMS Census: Barangay Saguing, Mabini, Batangas (2013) and Barangay Villa Angeles, Orion, Bataan (2015)

Focusing on durable goods and big purchases since migrant households had an OFW member (and not necessarily in the last 12 months prior to the interview), data show that almost all of them reported purchasing appliances or furniture for their homes. Owning these appliances or furniture is deemed to provide comfort to the members of these households. In line with providing a more comfortable living conditions for their family, a majority of the remittance-recipients spent their remittances to repair or build their houses since they had a migrant member. This result is supported by the improvements in the tenure status and housing characteristics of migrant households which will be discussed later in section 5.7.2. Meanwhile, at least one-third of the households were able to buy a vehicle and around one-fourth were able to purchase a piece of land since they had an OFW member. Owning a car or a piece of land offers a possibility for these households to use them for productive purposes which can later on provide them additional source of income. For instance, one household in Barangay Saguing was able to buy a vehicle since they had an OFW member which, was then, used in providing school transport services for the school children in their community allowing them to earn additional income from this business. Meanwhile, owning a piece of land offers a possibility of using the land for productive activities, such as farming or constructing a building which can be rented out for commercial purposes. Aside from these investments, members of migrant households were also able to spend time for a holiday or leisure activities after having an OFW member and this is more common among households in Barangay Villa Angeles than among those in Barangay Saguing. All these were made possible partly because of the significant contribution of remittances to total household income, allowing them to make big purchases or invest in productive

activities. These results are also in line with the findings of Tabuga (2007) who found that remittances induced households to spend more on housing, durable goods, consumer goods and leisure.

Control over the Remittances

As an interesting observation, data for both barangays show that female members of the household are the ones who usually claim the remittances. In particular, 57.1 percent of those who claimed the remittances sent by the OFWs in Barangay Saguing are women. The estimate for Barangay Villa Angeles is higher at 75.0%. This pattern is consistent with the fact that majority of the OFWs are men who leaves a woman at home, especially in the case of Barangay Villa Angeles. These women are not necessarily the wife of the OFW member but can also be his/her mother or his/her daughter. While this does not necessarily mean that women have full control over how the remittances will be spent, it implies that they are given more trust or responsibility over the remittances. A study conducted by the International Organization for Migration (2004) also confirmed that Filipino migrants in Italy usually trust women family members left behind (i.e., their wife, sister or mother) in taking control of the remittances they sent to their households. While the rider questionnaire administered in this study does not ask directly who has control over remittances, the fact that women are trusted to claim the remittances implies that it is more likely for them to have more control over the remittances compared to other members of their household. Many recognize that if women have the control, the remittances are generally managed well as they are prioritizing the essential needs, with some amount set aside for savings. On the other hand, husbands who are left behind by their OFW spouse are more likely to mismanage the remittances they receive. In fact, there were some stories relayed by the participants of the FGDs in Barangay Saguing where the husbands used a portion of the remittances on vices, such as gambling and cockfighting.

To somehow capture the above generalizations, Table 5.22 shows the patterns in remittances spending by sex of the person who usually claims the remittances. Although the average amount of annual remittances claimed by women is larger by about 30 percent compared to men, the pattern in remittances spending and prioritization is almost similar between the two groups of households. A large chunk of the remittances received by both groups of households is allotted on food, education and savings. Although households where the male member claimed the remittances generally spent larger proportion on food and savings, households where the female member claimed the remittances spent a relatively higher proportion on education. Assuming that the person who claimed the remittances has the control over how they will be spent, this figure suggests that women generally give higher allocations on expenditure items that improve the welfare of the children which is consistent with the results of Pajaron (2016).

Table 5.22. Remittances allocation of migrant households in the last 12 months, by sex of the person who claims the remittances

	Male		Female	
No. of remittance-recipient migrant HHs	40		103	
Mean remittances (in pesos)	154,075		200,421	
Type of Expenditure	**Proportion of HHs (%)**	**Ave. Share to Total Remittances (%)**	**Proportion of HHs (%)**	**Ave. Share to Total Remittances (%)**
Food	97.5	33.9	97.1	31.0
Education	67.5	16.2	86.4	17.1
Savings	50.0	14.7	54.4	14.2
Utilities	85.0	12.4	89.3	13.6
Health	72.5	8.7	74.8	10.7
Loan repayment	40.0	6.5	22.3	2.9
Appliances/furniture	25.0	2.9	36.9	5.0
Properties (e.g., land, house)	10.0	0.6	13.6	2.9
Business	10.0	1.5	3.9	0.7
Others	12.5	2.7	9.7	1.8

Source of basic data: CBMS Census: Barangay Saguing, Mabini, Batangas (2013) and Barangay Villa Angeles, Orion, Bataan (2015)

Reverse Remittances

An emerging area of literature which is also partly captured in this research is what they call "reverse remittances". As defined by Lubambu (2014), "reverse remittances" are money sent from non-migrants to migrants abroad which aims, for instance, to support them in difficult times or to finance education and housing[80]. As such, remittances can also flow from the non-migrants in the origin country to migrants abroad. In fact, based on the collected data in the two barangays, one in every ten OFWs received remittances from their origin households, with an amount averaging to about P7,724 (approximately US$164 at 1US$=P47) (Table 5.23). Most of these OFWs are coming from Barangay Saguing and are working in Italy. They are usually the sons of the current household head. In most of the time, the remittances are sent through a friend or a relative who will go abroad, i.e., in the same country where their OFW member is working. This is particularly the case Barangay Saguing since the role of migration networks has been more pronounced in the barangay. In this context, remittances help in maintaining social relations between the migrant and the members left behind.

[80] Mazzucato (2011), however, expanded the conceptualization of reverse remittances beyond monetary terms. She found that most of the remittances from the origin communities are in the form of services rendered, including child care, help in migrant's investments in housing and business and services to help in obtaining documents for the regularization of their stays abroad.

Table 5.23. Number and proportion of OFWs who received remittances, amount and mode of sending remittances

	OFWs who received remittances from non-migrants		Ave. amount of remittances sent to OFWs (in pesos)	Mode of sending remittances (% of OFWs)		
	No.	%		Money transfer agencies	Banks	*Padala* [1/]
Total	22	10.1	7,724	38.1	4.8	57.1
Location of HH						
Saguing	13	59.1	1,267	8.3	--	91.7
Villa Angeles	9	40.9	16,333	77.8	11.1	11.1
Country of Destination						
Italy	13	59.1	1,267	8.3	--	91.7
United Arab Emirates	3	13.6	15,667	66.7	--	33.3
Saudi Arabia	2	9.1	37,500	100.0	--	--
Others	4	18.2	6,250	75.0	--	25.0
Sex of OFW						
Male	13	59.1	9,908	41.7	8.3	50.0
Female	9	40.9	4,811	33.3	--	66.7
Position of OFW in the HH						
Head	5	22.7	23,000	100.0	--	--
Spouse	3	13.6	6,833	33.3	--	66.7
Son/Daughter	12	54.6	3,225	25.0	--	75.0
Other relatives 3/	2	9.1	5,500	--	50.0	50.0

[1/] Sent through friends or relatives who will also go abroad, i.e., in the same country where the OFW member is working

[2/] Includes Canada, Qatar and Brunei

[3/] Includes parent and other relatives

Source of basic data: CBMS Census: Barangay Saguing, Mabini, Batangas (2013) and Barangay Villa Angeles, Orion, Bataan (2015)

Remittances from Other Filipinos overseas

As highlighted earlier, it is possible that households (either migrant of non-migrant households) can also receive remittances from relatives or friends who are not part of their household. The additional questions to capture this are included in the rider questionnaire. Although the questions are asked only among migrant households in Barangay Saguing (using Version 1 of the rider questionnaire), they were asked to all households, either migrant or non-migrant, in Barangay Villa Angeles. Results from the collected data showed that only 4.3 percent and 9.1 percent of the migrant households in Barangay Saguing and Barangay Villa Angeles, respectively received these other remittances. In addition, in the case of Barangay Villa Angeles, 17.5 percent of the non-migrant households received remittances from relatives of friends who are not part of their household. This suggests that other households without a migrant member can also benefit directly from international migration through the remittances channel.

5.5.5 Changes in Family Structures and Relationships and Impact on Children

Changes in Family Structures and Relationships

It is widely acknowledged that aside from economic impacts, movement of household member abroad has some social impact. For instance, there can be some implications on family structure and relationships. Because of the movement of its members, the dynamics within households can potentially be affected. For instance, some children suffer because of the poor guardianship from parents who are abroad and in some cases, have to take some of the housework when the mother migrated abroad (Parreñas, 2005). Based on the collected data in the two barangays, about one-third of all current migrants in both combined sites used to be the head of the household before leaving for abroad (Table 5.24). Physical absence of the household head may mean that the relationships between husband and wife, between parents and children and among other members of the households could be affected. While some of the household heads who left for abroad maintain their headship and continue to perform their responsibilities as the main financial provider for their families, it cannot be denied that there will be changes in the intra-household arrangements because of the physical distance.

In this study, data showed that a majority of the migrants who left were married or with common-law arrangement and hence, many of them left their partners in the Philippines. In fact, about 70.9 percent and 53.0 percent of migrant in Barangay Villa Angeles and Barangay Saguing, respectively, left their partners in the Philippines. The proportion of men who left their wives (61.9%) is larger than the proportion of women who left their husbands (33.3%) in the Philippines. Based on an earlier study conducted by the Scalibrini Migration Center (2004), in cases where the husband works abroad while the wife is left behind, the latter takes more responsibilities as they assume the dual roles as fathers and mothers. On the other hand, in cases where the wife leaves for abroad, it seems that there are much more implications on the roles and sharing of responsibilities within the households. The same study claimed that while women assume men's responsibilities in cases when men are away, men do not necessarily take the role of care giving for the family, thereby resulting in significant changes in caregiving arrangements. These patterns are confirmed by the residents of Barangay Saguing and Barangay Villa Angeles during the informal interviews and FGDs conducted in both sites. In addition, participants of FGDs in Barangay Saguing that instances when the spouse who is left behind by his/her OFW partner engages in extramarital affairs leading to broken marriage and broken family. This is relayed by a couple of households in Barangay Saguing. On the other hand, an opposite pattern is observed for some households in Barangay Villa Angeles. In fact, based on the information shared by the FGD participants, there were cases when the relationships between husbands and wives were strengthened because of the physical distance. They explained that some couples who are separated by distance tend to be more loving and more concerned about their spouse than before as they keep constant communication which is made possible by

internet. Husbands and wives who were separated by distance tend to exert more effort to make their relationship work.

Interestingly, for OFWs from Barangay Saguing who worked in Italy, most of the married migrants bring with them their spouse and even their children. Note that the Italian law also allows qualified OFWs to bring their family members into the country for reunification. Hence, 39.8 percent of all migrants from the barangay live with their spouse or partner abroad. Consistent with this pattern is the fact that more than one-third (i.e., 34.3%) of the migrant households in Barangay Saguing have more than one OFW member, which may include both the husband and the wife and their children.

Meanwhile, almost a quarter (i.e., 23.5%) of the OFWs from both sites are currently single. These are mostly the sons or daughters of the current household head. Note, however, that there were few single OFWs (i.e., 3 of the 51 single migrants) who used to be married or had a long-term partner before leaving abroad. While the change in the status may not fully attributed to the movement of the migrant abroad, it can be assumed that the physical distance may be one of the factors that have affected the relationship between the migrant and his/her partner.

The frequency of coming back and returning abroad can also indicate how the relationships among the family members are maintained. Being able to return home means that the migrants have an opportunity to spend quality time with their families, including their spouse and children, and to make up for the lost time of being together. In terms of frequency of going abroad to work, data showed that many of the OFWs went abroad for two to three times already, which suggests circular migration. This pattern can be seen particularly for OFWs from Barangay Villa Angeles. Although a significant proportion of OFWs from Barangay Saguing followed the same frequency, there are more OFWs from this barangay who left for abroad only once and have not returned home since then. OFWs from Barangay Saguing who have left for abroad only once have been away for an average of 7.2 years already while those coming from Barangay Villa Angeles have been away for an average of 5.6 years. Unless these OFWs were able to bring their family members abroad, their physical distance from their families in the Philippines may result in poorer family relationships. Even when migrants return home after a long stay abroad, it is difficult to assume again the roles and relationships they had with their spouse or children prior to migration.

Table 5.24. Effects of migration on family structures and relationships, by barangay

	Both Sites		Saguing		Villa Angeles	
	No.	**%**	**No.**	**%**	**No.**	**%**
No. of current migrants	**217**		**110**		**107**	
Head of the household before leaving for abroad	**72**	**33.2**	**32**	**29.1**	**40**	**37.4**
Civil Status						
Married, divorced/separated, common-law/live-in	162	74.7	83	75.5	79	73.8
• *The partner is a member of the HH in the Philippines*	77	*47.5*	*34*	*41.0*	*43*	*54.4*
• *The partner is a member of another HH in the Philippines*	23	*14.2*	*10*	*12.0*	*13*	*16.5*
• *The partner is living with the migrant abroad*	45	*27.8*	*33*	*39.8*	*12*	*15.2*
• *The partner is living abroad but not with the migrant*	2	*1.2*	*2*	*2.4*	*0*	*0.0*
• *Unspecified*	15	*9.3*	*4*	*4.8*	*11*	*13.9*
Single	51	23.5	25	22.7	26	24.3
• *Previously married or with a long-term partner before leaving for abroad*	*6*	*5.9*	*1*	*4.0*	*2*	*7.7*
Widow/er	2	0.9	1	0.9	1	0.9
Unspecified	2	0.9	1	0.9	1	0.9
Frequency of going abroad to work						
Once	67	30.9	39	35.5	28	26.2
2-3 times	79	36.4	36	32.7	43	40.2
4-5 times	33	15.2	12	10.9	21	19.6
At least six times	35	16.1	20	18.2	15	14.0
Unspecified	3	1.4	3	2.7	--	--
Frequency of communication						
Everyday	71	32.7	27	24.5	44	41.1
Once a week	62	28.6	29	26.4	33	30.8
Twice a week	12	5.5	1	0.9	11	10.3
Once a month	26	12.0	20	18.2	6	5.6
Twice a month	18	8.3	18	16.4	--	--
Once every 6 months	3	1.4	2	1.8	1	0.9
Only during special occasions or emergencies	10	4.6	8	7.3	2	1.9
No regular contact	1	0.5	1	0.9	--	--
Unspecified	14	6.5	4	3.6	10	9.3
OFWs with at least one child	**129**	**59.4**	**74**	**67.3**	**55**	**51.4**
No. of migrant households	**158**		**70**		**88**	
No. of migrants per household						
one	121	76.6	46	65.7	75	85.2
two to three	29	18.4	18	25.7	11	12.5
at least four	8	5.1	6	8.6	2	2.3

Source of basic data: CBMS Census: Barangay Saguing, Mabini, Batangas (2013) and Barangay Villa Angeles, Orion, Bataan (2015)

However, it is generally viewed that frequent communications of OFWs with household members who they left behind in the Philippines may help maintain good relationships. Communications may be done through different channels, e.g., phone calls, e-mails, *Facebook*, *Skype* and other social media platforms. With the availability of these recent technologies and with costs that are now becoming cheaper, it is easier for migrants to connect with their family members in the Philippines unlike in the previous decades when OFWs relied on expensive phone calls or snail mails to reach their families in the Philippines. However, it is recognized that these more advanced methods of communicating still cannot replace the emotional relationship that can be developed when they are physically together. Given the limitations in interactions due to physical distance, the developments in technology have changed the nature of communication specifically in transnational relationships as highlighted by Carling (2014). Although the quality of communications is not captured during the household interviews in both barangays, it is generally recognized that more frequent communications will help maintain good relationships by having a channel by which information and stories can be exchanged between the migrants and their families in the Philippines. This can also have some influence on the patterns in remittance sending among migrants.

However, based on the opinions of the household respondents in both barangays, most of them *somewhat agree* that international migration negatively affects children and family relationships (Table 5.25). For instance, most of the respondents in Barangay Saguing (35.7%) and Barangay Villa Angeles (26.1%) *somewhat agree* that family relationships are negatively affected when the husband or the wife left for abroad which could possibly lead to divorce or separation. In addition, majority of the respondents in the two barangays (i.e., 62.8% for Barangay Saguing and 57.9% for Barangay Villa Angeles) *somewhat agree* or *strongly agree* that the children are negatively affected when their mother/father or both parents left them to work abroad.

Table 5.25. Perception about impact on children and family relationships by degree of agreement, by barangay

Statements	Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly Disagree	Don't Know	Average Score
	1	2	3	4	5		
1. When the husband or the wife went abroad, family relationships are negatively affected which could lead to divorce/separation.							
Saguing	25.7	35.7	25.7	7.1	4.3	1.4	2.3
Villa Angeles	19.3	26.1	18.2	23.9	6.8	5.7	2.7
2. The children are negatively affected when a mother/father or both lived abroad.							
Saguing	21.4	41.4	24.3	5.7	5.7	1.4	2.3
Villa Angeles	26.1	31.8	15.9	15.9	6.8	3.4	2.4

Note: The total number of respondents is 70 and 88 for Barangay Saguing and Barangay Villa Angeles, respectively, all of which are members of migrant households.
Source of basic data: CBMS Census: Barangay Saguing, Mabini, Batangas (2013) and Barangay Villa Angeles, Orion, Bataan (2015)

Impact on Children

In understanding the impact of international migration on children, the focus of this particular study is on children who are left behind by their migrant parents[81]. It is generally acknowledged that the absence of a parent or both parents can create changes in family arrangements. Although frequent contacts made my migrants (as reported in section 5.8.1) can partly help maintain a good relationship, a psychological disconnection can still exist between the children and their migrant parent/s (Levitt, 1998). Examining more closely the data, it was found that a total of 115 sons and daughters in both sites have at least one parent who is working abroad (Table 5.26). About 87.0 percent of them were below 18 years old, translating to a total of 100 children. These children are left behind by their parent/s and are living in the Philippines at the time of the census. Half of them are boys while the rest are girls. However, the patterns are different when disaggregated by barangay with boys dominating those in Barangay Saguing and girls dominating those in Barangay Villa Angeles.

Table 5.26. Profile of children with migrant parent/s, by barangay

	Both Sites		Saguing		Villa Angeles	
	No.	%	No.	%	No.	%
Total no. of children (<18 years old)	**115**	**21.4**	**66**	**24.2**	**49**	**18.5**
Residence of children (<18 years old)						
Living with other members in the barangay	100	87.0	51	77.3	49	100.0
Living with the migrant parent abroad	15	13.0	15	22.7	--	--
Sex of children left behind by migrant parent/s						
Male	50	50.0	30	58.8	20	40.8
Female	50	50.0	21	41.2	29	59.2
Age group of children left behind by migrant parent/s						
5 years old and below	24	24.0	14	27.5	10	20.4
6-12 years old	57	57.0	28	54.9	29	59.2
13-17 years old	19	19.0	9	17.6	10	20.4

Note: Children who were living with their parents abroad were not included in the estimates.
Source of basic data: CBMS Census: Barangay Saguing, Mabini, Batangas (2013) and Barangay Villa Angeles, Orion, Bataan (2015)

Majority of the children who are left behind by their parents are between the age of 6 and 12 years old, who are usually in their elementary school years. Children in these growth years without a parent or both parents to supervise them may face greater challenges in terms of their psycho-social development. While this may be partly compensated by the presence and support of the other parent (in cases when only one parent is abroad) or by other relatives or extended family members who serve as their guardians (e.g., grandparents, aunts/uncle, older sisters/brothers), it cannot be denied that absence of their own parent can have some disruptive effects on their development as children still long for the care of their biological parents. In fact, majority of the respondents in the two villages *somewhat agree* or s*trongly agree* on the negative impact

[81] As mentioned in the earlier discussions, there are some migrant's children who are living with their parents abroad. Furthermore, this analysis here focus only on children with a migrant parent/s as opposed to children of migrant households which is the focus of the analysis in Section 5.7.1

of parent migration on children, in general, as mentioned in section 5.8.1. The physical distance makes it difficult for parents to provide constant guidance to their children in many aspects of their lives. In some cases, children feel that they are neglected or abandoned by their migrant parents as they compare themselves with their friends and classmates. For instance, an adult child of a migrant in Barangay Villa Angeles relayed during the FGD that although they are living a comfortable life, she wished that her father is with them especially during important events in her life, such as school graduation, as well as during special occasions such as Christmas holiday. In addition, there were some children of migrant parents who also experienced pregnancy at an early age and hence, were not able to finish college which is relayed by some FGD participants in Barangay Saguing. Some linked this partly to the absence of her migrant parent and the lack of guidance and communication between them.

In terms of education, the proportion of children (6-17 years old) of migrant parents who were enrolled in school in the two barangays combined is slightly lower compared to their counterparts in non-migrant parents (Table 5.27). In particular, 93.4 percent of children of migrant parents were enrolled in school while 94.6 percent of children of non-migrant parents were attending school. Focusing on children 13-17 years old who are supposed to be in secondary school, data also showed higher school attendance rates for both barangays. In a study in the Philippines, Theoharides (2014) found a 3.5 percent increase in secondary school enrollment as a result of an average increase in provincial-level migration. Meanwhile, our initial expectation is that having a migrant member (and receiving remittances) will ease the budget constraints of migrant households allowing them to send their children to school. However, this is not necessarily the case for all migrant households as there were few children belonging to these households who were not attending school. Some migrant households may still not have sufficient remittance income to support the education of all their children, including those households whose OFW member has left only recently. Moreover, as pointed out by the participants during the FGDs, children who dropped out of school lost interest in studying given the lack of guidance from their migrant parents.

The disaggregation of the results by site revealed that Barangay Saguing exhibited a pattern that contradicts the general pattern for all children combined. Those children in the barangay with migrant parents recorded a slightly higher proportion of children who are enrolled in school compared to children in non-migrant parents. In general, residents of Barangay Saguing relayed during the FGDs that they have seen improvements in terms of access to education of children, particularly among those who belong to migrant households. This is also what they expected since providing good education for their children has been one of the major reasons of OFWs for migrating. Examining further the school enrolment among children based on age groups, data showed that younger children (i.e., aged 6-12 years old) recorded higher enrolment rates compared to older children (i.e., aged 13-17 years old)[82]. This pattern is observed

[82] Children aged 6-12 years old are expected to be in elementary schools while children aged 13-16 are usually in secondary schools. Children aged 17 years old can already be in tertiary education.

among children left behind by their migrant parent/s and among children of non-migrant parents. Meanwhile, comparing school participation of boys and girls, it appears that boys generally have higher enrolment rates than girls in both barangays. Quite positively, there were two children in the sites covered (i.e., one for each site) who were able to return to school after receiving remittances from their migrant member.

Table 5.27. Education indicators of children of migrant and non-migrant parent/s, by barangay

	Both Sites		Saguing		Villa Angeles	
	No.	%	No.	%	No.	%
Number of children (6-17 years old)	**394**		**186**		**208**	
Children left behind by a migrant parent	**76**		**37**		**39**	
Children enrolled in school	71	93.4	35	94.6	36	92.6
6-12 years old	56	98.3	28	100.0	28	96.6
13-17 years old	15	79.0	7	77.8	8	80.0
Children enrolled in private school	32	45.1	17	48.6	15	41.7
Children without a migrant parent	**318**		**149**		**169**	
Children enrolled in school	298	94.6	138	92.6	160	96.4
6-12 years old	171	99.4	87	100.0	84	98.8
13-17 years old	127	88.8	51	82.3	76	93.8
Children enrolled in private school	66	22.2	20	14.5	46	28.8
Boys enrolled in school	33	89.2	21	91.3	12	85.7
Girls enrolled in school	38	97.4	14	100.0	24	96.0
No. of children who returned to school due to remittances	2		1		1	

Notes: Children who were living with their parents abroad are not included in the estimates. Children with missing information on relevant variables are not included in the estimation.
Source of basic data: CBMS Census: Barangay Saguing, Mabini, Batangas (2013) and Barangay Villa Angeles, Orion, Bataan (2015)

Enrolling in private schools in the Philippines is generally viewed as way more expensive than in public schools as they usually provide better facilities than public schools since they do not rely on government funding to operate. This, however, does not necessarily mean that all private schools offer better quality education than public schools. In fact, Jimenez & Lockheed (1995) found that many private schools in the Philippines, particularly secondary schools, have the same low standard as the average provincial or municipal public schools. Meanwhile, public schools include some high quality special schools (e.g., science high schools) but majority of the public high schools offer only the equivalent of intermediate elementary instruction. Data for both barangays showed that there are still more children enrolled in public school than in private schools[83]. This implies that despite the increase in the financial resources due to remittance income, some migrant households still sent their children to public schools due to a number of reasons. One of the reasons identified during the field work is the

[83] While private schools are usually seen as providing better quality education, it should be recognized that there are also good public schools in the Philippines which offer even better quality education to students.

limited availability of private schools in the communities. Although private schools may be available in nearby municipalities, it is considered impractical for the guardians to send the children to these schools since the distance may also pose inconveniences to them and to the children given their very young age. However, comparing the estimates between the two groups of children, it appears that there are more children with migrant parents who are enrolled in private schools (45.1%) than children with non-migrant parents (22.2%). In general, migrant households are more likely to have more financial resources for education due to the remittances sent by their migrant members allowing them to pay for the higher tuition fees charged by private schools. In fact, as discussed earlier in section 5.5.4, a large proportion of the remittances received by migrant households is spent on education of the children. In a study in the Philippines, Theoharides (2014) found that for an average change in migration demand, enrolment in secondary schools increases by 11.9 percent for private schools and by 1.5 percent for public schools. Interestingly, it was noted that having personal tutors for children studying in elementary and high school became common among those households with mother or both parents working abroad, especially in the case of Barangay Saguing, as relayed by the FGD participants. These tutors are hired to assist the children in their studies, especially since their parent or both parents are abroad. According to the FGD participants, this is particularly helpful when the grandparents act as the children's guardians and are too old to supervise and guide them in their education.

Meanwhile, it is also hypothesized that the effects of international migration on children also depend on who migrates abroad. Examining the patterns among children 17 years old and below in both sites combined, it was noted that majority of the migrants' children were left behind by a migrant father (Table 5.28). In particular, 79.0 percent of them have a migrant father while the rest have a migrant mother. Again, most of these children belong to the age group 6-12 years old who are expected to be in their crucial stage of development as most of them are in their elementary school education. The proportion of girls among those who were left behind by a mother (52.4%) is higher than boys (47.6%). On the other hand, the proportion of boys among those children with a migrant father (50.6%) is slightly higher than girls (49.4%). Girls with a migrant mother and boys with a migrant father may be affected more compared to other children because of the possible consequences of the absence of a role model as they grow up.

Further examination of the data revealed that among children 13-17 years old, majority are girls (i.e., 57.9%). Although not directly captured in the data collection instruments, it is likely that girls of this age, and whose mother migrated abroad, will take some of the household responsibilities, such as doing some simple household chores. Some of the previous migration studies support this. For instance, in one of the interviews conducted by Parreñas (2005), a girl relayed that she has to take some of the housework when her mother migrated abroad which affected her time for studying and hence, resulted in lower school grades. In an earlier study, Battistella and Conaco (1998) claimed that having a migrant parent may not necessarily affect negatively the development of the

children, particularly if it is the father who works abroad and the mother remains with them at home. This was supported by the study conducted by Cortes (2015) using the data from the Philippine Census (1990, 1995, 2000 and 2007) and Survey on Overseas Filipinos (1993-2000) which found that children of migrant mothers are more likely to lag behind in school compared to those with migrant fathers, suggesting that a mother's absence has stronger detrimental effects than a father's. The tabulations that present the profile of children who were left behind by migration status of their parents reveal some interesting patterns as discussed in the succeeding paragraphs.

Table 5.28. Profile of children by migration status of their parents, by barangay

	No Migrant Parent		Migrant Mother		Migrant Father	
	No.	%	No.	%	No.	%
Age						
Children (17 years old and below)	423		21		79	
Children 0-5 years old	105	24.8	7	33.3	17	21.5
Children 6-12 years old	174	41.1	8	38.1	49	62.0
Children 13-17 years old	144	34.0	6	28.6	13	16.5
Sex						
Male	210	49.7	10	47.6	40	50.6
Female	213	50.4	11	52.4	39	49.4
Nutrition						
Children 0-5 years old who are malnourished	3	2.8	0	0.0	0	0.0
Education						
Children 6-17 years old who are in school	329	89.7	14	100.0	57	91.9
Children 6-17 years old who are enrolled in a private school	74	22.5	5	35.7	27	47.4
Children 6-17 years old lagging in school	95	32.8	3	30.0	12	22.2
Location						
Barangay Saguing	207	48.9	19	90.5	32	40.5
Barangay Villa Angeles	216	51.1	2	9.5	47	58.5

[1/] A child is considered lagging in school if he is a) enrolled in a level below the one expected for his age; and b) not currently enrolled or dropped out of school.

Note: There were only 2 children with both parents who were abroad and were not included in the estimation.

Source of basic data: CBMS Census: Barangay Saguing, Mabini, Batangas (2013) and Barangay Villa Angeles, Orion, Bataan (2015)

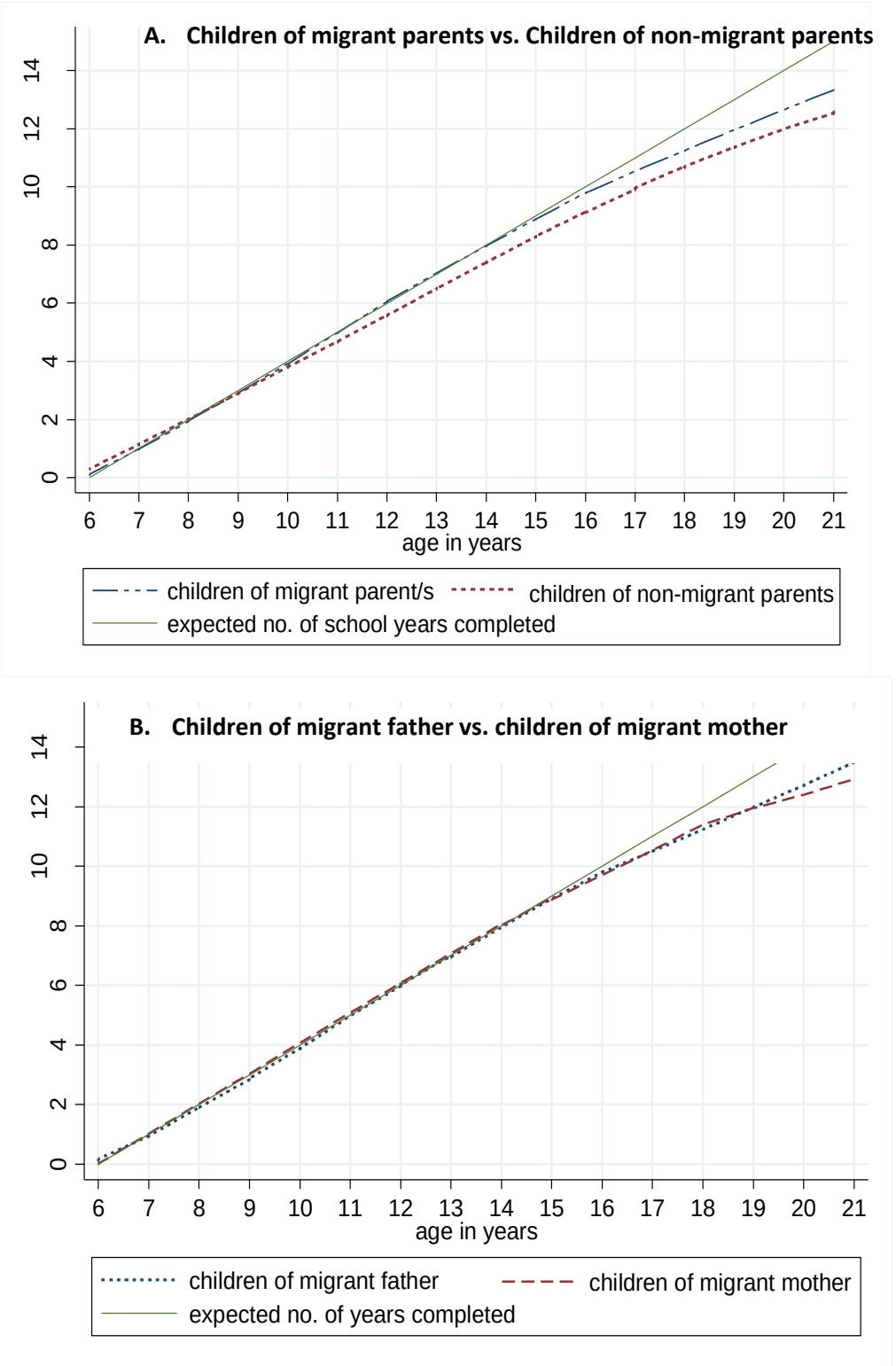
Moreover, the disaggregated data on the educational status of children 6-17 years old consistently highlighted that children with a migrant parent (i.e., with either the father or the mother who is abroad) are more likely to be enrolled in school than children with non-migrant parents. Interestingly, all children with a migrant mother were studying while a few children of migrant fathers dropped out of school. In fact, only 91.9 percent of children with migrant father attend school. Although the proportion of those enrolled in private school is higher among children with a migrant father (47.4%) compared to those with a migrant mother (35.7%), the estimate is still higher for the latter when compared to children who do not have a migrant parent (22.5%). This confirms earlier generalization that children with a migrant parent are more likely to be enrolled in a private school, which is deemed to be more expensive than public schools in the Philippines.

Figures 5.8 demonstrates that children of non-migrant parents are more likely to lag behind[84] in school than children of migrant parents. In general, children of non-migrant parents start to lag behind in school at an earlier age (i.e., 11 years old) compared to children of migrant parents who appear to lag behind at a later age (i.e., around 16 years old). To enrich the analysis of the potential impact on education, the age of children considered in this analysis is extended up to 21 years old which will capture those who are supposed to be enrolled in tertiary education. Results show that although both groups generally lag behind when they reach the age of 16 to 21 years, children of migrant parents appear to have better conditions as they have completed more years of education, on average, compared to their counterparts in non-migrant parents. Furthermore, a comparison between children of migrant mother and of migrant father revealed that while both groups of children are not likely to lag behind in school in their early years, they tend to have less than expected number of years of schooling when they reached the age of 16 to 21 years old. However, it appears that children of migrant mothers tend to lag more when they are 20 to 21 years old compared to those children with migrant fathers in the same age range. This may be due to the additional responsibility given to children of this age, e.g., additional household chores, taking care of younger siblings, etc., when their mother is away. This justification is in line with Asis (2000) who found that girls in the family, more often the eldest, usually assume the roles of the migrant mother as the father does not automatically assume this role when the mother leaves for abroad.

Meanwhile, according the opinion of the respondents, migrant households tend to give higher priority on education of their children. In fact, majority of the household respondents agree (i.e., *somewhat agree* or *strongly agree*) that people are encouraged to study more because they think that more skilled and educated people can migrate (Table 5.29). In some cases, in fact, migrant households tend to invest more on education because of the possibility of working in countries where most of the current OFWs from the barangay are working (i.e. Saudi Arabia). For instance, since the type of work done by most of the OFWs from Barangay Villa Angeles (e.g., professionals or skilled workers) require a specific type of skills and a relatively higher level of education, children of both migrant and non-migrant households in the barangay were likely to be encouraged more to pursue tertiary education. Given the fairly successful migration experience of relatives or friends from their communities who have better education, households tend to invest more in education in order to increase their chances of finding a job abroad.

[84] A member 6-21 years old is considered lagging in school if he is currently unenrolled or is enrolled in a level lower than what is expected.

Figure 5.8. Age and years of education of children, by migration status of parents



Source of basic data: CBMS Census: Barangay Saguing, Mabini, Batangas (2013) and Barangay Villa Angeles, Orion, Bataan (2015)

Table 5.29. Perception about education and migration by degree of agreement, by barangay

Statements	Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly Disagree	Don't Know	Average Score
	1	2	3	4	5		
1. Because people think that more skilled and educated people migrate, they are encouraged to study more.							
Saguing	32.9	40.0	14.3	5.7	4.3	2.9	2.1
Villa Angeles	34.1	36.4	22.7	2.3	3.4	1.1	2.0

Note: The total number of respondents is 70 and 88 for Barangay Saguing and Barangay Villa Angeles, respectively, all of which are members of migrant households.
Source of basic data: CBMS Census: Barangay Saguing, Mabini, Batangas (2013) and Barangay Villa Angeles, Orion, Bataan (2015)

Based on the responses during the FGDs, many residents believe in the importance of having the right skills which fit the demand of the destination countries in hastening the process of working abroad. However, since many of the OFWs in Barangay Saguing work as laborers and unskilled workers (including domestic workers) in Italy which are the types of job not requiring a high educational attainment, children and their guardians are likely to have lost some incentives to pursue tertiary education. In fact, as relayed by some FGD participants, some high school graduates lack the incentive to pursue any college degree thinking that with or without the degree, the same type of work as their parents would be available for them when they move abroad. Another negative impact relayed by the FGD participants is that there are children who do not realize the importance of education and the sacrifices of their parents abroad which cause them to skip classes and eventually drop out of school.

5.6 Determining the Impact of International Migration on Poverty

5.6.1 Comparing the Pre-migration and Post-migration Status of Households

A comparison between the pre-migration[85] and post-migration status of migrant households also revealed an improvement in the living status after having a migrant member. For instance, there was an increase in the proportion of households with access to electricity by 8.6 percent and 4.6 percent in Barangay Saguing and Barangay Villa Angeles, respectively (Table 5.30). The proportion of households which own their house and lot also increased by 11.5 percent and 5.4 percent, respectively, in the two barangays. Improvements in the housing characteristics among migrant households in both sites are also observed. This is evident in the increase in the proportion of migrant households living in houses with roof and walls made of strong materials, as well as floors with better quality materials. Most of the houses, particularly those owned by households with an OFW member, are made of concrete and seemingly expensive

[85] Information on the pre-migration status of households was collected using the rider questionnaire that was developed for this research. A longitudinal data from the core CBMS may also provide this information especially if the database covers a sufficient number of time periods.

materials. This pattern also mirrors the importance given by households in housing investments, especially in the case of Barangay Saguing. Indeed, there is a common tendency for the residents in the barangay to associate a small with a non-OFW household and a big house with an OFW household. In addition, houses made of concrete, steel and iron are associated with OFW households while houses made of wood and light materials are linked to non-OFW households. Annex O shows the typical houses owned by migrant households in Barangay Saguing and an example of a house owned by a non-OFW household and an OFW household in the barangay. Although the picture of houses owned by a non-OFW household and an OFW household shows an extreme case, it provides some indication of inequality between the two groups.

Table 5.30. Housing characteristics of migrant households in Barangay Saguing and Barangay Villa Angeles: Pre- and post-migration

Housing characteristics	Saguing			Villa Angeles		
	Pre-migration	Post-migration	Diff.	Pre-migration	Post-migration	Diff.
	(a)	(b)	(b)-(a)	(a)	(b)	(b)-(a)
Owner or owner-like possession of house and lot	77.1	88.6	11.5	69.6	75.0	5.4
Roof made of strong materials	65.7	97.1	31.4	87.2	95.5	8.3
Walls made of strong materials	47.1	97.1	50.0	89.5	95.5	6.0
Floors with wall to wall carpet, marble, polished wood, floor tile , brick or paving tile or cement	80.0	87.1	7.1	78.4	86.4	8.0
With access to electricity	91.4	100	8.6	95.4	100.0	4.6

[1] Strong materials include galvanized iron, aluminum, tile, concrete, brick, stone and asbestos, among others.
Source of basic data: CBMS Census: Barangay Saguing, Mabini, Batangas (2013) and Barangay Villa Angeles, Orion, Bataan (2015)

Although Barangay Saguing is classified as a rural village, the structures of the houses somehow gives it a unique characteristic. The houses in the barangay have architectural designs that are different from the usual designs of Filipino houses, which is deemed to be largely influenced by the foreign countries where the OFWs work. For instance, migrant households tried to adopt the Mediterranean or Italian-inspired designs in building or renovating their houses. This has been a common trend not only in this village but also in the entire municipality of Mabini[86]. Most migrant households in their community normally invest their money, particularly the remittances they received from their OFW member, in housing improvements or construction as they view houses as obvious symbols of their social status in the community. They believe that owning a well-constructed house allows them to achieve a higher social status compared to their neighbors.

[86] Majority of migrant houses in Mabini followed the Italian architectural design as majority of the OFWs from this municipality are working in Italy. There is, in fact, one village in the municipality which they call "Little Italy" because of the topography of the area and the Italian-inspired designs of the houses located in this village.

While the OFW is abroad, many of them send part of their earnings to build houses for his family, including his parents, husband and children or siblings. Aguilar (2009) also explained such pattern in relation to the meanings of houses in a culture of bilateral kinship. He noted that "houses as memorials serve as idioms of ties of relatedness within kin groups and the broader community". In this context, spending on houses can be seen not only as economic in nature but also social and cultural. This pattern is not unique in the case of the Philippines as the same picture is seen in many other emigration countries such as Ecuador (Codesal, 2014) and Mexico (Lopez S. , 2010).

In some cases, the houses built by OFWs are simply left unoccupied at the moment but are the intended retirement place of the migrant upon his return from work abroad. These houses also usually serve as a vacation house for these OFWs when they visit the Philippines. This is especially true in the case of Barangay Saguing were many houses were unoccupied at the time of the census since all other original household members were living somewhere else or even abroad. During the field work activities in Barangay Saguing, the author had the privilege to stay in one of the houses owned by an OFW. The house, although already habitable, is not yet finished. According to the relatives, the OFW is still saving enough money to finance the improvements and complete the furnishings of the house. Building their houses in stages over a number of years until they are finished is a common practice among OFWs as relayed by the residents of Barangay Saguing. It is also a common practice for the OFW to ask his relatives, who are also living in a different house within the barangay, to be in-charge of the house. In some cases, a caretaker other than the OFWs own relatives is hired to regularly clean and maintain the house.

Aside from discussing the general pre-migration status of the households as highlighted above, it is also interesting to see some pre-migration characteristics of the migrants themselves, particularly in terms of their employment status. For instance, it is worth noting that a large proportion of the OFWs from both barangays did not have a job prior to their first migration episode, i.e., 68.2 percent and 45.8 for Barangay Saguing and Barangay Villa Angeles, respectively. These are the OFWs who did not contribute to total household income prior to first migration, including those individuals who were 1) studying prior to first migration; 2) not working (either looking for work or not looking for work); and 3) working but were not receiving any salary (e.g., unpaid laborers). This means that moving abroad and working there will mean an additional income for the household, particularly if the migrant members send remittances to their origin households.

5.6.2 Estimating the Impact of International Migration on Poverty Using Instrumental Variables (IV) Method

This section aims to determine the impact of international migration on poverty using the collected data in Barangay Saguing and Barangay Villa Angeles. Following the same motivations in Chapters 3 and 4, an IV method is employed given the endogeneity of migration decisions[87]. The definition and summary statistics of the key variables used in the IV model were presented earlier in Table 5.11. Similar to the motivations discussed in section 3.5.2, migration network is also used as an instrument in this Chapter. Three separate IV models were estimated using three instrumental variables derived based on the migration network variable. The first definition constructs the variable using the following formula:

$$mignetwork3_{ipb} = \frac{M_{pb}}{NM_{pv} + M_{pb}} \times A_{ipb} \qquad \text{(Equation 5.1)}$$

where M_{pb} refers to the number of migrant households in *purok p* in barangay *b,* NM_{pb} refers to the number of non-migrant households in *purok p* in barangay *b* and A_{ipb} refers to the number of adult members 20 years old and above in household *i* in *purok p* in barangay *b*. Note that this formula is similar to Equation 3.4 used in estimating the migration network in Chapter 3. The only difference is that this variable is estimated at the barangay level and hence, the share of migrant households to total households is estimated at the *purok* level rather than at the barangay level. Similar to the previous formula, the first term is interacted with A_{ipb} in order to have heterogeneity across households. The variable A_{ipb} refers to the number of adult members aged 20 years old above in household *i* in purok *p* in barangay *b*. This instrument referred to as *mignetwork*3, is used in the first IV model. The second IV model, meanwhile, used the lagged value of *mignetwork3*. In particular, the value is estimated based on the CBMS data of Barangay Saguing and Barangay Villa Angeles, which were collected in 2009. Hence, the lagged value of *mignetwork3* was estimated similar to Equation 5.1 but using the 2009 CBMS data. Again, it is assumed the historic migration network as measured by the lagged value of migration network can affect the migration decisions of households.

In the third IV model, *mignetwork4* is used, which is a migration network variable defined based on the additional information collected using the rider questionnaire. In particular, an OFW is said to have relied on his migration network during his first migration if he satisfies at least one of the following conditions: 1) knew another migrant/OFW from the community before leaving for abroad; 2) with relatives or friends as source of information; 3) accompanied by relatives or friends during the first

[87] Although this section focuses on the use of the IV method in estimating the impact of international migration on poverty, other econometric methods may also be employed. Annex P demonstrates how the counterfactual income approach following the Heckman two-step estimation framework can be employed using the datasets of Barangay Saguing and Barangay Villa Angeles.

migration; and 4) with accommodation provided by relatives/friends during the first stay abroad. The variable is estimated as follows:

$$mignetwork4_{ipb} = \frac{OFWA_{pb}}{OFWA_{pb} + OFWB_{pb}} \times A_{ipb} \qquad \text{(Equation 5.2)}$$

where $OFWA_{pb}$ refers to the total number of OFWs in *purok p* in barangay *b* who relied on their migration network during their first migration and satisfies the condition enumerated above, $OFWB_{pb}$ refers to the total number of OFWs in *purok p* in barangay *b* who did not rely on migration network during their first migration and hence, did not satisfy any of the conditions enumerated above, and A_{ipb} refers to the number of adult members aged 20 years old above in household *i* in purok *p* in village b. The first term in the formula essentially captures the share of OFW in purok *p* in barangay *b* who relied on migration network during the first migration to total number of OFWs in purok *p* in barangay *b.* Similar to the previous formula, the first term is interacted with A_{ipb} in order to have heterogeneity across households.

Using the above instruments, three different IV models were estimated. The first model used *mignetwork3* as instrument, the second model used the lagged *mignetwork3* and the third model used *mignetwork4* (Table 5.31). The explanatory variables include household characteristics capturing demography, employment, education and location of households. The F-test for the excluded instruments and the undeidentification test show relevance of the instrument in each of the model. Since only one instrument is used in each model, it is not possible to text for the overidentifying restrictions. However, the same motivations discussed in Chapters 3 and 4 are used as basis for using migration network as an instrument for migration, albeit the differences on how the variable is defined. Examining the coefficients for our variable of interest, results show that having an OFW member significantly increases the (log) per capita income of households, holding other factors constant. In particular, the coefficients for the migration status variable is significant at 1 percent for the three models using different instruments. Although some variables are not significantly affecting the (log) per capita income, the signs of the coefficients for the three models are consistent with some earlier expectations. For instance, household size, dependency ratio and the share of female working member in the household is negatively correlated with the (log) per capita income of households. On the other hand, the number of employed adult members, the average years of schooling and living in an urban area are positively correlated to household's income. Similar results were obtained when the other non-traditional IV methods were employed, particularly the Probit-OLS and the Probit-2SLS using *mignetwork4* as instrument for migration (Table 5.32). Using *mignetwork4* as instrument, the IV models were also estimated using the poverty status as dependent variable. Similar to the justifications discussed in section 3.5.1, the IV model was estimated through (direct)2SLS, Probit-OLS and Probit-2SLS using rosbust standard errors (Table 5.33). With signs that are consistent with our earlier expectations, the F statistic shows that the explanatory variables for the (log) of per capita income of household are jointly significant. Meanwhile, focusing on our variable of interest, results

based on the three models show that having a migrant member significantly decreases the likelihood of being poor.

Table 5.31. Instrumental variables regression results using different instruments for migration (Dependent Variable: Log of per capita income)

Variables	Model 1		Model 2		Model 3	
	Instrument: *mignetwork3*		Instrument: lagged *mignetwork3*		Instrument: *mignetwork4*	
	Coeff.	Std. Error	Coeff.	Std. Error	Coeff.	Std. Error
Dependent variable: Log of per capita income						
Migration status						
Migrant HH (migrant HH=1; non-migrant HH=0)	1.591***	0.732	3.238**	1.816	1.958***	0.680
Demography						
Household size	-0.203***	0.027	-0.218***	0.046	-0.206***	0.030
Dependency ratio	-0.059	0.069	-0.088	0.118	-0.066	0.077
Employment						
No. of adult members with job	0.204***	0.080	0.059	0.179	0.171**	0.081
Share of female working member (%)	-0.002	0.001	-0.003	0.003	-0.002	0.001
Education						
Ave. years of schooling of adult members	0.090***	0.030	0.036	0.067	0.078***	0.030
Location						
Living in urban area	0.158**	0.096	0.242	0.175	0.176*	0.105
Constant	9.922***	0.260	10.235***	0.504	9.992***	0.279
First-stage regression (Dependent variable: migration status, i.e., migrant HH=1; non-migrant HH=0)						
Migration network	0.143***	0.058	0.001**	0.0004	0.444**	0.148
Demography						
Household size	-0.026	0.020	-0.012	0.019	-0.016	0.016
Dependency ratio	0.064	0.042	0.050	0.042	0.045	0.038
Employment						
No. of adult members with job	0.075***	0.027	0.084***	0.027	0.070***	0.027
Share of female working member (%)	0.001	0.001	0.001	0.001	0.001*	0.001
Education						
Ave. years of schooling of adult members	0.031***	0.010	0.032***	0.010	0.030***	0.010
Location						
Living in urban area	-0.021	0.050	0.015	0.063	0.038	0.057
Constant	-0.211**	0.122	-0.246***	0.126	-0.227*	0.121
Tests	**Statistic**	**P-**	**Statistic**	**P-value**	**Statistic**	**P-**
F-test for excluded instruments	6.140	0.014	2.770	0.097	9.010	0.003
Underidentification test *(Anderson canon.*	6.2	0.013	2.8	0.094	9.0	0.003
No. of Observations	445		445		445	

*** significant at 1% level; ** significant at 5% level * significant at 10% level

Source: Author's estimation using CBMS census data in Barangay Saguing, Mabini, Batangas (2013) and Barangay Villa Angeles, Orion, Bataan (2015)

Table 5.32. Instrumental variables regression results using *mignetwork4* as instrument and different IV methods (Dependent Variable: Log of per capita income)

Variable	Model 1		Model 2		Model 3	
	Direct-2SLS		Probit-OLS		Probit-2SLS	
	Coeff.	Std. Error	Coeff.	Std. Error	Coeff.	Std. Error
Dependent variable: Log of per capita income						
Migration status						
Migrant HH (migrant HH=1; non-migrant HH=0)	1.958***	0.673	1.558***	0.516	1.599***	0.593
Demography						
Household size	-0.206***	0.029	-0.204***	0.024	-0.203***	0.027
Dependency ratio	-0.066	0.072	-0.059	0.062	-0.059	0.069
Employment						
No. of adult members with job	0.171**	0.079	0.210***	0.062	0.203***	0.071
Share of female working member (%)	-0.002***	0.001	-0.002	0.001	-0.002	0.001
Education						
Ave. years of schooling of adult members	0.078***	0.031	0.091	0.024	0.089***	0.027
Location						
Living in urban area	0.176*	0.105	0.150*	0.084	0.158*	0.095
Constant	9.992***	0.264	9.921	0.222	9.924	0.249
F	21.1		31.9		25.4	
Prob > F	0.000		0.000		0.000	
First-stage regression (Dependent variable: *ofwind*)						
Migration network	0.444***	0.148	1.330	0.467	1.330***	0.467
Demography						
Household size	-0.016	0.016	-0.045	0.050	-0.045	0.050
Dependency ratio	0.045	0.038	0.136	0.115	0.136	0.115
Employment						
No. of adult members with job	0.070***	0.027	0.205	0.081	0.205	0.081
Share of female working member (%)	0.001*	0.001	0.003*	0.002	0.003*	0.002
Education						
Ave. years of schooling of adult members	0.030***	0.010	0.095	0.031	0.095***	0.031
Location						
Living in urban area	0.038	0.057	0.128	0.172	0.128	0.172
Constant	-0.227*	0.121	-2.219	0.394	-2.219***	0.394
No. of Observations	445		445		445	

*** significant at 1% level; ** significant at 5% level * significant at 10% level

Source: Author's estimation using CBMS census data in Barangay Saguing, Mabini, Batangas (2013) and Barangay Villa Angeles, Orion, Bataan (2015)

Table 5.33. Instrumental variables regression results using *mignetwork4* as instrument and different IV methods (Dependent Variable: Income poverty status)

Variables	Model 1		Model 2		Model 3	
	Direct-2SLS		Probit-OLS		Probit-2SLS	
	Coeff.	Robust Std. Error	Coeff.	Robust Std. Error	Coeff.	Robust Std. Error
Dependent variable: Log of per capita income						
Migration status						
Migrant HH (migrant HH=1; non- migrant HH=0)	-0.908***	0.327	-0.770***	0.242	-0.789***	0.308
Demography						
Household size	0.057***	0.014	0.056***	0.011	0.056***	0.013
Dependency ratio	0.076*	0.040	0.073***	0.031	0.074**	0.038
Employment						
No. of adult members with job	-0.029	0.039	-0.043	0.029	-0.039	0.037
Share of female working	0.001	0.001	0.001	0.001	0.001	0.001
Education						
Ave. years of schooling of	0.005	0.015	0.0004	0.012	0.001	0.015
Location						
Living in urban area	-0.084	0.058	-0.074*	0.041	-0.078	0.054
Constant	0.190	0.139	0.213**	0.104	0.212*	0.132
F	10.84		12.00		8.3	
Prob > F	0.0001		0.000		0.000	
First-stage regression (Dependent variable: migration status: migrant=1; non-migrant=0)						
Migration network	0.441***	0.134	1.322***	0.467	1.322***	0.467
Demography						
Household size	-0.015	0.016	-0.044	0.050	-0.044	0.050
Dependency ratio	0.044	0.037	0.134	0.115	0.134	0.115
Employment						
No. of adult members with job	0.071***	0.028	0.211***	0.081	0.211***	0.081
Share of female working	0.001*	0.001	0.003*	0.002	0.003*	0.002
Education						
Ave. years of schooling of	0.029***	0.010	0.093***	0.031	0.093***	0.031
Location						
Living in urban area	0.037	0.056	0.125	0.172	0.125	0.172
Constant	-0.224**	0.108	-2.212***	0.394	-2.212***	0.394
No. of Observations	448		448		448	

*** significant at 1% level; ** significant at 5% * significant at 10% level

Source: Author's estimation using CBMS census data in Barangay Saguing, Mabini, Batangas (2013) and Barangay Villa Angeles, Orion, Bataan (2015)

5.6.3 Subjective measures of the impact of international migration

Aside from looking at the objective measures, it is also useful to examine potential impact of international migration based on the opinions of the respondents. In one section of the rider questionnaire, the opinions of the respondents were sought by asking the level of agreement in each of the statements relating to migration. In particular, they need to indicate if they 1) strongly agree; 2) somewhat agree; 3) neither agree nor disagree; 4) somewhat disagree; or 5) strongly disagree in each of the questions. The list of questions were largely adopted from the various questionnaires administered in different countries under the project "Development on the Move: Measuring and Optimising Migration's Economic and Social Impacts" (Chappell, Agelescu-Naqvi, Mavrotas, & Sriskandarajah, 2010). The thirteen (13) statements[88] which are presented in Box 1 capture the different aspects of the migration, such as a) migration aspirations and the role of migration network; b) impact of return migration; c) impact on education; d) impact on children and family relationships; and e) impact on communities and the country, in general. For the purpose of the analysis, these statements can be classified into groups depending on the migration issue being captured. Recall that some of these issues have already been discussed in earlier chapters using objective measures. The responses were incorporated in the earlier discussions, to the extent possible, to complement or support the results based on the objective measures.

Box 1. List of Opinion Questions

Migration aspirations and the role of migration network

1. I think that the Philippines is a good place to live.
2. If I had the choice I would live in another country.
3. I am happy with the way the Philippines is run.
4. Filipinos are encouraged to leave for abroad because they see others migrating as well.

Impact of return migration

5. Filipinos who lived abroad care more about gender and ethnic equality when they return.
6. Filipinos who return from abroad help the country by getting more involved in politics and social issues.
7. Filipinos who lived abroad care more about the environment when they return.

Impact on education

8. Because people think that more skilled and educated people migrate, they are encouraged to study more.

Impact on children and family relationships

9. The children are negatively affected when a mother/father or both lived abroad.
10. When the husband or the wife went abroad, family relationships are negatively affected which could lead to divorce/separation.

Impact on communities and the country, in general

11. Important public services (e.g., hospitals, schools, etc.) are offering poor services because teachers, nurses and doctors are leaving the Philippines.
12. Filipinos living abroad provide important support to the community (e.g., by giving money to the school or to religious organizations).
13. Filipino migrants are sending remittances more for family needs and less for community needs.

[88] Note that the Filipino version of the questionnaire was administered in the two barangays.

The discussions in this section, however, focused on the opinions of the respondents with regard to the subjective measures of the wellbeing of migrants and their households. In general, OFWs can benefit from international migration when the income they earn, given their skills, is higher abroad compared to what they could have earned in the Philippines. Meanwhile, household's situation may improve given the increased income and investments resulting from the remittances sent by their OFW members. The quality of their own lives is, however, assessed by individual respondents by comparing their current situation (post-migration) to the their situation prior to the first migration experience(pre-migration). Given this, it is assumed that their responses capture all other measures, aside from income. Since this section aims to capture the subjective measure of the changes in their wellbeing, household respondents were asked to give their opinions on the following relevant questions which helps in determining the impact of international migration on migrants and their households:

1. *Compared to your household's situation prior to your member's first migration, how has your household's condition change?*
2. *In your opinion, how would you compare your migrant member's current living status abroad to his/her status while living in the Philippines?*

In particular, the respondents need to indicate if they current situation is 1) much worse; 2) slightly worse; 3) no change; 4) slightly better; or 5) much better. Since the questions determine the perceived status of the households, it is important to acknowledge the biases that may occur. For instance, response bias may occur if the respondents have the tendency to say the opposite when they feel embarrassed to tell the true situation. In addition, people's standard varies as their responses may depend on the situation of the people they know, including their relatives and friends, or the situation in their communities. However, it is still acknowledged that the responses provided could still help complement the results based on the objective measures.

A total of 158 migrant households in the two barangays combined responded to the questions above. Based on their responses, it appears that majority of the household respondents agreed that the living condition of migrants and their households have improved after migration (Table 5.34). About 75.7 percent of the respondents from the migrant households in Barangay Saguing believed that that their living condition is much better after their member's first migration. Although the estimate is lower for Barangay Villa Angeles, the proportion is also significant at 66.7 percent. Since welfare improvements among migrant households with a migrant member working in Italy is more evident compared to other countries, it appears that the possibility of reunification can influence on the level of life satisfaction among migrant households. This further supports the presumption that the impact of international migration on the well-being of households is not solely dependent on the economic benefits.

Table 5.34. Perception about changes in the living condition of migrants and their households, by barangay

Statements	Much worse	Slightly worse	No change	Slightly better	Much Better	Don't Know	Average Score
	1	2	3	4	5		
1. Current situation of the household compared to situation prior to member's first migration.							
Saguing	0.0	0.0	1.5	22.7	75.7	0.0	4.7
Villa Angeles	0.0	0.0	3.5	29.9	66.7	0.0	4.6
2. Current situation of migrant members compared to situation prior to migration.							
Saguing	0.8	0.8	4.9	21.1	72.4	0.0	4.5
Villa Angeles	2.2	2.2	9.9	26.4	59.3	0.0	4.4

Note: The total number of respondents is 70 and 88 for Barangay Saguing and Barangay Villa Angeles, respectively, all of which are members of migrant households.
Source of basic data: CBMS Census: Barangay Saguing, Mabini, Batangas (2013) and Barangay Villa Angeles, Orion, Bataan (2015)

An almost similar pattern is observed when the situation of the migrant members was compared to their living condition prior to migration, with majority of the respondents believing that the situation of their migrant members was much better. There is a tendency for the individual respondents to correlate high income levels with better living conditions. In fact, the level of improvement increases with the level of per capita income. For instance the income of those who think that there is *no change* to their living condition as a result of migration is significantly lower than those who believe that their situation is *slightly better*, with an average per capita income of P79,600 and P101,069, respectively. These figures are also lower than the average per capita income of those households who are believed to have experienced *much better* living conditions which is estimated to be P117,545.

Averaging all the responses, it appears that international migration has generally led to improvements in the living conditions of migrants households in Barangay Saguing and Barangay Villa Angeles with average scores of 4.7 and 4.6, respectively. A similar pattern is observed when examining the improvements in the situation of the migrant member with an average score of 4.5 and 4.6 in the two barangays, respectively. The generally positive impact of migration is also supported by the fact that no household experienced worse condition after migration according to the opinions of the respondents. Although households in Barangay Saguing received lower per capita remittance, on average, the barangay has a relatively longer history of migration with migrants staying abroad for a longer period of time. Given this, there is a higher likelihood that migrants from the barangay contribute to the improvement of the household's living conditions. Again, this is also more evident in the improvements in the housing conditions which one of the most tangible measure that respondents seem to consider in giving their perceptions in their general well-being. However, there were few migrant members who are believed to experience worse condition compared to their situation prior to migration. While no details can be provided on the possible cause of the deterioration of their living

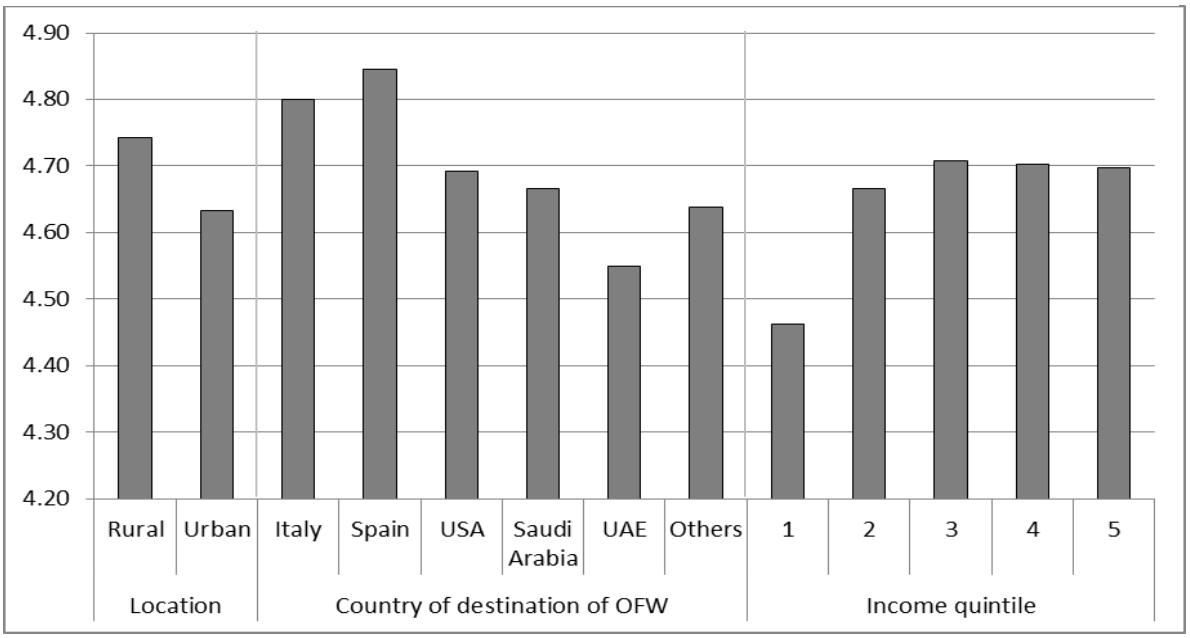
condition, this observation gives some insights on the overall negative effect of international migration on individuals. This is more likely true for migrants who experienced worse working conditions abroad, especially those who are staying in the country of destination illegally, i.e., illegal migrants. In fact, the proportion of migrants who were reported to experience *much better* condition among those without jobs arranged prior to migration (87.6%) is less than those with jobs already waiting for them abroad (92.1%).

Furthermore, majority (i.e., 74.1%) of the household respondents would still prefer their migrant member to leave for abroad if they are given the choice to decide. This is expected since the results above confirmed positive improvements in their living conditions since they had a migrant member. In fact, having experienced improvements in their living situation is the most common reasons why they would still prefer their migrants to leave. Another reason is that many of them find life in the Philippines difficult given the challenges in finding a job and earning better income. Sending a member abroad to work allowed them to earn higher income, send their children to school and even save some money for their families' future. In general, the various reasons mentioned by the respondents point to the importance given by families on providing a decent and comfortable life for their members. Meanwhile, for those respondents who would rather that their migrant member did not leave for abroad, the main reason cited is that the physical distance of their migrant member is difficult. For some, if better job opportunities are available for their migrant member, they would prefer that their migrant member work in the Philippines. This highlights the high value given by many Filipino households on being with their families.

A comparison of the mean response scores of households to the relevant questions mentioned above revealed some interesting observations. Aside from the seemingly larger improvements in the rural households compared to urban households, there appears to be a correlation between the mean scores and the income status of the households (Figure 5.9). The relatively rich households (particularly those who belong to the third, fourth and fifth income quintile) think that they experienced much better improvements in their living condition compared to their situation prior to member's first migration as indicated by the higher mean scores. At the same time, households with a migrant member working in countries in Europe, including Italy and Spain, generally experienced much better condition compared to those with a migrant in other countries like Saudi Arabia, USA and UAE, when looking at their situation prior to member's first migration.

Meanwhile, the respondents for migrant households were also asked to identify the major changes that they experienced since they had an OFW member. Most of the respondents relayed improvements in their living conditions, in general. Some respondents mentioned that because of the remittances they received, they were able to purchase a house and lot, send their children to school, purchase a vehicle or durable goods, finance their daily expenses and even have savings. When asked about their opinion on the overall impact of international migration on the lives of the people in their communities, majority of the respondents (i.e., 78.0%) opined that it has a generally positive impact while 10.6 percent believed that it has a negative impact. The rest has neutral opinion about this issue. Those who believed of the positive impact highlighted the general improvements in the lives of the Filipinos due to international migration. On the other hand, those who believed of the negative impact highlighted the specific negative impact on children and family relationships, including husbands and wives.

Figure 5.9. Mean response score for the impact of international migration on households based on subjective measures, by location, country of destination and income quintile



Source of basic data: CBMS Census: Barangay Saguing, Mabini, Batangas (2013) and Barangay Villa Angeles, Orion, Bataan (2015)

5.6.4 Impact of international migration on communities

It was also acknowledged that the remittances sent by the OFWs benefit not only their origin households but also the communities, in general. The remittances which may be spent on consumption or investments could possible increase the standards of living of recipient households and has the potential to stimulate local economic activities that can generate more livelihood opportunities for the people. For instance, increased spending on food, housing, education and health needs may create more employment in the

communities. In fact, as discussed in section 5.5.4, majority of the remittance-recipient households spent the remittances on these expenditure items. A relatively large proportion of the remittances received by migrant households is spent on food, which can contribute to the increase in the local demand for food. This can potentially generate livelihood opportunities for the barangay residents, including both migrant and non-migrant households. For instance, people who are engaged in the production and retail of food are most likely to benefit. In addition, given an increase in expenditures on housing, new income and employment opportunities (e.g., construction work for the poor and unskilled; business opportunities for selling woods and other construction materials) may be generated. Furthermore, investing also the remittances on human capital (i.e., spending on health and education) can produce healthier and better-educated population which can contribute to long-term benefits to the communities and the country, in general.

As noted earlier, both barangays covered in this study have a long history of international migration. In fact, the first migration experience of most of the OFWs from these villages happened more than 8 years ago, on average. There were even residents who left for abroad more than 15 years ago. According to the participants of the FGDs in both barangays, their communities appear to be more progressive now compared to 15 years ago. Improvements are evident with the availability of more sources of income and livelihood for the residents. With the shift in main sources of livelihood over the years, some residents look back to their past which is characterized by hardships and poverty. A very simple example of the changes they experienced is that they can already afford to buy more expensive food (e.g., *lechon manok* (roasted/grilled chicken) unlike in the past when their income can only buy them cheaper alternatives such as *tuyo* (dried fish) as viand.

In terms of economic activities, information collected during informal interviews, during the community validation activities and during the FGDs reveal some changes. For instance, businesses related to providing money transfer services such as banks and *padala* centers (e.g., Western Union and Cebuana Lhuillier) appear to benefit from international migration as many were established in the nearby town proper or nearby cities. A number of gasoline stations were also established to cater to the needs of many households who were able to purchase their own vehicles, mainly out of the remittances they received from their migrant member. This is particularly the case in Barangay Saguing which is confirmed by the FGD participants. Furthermore, given the need to communicate with their OFW member, internet shops also became popular in the communities several years ago. This offered cheaper alternatives to migrant households to communicate with their OFW member. At the same time, access to internet became an important necessity in recent years to enable people in the communities to access important information, including information on employment opportunities abroad. However, given the improved capacity of the households, they can now afford to have their own internet connection at home using their own computers or laptops, which leads to a decline in the demand for internet shops in the communities.

Another way by which international migration can affect the communities is through the financial assistance they provide to their communities. There are, however, very few OFWs (i.e., 2 in every 10 OFWs) in the two barangays who sent money or in-kind help to their communities during the past 12 months. The money was sent as donations for specific local projects or institutions such as schools, health facilities, religious organizations and civic organizations. This can help in further development of their communities, especially if many OFWs participate in such actions. While the information collected during the interviews focus on individual remittances sent to communities, it should also be recognized that collective remittances is also possible which is sent through organizations and other channels. Based on the collected information, these forms of assistance were usually sent by the Filipino migrants when the communities experienced a "crisis", such as damages due to typhoons and flooding in their area. A relayed by the participants of the FGD, they have previously received some forms of assistance from OFWs when they experienced damaging typhoons and flooding in their areas. Although very few migrant members from the barangays were reported to send assistance to their communities, many of the household respondents (45%) agree that Filipinos abroad, in general, provide important support to the community. However, as expected, majority of these Filipino migrants are sending remittances more for family needs and less for community needs.

Another potential effect of international migration on communities and the Philippines, in general, is the possible decline in the quality of public services that are provided to the people (e.g., hospitals, schools, etc.) which may be due to the fact that Filipino professionals (including teachers, nurses and doctors) are leaving the Philippines to work abroad (Table 5.35). About 40.0 percent and 48.9 percent of the respondents in Barangay Saguing and Barangay Villa Angeles, respectively, *somewhat agree* or *strongly agree* that this is the case. This is related to the important issue of "brain drain" mentioned in section 5.2.3. Although others see the movement of skilled Filipinos abroad as "negative", it can also be viewed as "positive" in terms of benefitting the country through the transfer of skills and knowledge. It also encourages more people to invest in human capital, particularly in education of its household members given the possibility of working and earning and earning higher income abroad.

Aside from asking opinion questions that directly relate to migration, the respondents were also asked to give their opinion on more general issues. Most of the respondents agree (i.e., *somewhat agree* or *strongly agree*) on the positive statement about the Philippines, in general. In particular, majority of the respondents in both barangays (i.e., 77.2% for Barangay Saguing and 80.7% for Barangay Villa Angeles) agree that the Philippine is a good place to live which implies some degree of satisfaction in their current living conditions. However, the proportion of respondents who were happy with the way the Philippines is run, particularly by the government is less at 38.6 percent and 42.1 percent for Barangay Saguing and Barangay Villa Angeles, respectively. This may be one of the reasons why many of them would prefer to live in another country if given the choice. About 52.9 percent of the respondents in Barangay Saguing prefer to live in another country while 56.9 percent of those in Barangay Villa Angeles prefer to

do so. This, suggests the lack of optimism among Filipinos who live in these barangays. Dissatisfaction in their current living conditions and the lack of better opportunities now and in the future, as they believe, can be one of the factors that will push more people to migrate.

Table 5.35. Opinion about the current living situation and the impact of migration on communities and the country by degree of agreement: Barangay Saguing and Barangay Villa Angeles.

Statements	Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly Disagree	Don't Know	Ave. Score
	1	2	3	4	5		
1. I think that the Philippines is a good place to live.							
Saguing	52.9	24.3	20.0	2.9	0.0	7.1	1.7
Villa Angeles	50.0	30.7	9.1	6.8	3.4	0.0	1.8
2. If I had the choice I would live in another country.							
Saguing	20.0	32.9	22.9	8.6	11.4	4.3	2.6
Villa Angeles	27.3	29.6	17.1	12.5	12.5	1.1	2.5
3. I am happy with the way the Philippines is run.							
Saguing	10.0	28.6	41.4	14.3	2.9	2.9	2.7
Villa Angeles	11.4	30.7	28.4	13.6	15.9	0.0	2.9
4. Important public services (e.g., hospitals, schools, etc.) are offering poor services because teachers, nurses and doctors are leaving the Philippines.							
Saguing	10.0	30.0	30.0	12.9	7.1	10.0	2.7
Villa Angeles	20.5	28.4	30.7	15.9	2.3	2.3	2.5
5. Filipinos living abroad provide important support to the community.							
Saguing	15.7	30.0	24.3	18.6	2.9	8.6	2.6
Villa Angeles	19.3	26.1	37.5	9.1	4.6	3.4	2.5
6. Filipino migrants are sending remittances more for family needs and less for community needs.							
Saguing	58.6	24.3	10.0	1.4	2.9	2.9	1.6
Villa Angeles	59.1	19.3	12.5	3.4	2.3	3.4	1.7
	Much worse	**Slightly worse**	**No change**	**Slightly better**	**Much Better**	**Don't Know**	**Ave. Score**
	1	**2**	**3**	**4**	**5**		
7. Impact of Filipinos abroad on the lives of Filipinos left behind in the country							
Saguing	1.4	0.0	4.2	36.6	57.8	0.0	4.6
Villa Angeles	2.3	4.6	6.8	39.8	46.6	0.0	4.2

Note: The total number of respondents is 70 and 88 for Barangay Saguing and Barangay Villa Angeles, respectively, all of which are members of migrant households.

Source of basic data: CBMS Census: Barangay Saguing, Mabini, Batangas (2013) and Barangay Villa Angeles, Orion, Bataan (2015)

5.7 Summary and Conclusion

This chapter addressed the need for additional migration-related data that will enrich the analysis and understanding of the migration phenomenon and how it affects poverty. Although the standard CBMS-HPQ collects some migration-related data at the household and individual level, there are important migration issues that are not captured in the CBMS-HPQs. To fill the information gap, more detailed data were collected to capture the following: 1) return migrants; 2) more information about current migrants, including migration history and changes in their family structure and relationship due to migration; 3) role of migration networks; 4) individual remittance sending pattern and household remittance spending pattern; 5) household's living conditions prior to first migration experience; 6) investments made by the migrant households; 7) access to programs that specifically target OFWs and their families; 8) opinions and perceptions on various migration issues and 9) measures of illegal migration. Collecting these information can provide a more comprehensive view of the migration phenomenon that can guide planners and decision makers s in improving current programs and in designing new interventions that are necessary in order to help migrants and their households. The new questionnaire developed in this study served as a rider to the standard CBMS–HPQ and contains additional questions that collect these migration-related information. These questionnaires were administered in one rural barangay (Barangay Saguing in the municipality of Mabini in Batangas) and one urban barangay (Barangay Villa Angeles in the municipality of Orion in Bataan), both of which recorded a relatively high proportion of migrant households with 37.2 percent and 30.6 percent, respectively.

The collected data in Barangay Saguing and Barangay Villa Angeles provided a comprehensive set of information that captures not only the poverty situation of households but also the important aspects of migration. This allowed examination of the relationship between international migration and poverty and supported by the additional information that captures other migration issues. Comparing the living standards of migrant and non-migrant households, data showed that the incidence of poverty is significantly lower among the former group. In fact, majority of the migrant households belong to the upper income quintiles, which is partly due to the significant contribution of remittances to their total household income. Examining the other dimensions of poverty, data also showed that migrant households are generally better-off compared to non-migrant households.

Meanwhile, a detailed examination of the characteristics of OFWs in both barangays revealed some interesting patterns. In particular, OFWs from both barangays are mostly male, the sons/daughters of the current household head, married and with a child. At the same time, they are more educated compared to their counterparts in the Philippines. Most of them work as unskilled workers (e.g., household helpers) in the case of OFWs from Barangay Saguing and as skilled workers (*trade and related workers*) in the case of OFWs from Barangay Villa Angeles. Majority of the OFWs from Barangay Saguing are working in Italy while most of the OFWs from Barangay Villa Angeles are

working in countries in the Middle East, including Saudi Arabia and United Arab Emirates.

The additional information collected through the rider questionnaire provided some useful information that provides insights on the different migrations issues that are relevant in the Philippine context. One of the key issues covered is the important role of migration network in facilitating the migration of (potential) migrants. This is reflected in the collected data for both barangays as this network they provided the (potential) migrants with relevant information about the opportunities abroad and about the process of migration itself. In fact, migrants who moved abroad without a prior job arrangement can also seek assistance from their migration network in finding a job. The collected data showed that migration networks have, indeed, provided migrants with assistance before, during and after moving abroad. The importance of migration, however, also varies across individuals. For instance, the importance of migration network decreases as the level of education of the (potential) migrant increases. Meanwhile, information collected through informal interviews and FGDs in Barangay Saguing confirmed that there can also be some negative effects. For instance, there are cases when some potential migrants simply rely on their migration network to facilitate their migration abroad and lose their incentive to invest on education and skills development that should have given them higher chances for migration abroad. In addition, some potential migrants would rather migrate abroad through backdoor means and rely on their migration network in finding a job abroad.

In terms of return migration, it was found that migrants return for various reasons. Some may indicate a failed migration while others can be considered a successful migration. For instance, if he made that decision to come home in order to start a new business in the Philippines, he may be classified as a successful migrant. This target earner stayed overseas until he is able to reach his earning goals. On the other hand, some failed migrants return because of some problems such as their illegal status in their country of destination, problems with their employers and concerns about their safety, among others. Although there are already existing Philippine programs that assist return migrants, there might be a need to evaluate their effectiveness. An important aspect that perhaps needs to be addressed is the limited understanding on the importance of savings and investments among many OFWs which is actually manifested in the very few number of return migrants who made some investments upon their return. At the same time, majority of the return migrants are unemployed when they return home. This means that households will experience a decline in their total income should the return migrant remain unemployed and do not engage in any other productive activities. The lack of database on return migrants in the Philippines prevents an effective way of monitoring these returnees and identifying the specific type of intervention that should be provided.

Data also showed that data showed that there is still a significant proportion of OFWs who left the Philippines without a prior job arrangement, especially those who moved to Italy as in the case of Barangay Saguing. The list randomization method that was implemented in Barangay Villa Angeles also confirmed the incidence of illegal migration. Although the method does not clearly identify which of the migrants are considered illegal, it confirms that illegal migration is one of the important issues that need to be addressed.

In terms of remittances, findings showed that remittance-recipient households relied heavily on these remittances as it account for a large share of their total household income. As confirmed in this study, not all migrant households received remittances from their migrant member and indeed, individual level information confirmed that not all migrant members sent remittances to their origin households. Since one important advantage of the dataset used in this study over the other existing datasets is that data on remittances can be measured down to the individual level, this study was able to examine the remittance behavior at the migrant level. Indeed, it appears that the amount of remittances sent by the migrants varies depending on migrants' characteristics such as sex, age, education, civil status, position in the family, occupation and country of destination. In particular, higher amounts of remittances are generally sent by OFWs who are male, more educated, married, with a child living in the Philippines, skilled and working in Saudi Arabia (compared to Italy).

Meanwhile, the way remittances are spent by remittance recipients determines how it will affect their well-being. Although a significant proportion of the remittance income is spent by the migrant households on food, it seems that human capital investment is also given priority by many households since a large chunk of the remittances were spent on education of the children. It is widely recognized that spending remittances in education has the potential to generate long-term benefits not only to their respective households but also to their communities and to the entire country, in general. Interestingly, a large proportion of the remittances is allotted by households on savings, which suggests the importance given by migrant households in preparing for their future and possibly, for the return of the migrant to their home country. However, very few invested in productive activities, such as entrepreneurial activities. It is recognized that women generally managed well the remittances if they have control on how they should be spent such that priority is given on essential needs. On the other hand, there is a tendency for men to mismanage remittances as evidenced by a few cases wherein the husbands used part of the remittances on vices, such as gambling and cockfighting. In the collected data for this study, assuming that the person who claimed the remittances has the control over how they will be spent, women appears to give higher allocations on expenditure items that improve the welfare of the children. Although the control over the use of the remittances is with the migrants and their beneficiaries, being informed of how to spend these remittances responsibly and how they could generate more gains not only for their households but for the communities and the country, in general, is deemed important (International Organization for Migration , 2010). On another note concerning the receipt of remittances, data showed that there are also some non-

migrant households (i.e., without an OFW member) which received remittances from international migrants who are not part of their household. This suggests that other households without a migrant member can also benefit directly from international migration through the remittances channel. However, given the smaller amount received by non-migrant households (i.e., only about half of the average amount of remittances sent by OFW members to migrant households), their impact on these households is expected to be less.

While results have been consistent in highlighting the economic benefits of migration, the social costs of migration also needs attention. Based on the collected information, family structures and relationships within the household can also affected by the movement of at least one of its members. The relationship between husbands and wives and between parents and children may be affected due to the physical distance although recent technologies already allow them to communicate more frequently than in the old times. For children with migrant parents who are left behind, the physical distance of parents who are abroad can have disruptive effects. Majority of these children are in their growth years (i.e., 6 -12 years old) and therefore facing greater challenges in terms of their psycho-social development. Some children feel that they are neglected or abandoned by their migrant parents as the physical distance makes it difficult for their parents to provide constant guidance to their children in different aspects of their lives. There were actually few children who lost interest in school given the lack of guidance from their migrant parents.

Although a large chunk of the remittances received by migrant households was spent on education of their children, data showed that the proportion of children of migrant parents aged 6-17 years old who were not enrolled in school is less compared to those who are children of non-migrant parents, particularly in the case of Barangay Villa Angeles. Although the initial expectation is that having a migrant member and receiving remittances will allow these households to send their children to school, results showed that there were few children in migrant households who were not enrolled in school. There were, in fact, some children who dropped out of school. Quite positively, however, the opposite pattern is observed in the case of Barangay Saguing whereby migrant households recorded a higher participation in elementary and secondary school education among children in the same age range. Furthermore, children with migrant parents are more likely to be enrolled in private school, which is generally more expensive than public schools. Focusing on children 17-21 with migrant parents, interesting patterns also emerged. Some high school graduates, particularly in Barangay Saguing where majority of the OFWs work as domestic helpers in Italy, lack the incentive to pursue any college degree thinking that with or without the degree, the same type of work as their parents would be available for them when they move abroad. In one of the household interviews conducted by the researcher, the respondent relayed that one of his children is simply waiting for an approval for reunification with her mother who is working in Italy. Even if the child has already finished college, she is not looking for a job in the Philippines and spending most of her time in unproductive activities, particularly gambling activities with their neighbors.

A comparison of the pre- and post-migration status of migrant households confirmed improvements in their living conditions, especially in terms of their housing characteristics. Most migrants, themselves, also experienced general improvement in their conditions compared to their pre-migration situation, particularly in terms of their employment situation. In order to estimate the impact of international migration on poverty, the IV method was also employed to account for the endogeneity of migration and using migration network as instrument. Aside from defining migration network simply as the share of migrant households to the total number of households in the *purok* (interacted with the number of adult members in the household to allow migrant network to have different effect on households with different tendencies to migrate in the first place) (*mignetwork3*), a new definition of migration network was employed to account for those migrants who actually relied on this network during their migration experience. In fact, another objective of including questions concerning migration network in the rider questionnaire is to refine the definition of migration network that was employed in the previous chapters. Hence, the new measure of now accounts for the actual assistance these network provided to the migrant, particularly in terms of information and different forms of assistance during the migrant's first migration experience. In particular, the first term in this new migration network (*mignetwork4*) variable is the share of OFWs in the *purok* which satisfied at least one of the following conditions: 1) knew another migrant/OFW from the community before leaving for abroad; 2) with relatives or friends as source of information; 3) accompanied by relatives/friends during the first migration; and 4) with accommodation provided by relatives/friends during the first stay abroad. This term is also interacted with the number of adult members in the household given the same motivations explained above.

Results of the IV estimation using migration network (*mignetwork3*, lagged *mignetwork3* and *mignetwork4*) as instrument further confirmed that international migration can increase the (log) per capita income of households, controlling for some household characteristics. This positive impact of international migration is also confirmed when the poverty status (which is a binary outcome variable) is used as the dependent variable. In fact, results of the estimation showed that having an OFW member decreased the likelihood that households would become poor. Meanwhile, the instrument *distance* to Manila used in Chapter 3 as an instrument may also be considered as an instrument but the lack of more accurate data on distance (as proxy for migration cost) prevents this Chapter to use a similar instrument. Meanwhile, the adoption of the CBMS-APP which incorporates the GPS in collecting the exact location of the household dwelling units may be explored in the future to be used as a more accurate measure of distance to Manila.

At the community level, some positive impacts of international migration can also be observed. A large proportion of the respondents agree that Filipino migrants provide important support to the communities through, for instance, sending money to schools or religious organizations. However, based on the collected data for the two barangays, very few OFWs (i.e., 2 in every 10 OFWs) sent money or in-kind assistance to their communities during the past 12 months benefiting some schools, health facilities,

religious organizations and civic organizations. As the number of OFWs participating in these actions is still low, providing more channels to OFWs to send such forms of assistance can further help in the development of their communities and the country, in general.

The opinions of the household respondents in terms of the impact of international migration on the migrant, their households, the communities and the Philippines, in general, also point to some positive results. Majority of the respondents believed that the living conditions of their migrant and their households has improved when compared to their situation prior to member's first migration. At the same time, there is a positive perception about the current living situation in their communities and the Philippines, in general. Although a majority of them agree that the Philippines is a good place to live, there seems to be less satisfaction in terms of how the Philippines is run by the government is less. As such, majority of the respondents still prefer to live in another country, if they had a choice.

The findings discussed above based on the collected data using the CBMS-HPQ and the rider questionnaire provides very useful insights on the characteristics of Filipino migration and the key migration issues. In fact, they offer rich information in characterizing the patterns in migration patterns. At the same time they capture a more comprehensive view of the different migration issues affecting migrants and their families, which helped confirm the relevance of these issues in the Philippine context. Although the results generally pointed to some positive results, particularly in terms of the increase in income and reduction in poverty, in general, the potential negative effects should also be addressed. At the same time, to enhance the poverty-reducing potential of international migration, programs or policies may be needed to address in line with the key migration issues identified based on the additional data collected using the rider questionnaire.

Meanwhile, given the limited number of observations and coverage (i.e., only two villages) it is suggested that the implementation of this new data collection instrument, together with the CBMS-HPQ, be implemented in selected LGUs in the Philippines. The detailed information that will be collected using the rider questionnaire can be very useful for these LGUs in terms of identifying the important problems that migrants and their households are facing. At the same time, it will offer a very rich dataset that will allow a thorough analysis of the relationship between international migration and poverty, results of which should be incorporated in local level planning. Concerning the recent version of the CBMS-HPQ (version 10-2013-01), it was explained in the manual that detailed questions pertaining to the economic activity and other relevant characteristics of the OFW member is no longer collected. At the same time, the country where the OFW member is working is no longer asked. The decision to drop these questions is agreed upon by the members of the Technical Working Group involved in updating the CBMS questionnaires during that period in line with the call to harmonize all questionnaires that are being used in various surveys and censuses in the Philippines. While the justification is that these information (e.g., country of destination) are already

collected by other agencies in the Philippines, including CFO, it is not possible at to merge the data from CBMS and CFO to have in one dataset the information on the country and other individual characteristics of the OFW. This would, therefore, be an important challenge for local planners and policymakers, as well as researchers, if they are interested in examining the country of destination and other characteristics of OFWs, particularly at a more disaggregated level. Hence, it is important to reconsider asking again these important questions for individual OFWs and include them in the updated version of the CBMS-HPQ. In addition, while the CBMS-HPQ is able to capture the other receipts from abroad other than from its OFW members, the amount is lumped in one category in the CBMS-HPQ together with pensions, retirement, workmen's compensation, and dividends from investments, among others. Given this, it might also be useful to include a separate category that collects data on remittances from non-members of the household. As one would expect, it more likely that remittances received by the households will come mostly from its own OFW members rather than from non-members Filipinos overseas. However, in the Philippine context, it is common for permanent Filipino migrants abroad (who are no longer part of a household in the Philippines, given the definition) to maintain ties with their families and relatives in the Philippines by sending them remittances (in-cash or in-kind). Therefore, in order to have a more comprehensive measure of remittances in monetary terms, it is also important to capture the amount contributed of non-member Filipinos overseas.

Moreover, aside from capturing additional migration-related information that can provide insights on relationship between international migration and poverty among households, the rider questionnaire can also be explored to refine the definitions used in the analysis. For instance, in the defining and OFW, the current CBMS considers an OFW as part of the current household if the member left the country in the last five years and is expected to live with the other household members when he comes home. While this can be a more direct way of identifying an OFW member, it is also useful to know the degree to which migrants are communicating with their families back home and hence, information on the frequency of communication might be useful. In fact, a migrant might have left for abroad in the given five year period but lost regular contact with his family back home may be treated differently as compared to a migrant who retains his connection with his family through frequent communication. In the same way, however, an OFW who has not sent any remittance to the household in the last 12 months may not be part of that household and hence, some follow-up questions may be necessary to ensure that the OFW is indeed a member of that particular household. In some cases, this OFW actually belongs to another household in the Philippines. For instance, the son/daughter of the current household head might be considered by the household head as its member but in reality, the same son/daughter is already part of another household as he/ she has his own family to support, while still continuing to provide financial assistance to his parents. In relation to this, duplication should also be avoided such that an OFW member should belong only in one household in the Philippines.

6 Enhancing the Potential of CBMS as a Tool for Understanding the Relationship Between International Migration and Poverty

CBMS is currently being used mainly as a poverty monitoring tool by the local government in the Philippines. The data collected through CBMS is used in preparing their local plans and budgets. Evidence-based policymaking is promoted through CBMS as planners and policymakers use the results of the CBMS data in identifying the key problems of the communities and in designing the appropriate interventions. Despite the richness of the CBMS dataset and its usefulness in understanding many development issues, it appears that data on international migration is not yet fully examined and most likely, not well-integrated in the local plans of many LGUs in the Philippines.

In the Philippines, one of the most important policy concern is Filipino migration abroad. This is due to the significant number of Filipinos who are working ang living abroad, as well as the huge amount of remittances they send to their families back home. With poverty reduction as an overarching program of the Philippine government, both at the national and at the local level, it is very useful to understand how international migration is linked to poverty. This chapter discusses how to enhance the potential of CBMS as a tool for understanding the relationship between international migration and poverty. It summarizes the important findings from the previous chapters by highlighting the strengths and weaknesses of CBMS.

6.1 Reviewing the Migration-Related Questions in the CBMS Household Profile Questionnaires (HPQ)

The CBMS-INCT developed for CBMS-Philippines the CBMS-HPQ to collect relevant household and individual level information which necessary for local poverty monitoring and local development planning. To allow comparability and consistency of the statistics generated by CBMS, the concepts and definitions employed follow those that are being adopted by the Philippine Statistical System (PSS). Over the years, the CBMS-HPQ has undergone refinements to take into account the feedback of the LGUs, as well as to address the need to collect information on emerging issues (e.g., climate change). Although the key questions necessary to estimate the core indicators of poverty remain in all versions of the questionnaire, there are also some slight differences in the structure and phrasing of questions. As a standard rule, LGUs that will implement CBMS should use the latest version of the CBMS-HPQ that is approved by the National Statistical Coordination Board (NSCB, now part of the Philippine Statistics Authority). For the sites covered in this study, different versions of the questionnaire were used since CBMS was conducted at different time periods.

The versions examined in this research are limited to those which are actually used in the sites covered in each Chapter of this thesis. In particular, four different versions of the CBMS-HPQ were reviewed, including versions 11-2004-11 (Annex A), 06-2009-01

(Annex B), 01-2011-01 (Annex C) and 10-2013-01 (Annex D) [89]. Based on the detailed examination, it was found that CBMS-HPQ collects a few migration-related information, both at the household and at the individual level. In particular, the questionnaire asks questions that allow identification of households with and OFW member. At the same time, there are questions that obtain estimates of the total annual remittances received by the households. However, the scope of information collected for individual OFW members varies depending on the version of the CBMS-HPQ.

In defining an OFW, the specific conditions that would identify an individual as an OFW are clearly defined in the manuals that accompany each version of the questionnaire. Given the enhancements in the CBMS-HPQ, there are also changes in some details in the definition. For instance, in identifying an OFW member of the household based on the manual for the CBMS-HPQ versions 01-2011-01 and 10-2013-01, it is explicitly indicated that the OFW should have left the Philippines within the given five-year period. This condition, is however, not explicitly mentioned in the manual for the CBMS-HPQ versions 06-2009-01 and 11-2004-11. The CBMS-HPQ version 10-2013-01 also explicitly indicates the cut-off age of 10 years old who would fall in the specific categories of OCWs as listed in the manual. Given this, there might be a need to review this latter definition of OCW which uses this age as cut-off since an overseas contract worker as defined is one who fulfilling a work contract abroad which may not be appropriate for ten-year old individuals. A more appropriate term that may be used in the manual is overseas Filipinos rather than OCW.

In addition, one important category that was added in identifying an OFW based on the manuals for the CBMS-HPQ versions 01-2011-01 and 10-2013-01 is that item which explicitly includes Filipinos who went out of the country through back-door means (or illegal means) and worked abroad during the reference period. Nevertheless, this category is also partly covered as well in the CBMS-HPQ versions 06-2009-01 and 11-2004-11 since their manuals indicate that OFWs shall also include those Filipinos abroad who are holders of other types of non-immigrant visa such as tourist/visitor, student, medical and others. This category, however, does not necessarily mean that the OFW can immediately be considered an illegal migrant. For instance, they may be classified as an illegal migrant if they extend their stay in the foreign country during the period when their visa is no longer valid or when they get employed in the foreign country without a legal working permit. Nevertheless, it is still not possible in all versions of the questionnaire to clearly distinguish which of the individual OFWs are legal or not given the structure of the questions.

The CBMS-HPQ versions 01-2011-01 and 10-2013-01, however, have an important advantage over the earlier versions such that they contain more detailed individual-level information on the OFW member of the households. In particular, since the OFW member is in the roster of the household members, all relevant member-level information are collected. A few questions, however, were no longer asked to OFWs in

[89] The other versions not covered include CBMS-HPQ version 01-2000-01 (earliest version), 10-2007-04 (contents are only slightly different from 06-2009-01) and 11-2014-01 (latest version, to date).

the CBMS-HPQ version 10-2013-01, including membership in a community organization, details on economic activity (e.g., if member has a job/work: type of job/work, industry, sector, nature of employment, number of hours worked in the past week, desire for longer hours of work, looked for additional work, class of worker, etc.) and other characteristics (e.g., if the member passed the board or bar exam, profession passed in the board or bar exam, if solo parent, physical or mental disability, etc.). Another important information that is dropped in this version of the questionnaire is the country where the member is working. The decision to drop this question is made by the Technical Working Group (TWG) involved in updating the CBMS questionnaires during that period, consisting of representatives of the CBMS International Research Network, included in the TWG are representatives from NAPC, DILG, PSA, NSCB and the Department of Social Welfare and Development (DSWD). This is in line with the call to harmonize all questionnaires that are being used in various surveys and censuses in the Philippines. Based on the agreements during the TWG meeting, information concerning the country where the OFW member works is already collected by the CFO. However, given the differences in the data collection strategies and coverage, it is not possible to merge the data from CBMS and CFO to have in one dataset the information on the destination country and other individual characteristics of the migrants. This would be an important challenge for local planners and policymakers, as well as researchers, if they are interested in using CBMS data in examining the country of destination of OFWs, particularly at a more disaggregated level. Hence, it is important to reconsider asking again this important question on country of destination for individual OFWs. Meanwhile, the inclusion of this question in the rider questionnaire may be retained.

Given the above, it appears that one of the important challenges in using CBMS to understand international migration and poverty is that which concerns the use of data obtained using different versions of the questionnaire. In relation to this, the slight differences in the definition adopted (e.g., in defining and OFW) should be noted in the beginning and should be taken into account when processing and analyzing the data. It is also important that the variable definitions are understood well so that comparability of the estimates across time and across different sites is ensured. In addition, these different versions of the questionnaire can generate different data structures that need to be examined fully before conducting any type of analysis.

6.2 Enhancing the CBMS Data Collection Strategies

Although embedded in CBMS process are components that help ensure accuracy and completeness of the collected data (e.g., comprehensive training, field editing, use of efficient encoding system and conduct of community validation activities), CBMS also faces an important challenge in terms of the accuracy and completeness of the collected data as in any other surveys or censuses. Given this, data cleaning is still necessary to prepare the datasets for further processing. For both cross-section and panel dataset constructed using the existing CBMS dataset, cleaning involved checking of duplicate households and missing responses. As necessary, households which are exact duplicate

of another were dropped, together with households with assigned household ID in the encoded data but with all the rest of the information missing. In addition, the data values for all relevant variables were checked to ensure that they are correct and conform to the set of rules. Given the above, it is deemed that further enhancements may be considered to ensure that the collected information are accurate and complete. For instance, the trainings should incorporate more practical exercises for the enumerators, field editors and supervisors, as well as data encoders. At the same time, the trainings should highlight the common errors encountered by the enumerators in conducting the interviews and filling up the questionnaires, as well as the common mistakes in encoding. The recent initiative of CBMS, however, promotes the use of tablet and mobile technologies during data collection and hence, addresses some of these challenges that were encountered in the earlier rounds of CBMS implementation. Nevertheless, the importance of more intensive training and practical exercises during the training remains relevant.

Meanwhile, given the difficulty in matching the same households after the data have been collected, the importance of assigning the same household ID to the same household during CBMS field survey operations should be reiterated to LGUs that will implement another round of CBMS. Following the CBMS definition of the same household, checking of the matched households will be a lot easier if the same household ID is assigned at the during data collection phase. While this will require more thorough training of the enumerators and field supervisors in terms identifying the same household, it will make generation and processing of panel data much easier for the LGUs. Given the recently increasing number of LGUs implementing CBMS in more than one round, the adoption of the CBMS-APP[90] using tablets during data collection can also help facilitate the identification of the same household and individuals. With the recent initiative of CBMS which promotes the adoption of the CBMS-APP, more LGUs are expected to improve their efficiency in data collection. This can also help improve the accuracy of the collected data since it minimizes the extent of missing information and errors in encoding the appropriate codes for the answers provided by the respondents. At the same time, it can facilitate the identification of the same household and individuals if the list of household members in the previous round, for instance, is incorporated in the software installed in the tablets that are being used during the interviews. Give this, it would be useful to apply the same panel data generation method in one pilot LGU in the Philippines which have implemented CBMS-APP for more than one round and check whether the challenges identified in this current study have been addressed.

[90] See (Reyes, et al., 2014a) for more details about CBMS-APP.

6.3 Using the Existing CBMS Cross-Section Data to Understand Migration and Integrating the Results in Local Plans

One important step towards achieving better migration policies is to have relevant data and information that will help in understanding the various migration issues and how migration is affecting poverty. At the national level, although there are available data from administrative records (e.g., from POEA, OWWA, CFO) and nationally representative surveys (e.g., SOF, FIES, LFS) in the Philippines, the limited information collected prevents a more in-depth analysis of the link between international migration and poverty. Previous quantitative studies that examined the impact of international migration in the Philippines mostly used macro level data or data from nationally surveys as highlighted earlier in Section 2.3.1. While these studies provide important results that inform national policymakers, they also have an important limitation such that the results cannot be disaggregated down to the local level. In addition, studies that utilized data from the national surveys are also challenged by the limited variables contained in one specific dataset that are required for the analysis. While the different datasets from the national surveys can be merged, as was done by some authors (e.g., Cabegin, 2006; Yang and Martinez, 2006; Ducanes and Abella, 2008b; Pernia, 2008; Benedictis, et al., 2008; and Yang, 2008), the differences in the definitions and reference periods for these surveys is also an important challenge. Given this, CBMS has an important advantage over the other datasets used in earlier studies such that all variables required in the analysis are collected using a single data collection instrument thereby having more consistent variable definitions and reference periods.

Realizing the limitations of existing migration data in the Philippines, it is very useful to explore the CBMS datasets which are already available in several local government units in the Philippines. Based on the available information, CBMS data has not been extensively used understanding migration. This study, therefore, demonstrated how CBMS data can be used to examine the poverty and migration profile of households and to determine the impact of international migration on poverty by employing instrumental variable (IV) method to address the endogeneity of migration. With 903 municipalities and 79 cities implementing CBMS in the Philippines as of 13 February 2017 (CBMS-Philippines, 2017), CBMS can provide very rich information that can be useful not only for the local governments but also for the national government. Given this, LGUs in the Philippine are encouraged to further explore their CBMS data and use them to examine the relevant migration and poverty issues in their localities and integrate the results in their local development planning. In line with this, local planners and decision makers should be informed more about the richness of their CBMS data. Hence, the capacity building activities focusing on the use of CBMS data in understanding the link between migration and poverty may be necessary.

6.4 Constructing and Analyzing the Panel Datasets for LGUs with more than One Round of CBMS

Several LGUs in the Philippines have implemented CBMS for more than one round. In fact, there are at least 291 LGUs in the Philippines with more than one round of CBMS implementation, 85 of which have at least three rounds of data collection (CBMS-Philippines, 2017). This means that the analysis of the CBMS data can also be extended to panel data. There is no previous study yet in the Philippines which employed an in-depth analysis of CBMS panel data, particularly in understanding international migration and its relationship with poverty. Using a panel dataset takes into account the time dimension, thereby addressing the limitation of the cross-section data.

Having a dataset containing the matched households can also be very useful in monitoring not only of poverty but also of the migration patterns of households. Hence, LGUs with more than one round of CBMS should to take full advantage of their CBMS data by constructing a panel dataset following the CBMS definition and analyzing the data make informed decisions. This, however, may need some capacity building activities to ensure that LGUs follow the CBMS definition of the same household. At the same time, LGUs should also understand the challenges in matching the same household. As discussed in 6.2, the importance of assigning the same household ID to the same household during CBMS field survey operations should be reiterated to LGUs that will implement another round of CBMS. This will facilitate the generation of panel data which could be very useful in monitoring poverty and migration patterns of households over time. Although mapping of indicators over time is a very effective way to show the changes over time, analysis can also be made beyond this. It is deemed that exploring other ways of examining data using appropriate analytical methods can be very useful as well. Increasing the capacity of LGUs to such kind of analysis is, however, necessary.

6.5 Collecting Additional Migration-Related Data Using a Questionnaire that Serves as a Rider to the Standard CBM-HPQ

Given the complexity of migration, it is acknowledged that the migration data collected in CBMS is also rather limited based on the review of the different versions of the CBMS-HPQ. This information gap can be addressed by collecting other relevant information. This research developed a new questionnaire that serves a rider to the standard CBMS-HPQ. This rider questionnaire obtains some information that are lacking in the CBMS-HPQ to capture some of the important migration-related issues as follows: 1) return migrants; 2) more information about current migrants, including migration history and changes in their family structure and relationship due to migration; 3) role of migration networks; 4) individual remittance sending pattern and household remittance spending pattern; 5) household's living conditions prior to first migration experience; 6) investments made by the migrant households; 7) access to programs that specifically target OFWs and their families; 8) opinions and perceptions on various migration issues

and 9) measures of illegal migration. The new questionnaire was administered in two selected villages in the Philippines, which include one urban and one rural barangay which recorded relatively high proportions of migrant households particularly Barangay Saguing in the municipality of Mabini in Batangas and Barangay Villa Angeles in the municipality of Orion in Bataan). Based on the collected data, this study was able to reveal some interesting patterns that helped identify some of the issues and problems being faced by potential, current and return migrants and their households, as well as how they are likely to affect poverty among households.

Moreover, the rider questionnaire can also be used in refining the definitions used in the analysis. For instance, in the defining an OFW, the current definition considers an OFW as part of the current household if the member left the country in the last five years and is expected to live with the other household members when he comes home. While this can be a more direct way of identifying an OFW member, it is also useful to know the degree to which migrants are communicating with their families back home and hence the need for additional questions on the frequency of communication. In fact, a migrant might have left for abroad in the given five year period but lost regular contact with his family back home may be treated differently as compared to a migrant who retains his connection with his family through frequent communication.

Given the challenges in identifying an appropriate instrument for migration, especially when implementing the IV method to address endogeneity, collecting more information that can produce a different measure of the instrument may be useful. In particular, the additional information collected in the rider questionnaire can capture the different forms of assistance that the migrants received from their migration network (including friends and relatives). This information can be used to refine the definition of migration network that was adopted in the earlier chapters. In particular, aside from simply accounting the proportion of migrant households in a particular community, the new measure of migration network can account for the actual assistance these networks provided to the migrant, particularly in terms of information and different forms of assistance during the migrant's first migration experience.

Recognizing the importance of having information on the extent of illegal migration and given the sensitive nature of this issue, it is difficult to directly ask this question to the respondents. This study, therefore, was able to demonstrate how the list randomization technique, as employed by McKenzie and Siegel (2013) in migration studies, can be adopted in the Philippine context. Nevertheless, given the smallness of the sample include in this study, the estimates may not provide a very accurate measure of illegal migration rate. Given this, it may be more useful to implement the same technique in more sites, especially if more LGUs decide to adopt the same method applied in this study to understand the migration issues in their locality.

Another important concern that the rider questionnaire attempted to address is the need for data on return migrants. Currently, there is no available database in the Philippines that contain relevant information on return migrants which should have

helped policymakers in targeting individuals who can be beneficiaries of a specific program for returnees. The database should have also helped in designing the types of assistance that these return migrants need when they go back to the Philippines. For instance, one of the key issues identified based on the collected data in the two barangays is that very few return migrants made some investments and majority of them are unemployed when they return home. Since most of the returnees in our data went back to the Philippines because their employment contracts abroad have ended, it implies that households can experience a decline in their total income should the return migrant remain unemployed or do not engage in any other productive activities. These patterns, and the additional information collected about the characteristics of return migrants, could help policymakers in designing the specific interventions that this group of return migrants would need.

Meanwhile, in terms of remittances data, administering the CBMS-HPQ rider together with the rider questionnaire can address some of the limitations on the current migration statistics in the Philippines, including the issue of "missing remittances" in FIES as highlighted by Ducanes (2010). This is primarily because the collected data on remittances capture those which sent through formal and informal channels, as wells those spent on purchase of real estate. At the same time, the issue of undercounting in other household surveys may be addressed since all households in a particular community are covered, thereby collecting information on all overseas workers in a particular area. It is important to note, however, that the standard CBMS-HPQ collects information on the amount of remittances (in-cash and in-kind) received by the household in the last 12 months but there is no available information on the dynamics by which OFWs are sending these remittances (for instance, in terms of the channels used in sending these remittances). Since the information is an aggregate amount, it does not provide information on the amount of remittances sent by each the individual migrant which could have helped in determining the differences in the patterns of remittance sending across migrants with different characteristics. This limitation is, however, addressed in the rider questionnaire since information on remittances is collected for each OFW member of the household. This can also partly help in improving accuracy in estimating the total amount of remittances received by the households in the last 12 months prior to the interview. Furthermore, the way remittances is spent also determines how they could impact on the households living conditions. Based on the result from the two barangays, a large chunk of the remittances received by migrant households were spent on food, education and savings but less on productive activities such as businesses.

Despite the positive impacts of international migration, some negative effects were also identified, especially in terms of family relationships. The additional data collected in the two barangays revealed that the relationship between children and migrant parents and between husband and wife could be affected due to physical distance. Although some couples experienced strengthening of their relationships, others are challenged by problems related to extra-marital affairs, for instance. Meanwhile, some children of

migrant parents may feel that they are neglected by their parents due to the lack of direct guidance and supervision from their parents abroad. Although the remittances sent by their parents can be used to finance their education, some left-behind children also lost interest in school because of the absence of supervision from their migrant parents.

To complement the quantitative measures of the impact of international migration, the opinions of the respondents were also determined concerning different migration issues. This provides some subjective measures of the impact. At the same time, it is also useful to complement the data collection with some qualitative techniques such as direct observation, informal interviews and focus group discussions, which shall help in obtaining a more thorough understanding of the different issues surrounding migration and how they are linked to poverty.

6.6 Encouraging Selected LGUs to Administer the CBMS-HPQ together with the Rider Questionnaire following the CBMS Approach

Although the CBMS is currently being implemented by several local government units (LGUs) in the Philippines, the collected data has not been extensively used in understanding the various migration issues and how they are linked to poverty among households. The limited participation of LGUs in addressing the problems concerning Filipino migration may also be related to their limited understanding of the context of migration in their own localities. It is deemed that local governments should also play a role in addressing various migration issues. This, however, will require data and information that will help them in identifying the key migration problems and in addressing these concerns. Although there exist some national surveys that can provide some information related to migration (e.g., Survey on Overseas Filipinos, Family Income and Expenditures Survey), these surveys can be disaggregated only down to the regional level. Hence, collecting and regular updating of a more disaggregated data on migration would be very useful, especially at the local level. In addition, obtaining data which ca be further disaggregated down to the household and individual level, is very important in local level planning and decision making.

To complement the migration data available in CBMS, the rider questionnaire (particularly Version 2) developed in this study could be adopted by selected LGUs in the Philippines. In particular, a set of representative LGUs may be encouraged to administer the CBMS-HPQ together with the rider questionnaire (complemented by the collection of additional qualitative data) following the CBMS approach. This is also more relevant to LGUs where international migration is an important development concern. After making an evaluation of their existing data and monitoring systems, these LGUs can identify the important data gaps given the requirements for monitoring migration and its impact on poverty. Given that this study administered the rider questionnaire in only two barangays, the expansion of the coverage to include more sites will allow one to capture more variabbility in terms of the characteristics of households and OFWs.

While it is recognized that any type of survey or census can have some limitations, the adoption of the CBMS approach can help minimize the errors and ensure the quality of the collected data since the people involved in the data collected activity were trained, the field editing of the data collection instruments was conducted and the initial results were presented to the community for validation. This latter component of CBMS, i.e., the community validation activity, is an important advantage of CBMS over other data collection system since it allows the community to provide feedback and suggest solutions on the key issues and problems that are identified based on the collected CBMS data. As such, collection of migration data (using the CBMS-HPQ and the rider questionnaire) by adopting this systematic way of collecting information could be very useful in monitoring migration and its impact on poverty, especially at the local level. Since CBMS in the Philippines have been institutionalized, its sustainability can also be ensured.

However, currently, CBMS is being implemented at different points in time since its adoption is based on the demand of the LGUs in the Philippines. Recall that the costs of implementing CBMS is borne mainly by the LGUs themselves. To the extent possible, LGUs who will opt to administer the CBMS-HPQ and rider questionnaire (following the CBMS approach) should implement CBMS all at the same time using the same data collection instruments in order to have similar definitions and reference periods. In addition, this could be done on a more regular basis in order to complement the existing data in the Philippines. As such, this will further enhance the potential of CBMS as a tool in in understanding the relationship between international migration and poverty situation both at the local and at the national level.

6.7 Limitations and Recommendations for Future Research

Based in the discussions and analysis presented in the previous chapters, this research also acknowledges some important limitations. In connection with this, a number of potential areas for future research can be identified. These limitations and recommendations for future research are listed below.

6.7.1 On the sites covered

Given the set of selection criteria (i.e., with required CBMS data, with high concentration of OFWs coupled with sufficient economic activities, with support from local officials) as well as the limitations in time and resources, this research covered eight LGUs for the cross-section data, one LGU for the construction and analysis of panel data and two barangays (one urban and one rural) for the primary data collection using the CBMS-HPQ and rider questionnaire. In the study of eight selected sites, the research attempted to cover as much LGUs as possible with different economic, social and demographic settings to capture some variability. In the analysis of panel data, the study focused on only one LGU based on the same set of selection criteria mentioned above aside from

having at least three rounds of CBMS. The researcher, however, does not claim that the selected sites studied in this thesis and the results generated are representative of the entire Philippines.

Meanwhile, since primary data collection would be conducted using the CBMS-HPQ and the new rider questionnaire, this research focused on one urban and one rural barangay to capture the possible differences in the characteristics of migrants and migrant households in the two sites. Again, given the limited time and resources, only two villages are covered. However, it is deemed enough to successfully test the possibility of implementing CBMS together with the rider questionnaire and demonstrate the usefulness of the collected data in having a more comprehensive understanding of international migration and poverty. Future research, however, can expand the coverage to include more barangays in the Philippines which meet the same set of selection criteria mentioned above, especially in those areas where international migration is an important local issue.

6.7.2 On defining the migration variable, remittances and overseas workers

In examining the impact of international migration on poverty, this research used the dummy variable which indicates whether a household has and OFW member or not. In other words, a household will be considered a migrant household if it has at least one OFW member. Since some households can have multiple migrants, it might be useful to use the number of OFW members per household instead of the dummy variable mentioned earlier. In addition, since households may have different migration patterns as seen in the three-period panel dataset for Orion (e.g., never a migrant household, always a migrant household, migrant household only in one period, etc.) analysis could further be explored by looking at the potential impact of migration based on these different patterns.

Meanwhile, in the CBMS-HPQ, the more traditional definition of remittances from OFW is adopted in this section. In particular, remittances refer to money (in-cash and in-kind) sent by OFWs to their households in their home country. To ensure comparability and consistency of the estimates, the same definition is adopted in the rider questionnaire when the amount of remittances sent by each OFW member is collected but in addition, remittances from Filipinos overseas who are not members of the interviewed households were also obtained. In some studies (e.g., Chappell, et al., 2010), the need to consider a much broader definition of remittances is highlighted. Remittances may be viewed broadly as "all the accumulated funds that flow from a migrant's country of destination to their country of origin as a result of their migration". This shall include, but not limited to, transfers to household members and to other family members and friends, money sent to bank accounts in country of origin and money they continue to receive (e.g., pensions) even after returning back to their country of origin. Given this, future research may explore this broad definition of remittances in trying to understand how international migration can affect poverty in the Philippines.

In addition, the "reverse remittances" captured in this research basically refer to money sent from non-migrants to migrants abroad to support them in difficult times or to finance education and housing. However, the concept of "reverse remittances" can also be expanded to cover non-monetary aspects. In fact, Mazzucato (2011) found that most of the remittances from the origin communities are in the form of services rendered, including child care, help in migrant's investments in housing and business and services to help in obtaining documents for the regularization of their stays abroad. Future research could take these non-monetary remittances into account when analyzing the potential impact of international migration.

Furthermore, in defining an OFW, the current definition considers an OFW as part of the current household if the member left the country in the last five years and is expected to live with the other household members when he comes home. While this can be a more direct way of identifying an OFW member, it is also useful to know the degree to which migrants are communicating with their families back home and hence, information on the frequency of communication might be useful. In fact, a migrant might have left for abroad in the given five year period but lost regular contact with his family back home may be treated differently as compared to a migrant who retains his connection with his family through frequent communication. Since information concerning frequency of communication is collected in the rider questionnaire, future research can explore a new definition which adds this additional condition to be considered as an OFW member of the household.

6.7.3 On the econometric techniques employed

In this study, IV method was employed in estimating the impact of international migration on poverty using the CBMS-cross section data of eight LGUs, the constructed CBMS data of Orion and the cross-section data of Barangay Saguing and Barangay Villa Angeles. All estimations pointed to the positive impact of international migration. However, further examination of the data may be necessary to determine which specific sub-groups of households are likely to benefit more as compared to the rest of the households. Other econometric techniques may also be employed in future research. For instance, the counterfactual income approach (using the Heckman estimation framework) and the propensity score matching method, among others, may also be explored using the cross-section CBMS datasets. For the constructed panel data, the dynamic panel data modelling may be employed to in the future to address the limitations of the previous techniques. In fact, since panel data allows the dependent variable to be observed over time, it is possible to estimate a dynamic model that includes its lagged values as one of the regressors since is it assumed that the current status of the household is dependent upon its previous status. In particular, according to an IV estimation of the parameters in the first difference (FD) model using appropriate lags of the regressors as instruments, as propose by Arellano and Bond (1991), can provide more consistent estimates. Meanwhile, although this study has identified the key migration issues based on the collected data using the rider questionnaire, further analysis may also be conducted given the rich dataset by exploring the use of the other

econometric techniques. The econometric analysis could also be expanded to include other household outcomes as dependent variable, particularly those capturing the non-monetary dimensions of poverty that are collected in CBMS and in the rider questionnaire, such as health and education outcomes.

6.7.4 On identifying an instrument for migration

This study used migration network as the common instrument for migration that was used in the estimation in each chapter. In particular, different ways of measuring migration network were employed, thereby producing at least four different migration network variables. The distance variable is also used as an instrument for migration to proxy for migration costs. However, the distance variable merely refers to the distance from the center of the municipality to the center of the capital city of Manila (and interacted with the number of adult members per household in order to have heterogeneity across households). To improve the distance measure, it might be useful to consider the distance from the center of each of the barangay (instead of the municipality) to the capital city of Manila. At the same time, it is deemed that the distance variable can be more accurately measured if information is available on the location of the households. For instance, future research can also explore the use of the GPS location of the households which is being collected through the recently-developed CBMS-APP. In addition, the possibility of using other instruments may also be explored in future research, especially when using the poverty status (based on income, SCI and MPI) as the dependent variable since it appears that migration network and distance are not the best instrument in this case. Furthermore, aside from using these external instruments, the use of internal instruments based on the lagged values and first differences of the dependent variable income may also be used in the context of panel data analysis.

6.7.5 On identifying the same household and construction of the panel data

In generating a panel dataset, households were matched based on a rigid definition of the same households. A household in the current time period is considered the same as the household in the previous time period if there is at least one common member (except household helper) in both periods. However, the limitation of this definition is also acknowledged. For instance, it is possible that the composition of the matched households may change over time. Note that a similar operational definition is also adopted by CBMS and PSA in generating panel of households, although this study relaxed the condition that requires that the household is living in the same dwelling unit. Nevertheless, it is deemed that the definition adopted offers a more practical way of matching the same household that can be adopted by LGUs in the Philippines given their capacity and the local context as it minimizes the errors in matching. Adopting a more complicated definition of the same household might also make it more difficult for the LGUs to adopt the same method for the purpose of analyzing their existing CBMS data over time. Accounting for the attrition bias in the estimation can also provide consistent estimates.

Meanwhile, since the panel was generated by matching the same household, one important limitation of this panel dataset is that which concerns the examination of the OFW members of these panel households. If the interest is on the OFW members, tracking individuals (including OFWs) instead of households would be more useful. Since member-level information are available in the CBMS data, tracking individuals will also allow identification of each unique change in the family arrangements.

6.7.6 On measures of poverty and other household outcomes

As defined by CBMS, the CBMS-SCI is a measure of the number of unmet basic needs of the household. The needs are based on the core indicators of poverty that has been identified for local poverty monitoring given the Philippine context. The index simply counts the number of unmet meets of the households, thereby putting equal weights for each indicator captured by the SCI. To improve the measure of CBMS-SCI, it would be good to explore other approaches in aggregating the variables into one index. For instance, the use of Principal Components Analysis (PCA) and Multiple Correspondence Analysis (MCA) could be explored in future research.

Meanwhile, given the richness of the CBMS data, future research may expand the analysis of the impact of international migration on different household outcomes, such as health and education outcomes and subjective measures of wellbeing, using sound econometric techniques. For instance, a more detailed analysis can be pursued in determining the impact on children of migrant parents in terms of their health and education outcomes. With the expansion of the coverage to more sites, it would be useful to explore further the impact of return migration on specific household outcomes. It is deemed that having a return migrant may be different from the impact of having a current migrant. For instance, although return migrants can apply skills they learned from abroad and use their savings to invest on new productive activities upon their return, the impact of having a current migrant on households may channeled mainly through the remittances.

6.7.7 On collecting information about the OFW

The additional questions in the rider questionnaire allow for an examination of the remittance behavior at the individual level. However, since the rider questionnaire is also administered to the household respondents, one important limitation of the method adopted is that responses for some questions (e.g., wages received by the OFW, specific type of work and industry) may be more accurately collected from administrative records or from the migrants themselves. As such, a multi-sited research is one possible method that may be adopted in future research.

6.7.8 On improving the encoding system for the rider questionnaire

To encode the accomplished and field-edited rider questionnaire, the researcher developed a Microsoft Excel-based encoding system taking advantage of the "data validation" feature of Excel which restricts the type of data and acceptable values for

each cell. This helped minimize errors in encoding when the field-edited CBMS rider questionnaires in both barangays were encoded. However, to improve the encoding system, especially when the rider is adopted by other LGUs, future research could seek to develop a better encoding system (such as those CSPro based encoding system developed for CBMS by CBMS-INCT) to improve and facilitate encoding of the accomplished rider questionnaires by the local encoders.

6.8 Concluding Remarks

This research was able to highlight the strengths and limitations of CBMS as a tool to understand the relationship between international migration and poverty, especially at the local level. Although CBMS is primarily used in the Philippines as a local poverty-monitoring tool, the household- and individual-level information contained in the cross-section datasets have been found to be very useful in providing insights on the topic of migration in the context of the Philippines. In fact, the data can be used to examine not only the poverty profile of households but also their migration patterns. The construction of panel datasets for LGUs with more than one round of CBMS has also allowed monitoring of the changes in poverty and migration status of the households over time. Both cross-section and panel datasets has provided pertinent data and information that are useful in estimating the impact of international migration on poverty through the application of relevant econometric techniques.

Given the above and the overarching goal of reducing poverty, traditionally migrant-sending LGUs in the Philippines could take full advantage of their CBMS data by using them in understanding how international migration is affecting the poverty situations in their communities. A more in-depth analysis of their CBMS data is necessary to help them identify the key problems in their existing environments and inform them of how these problems could be addressed. Results of their analysis should be well-integrated in their local plans. With 903 municipalities and 79 cities in the Philippines which are implementing CBMS, the migration-related CBMS data can offer a very rich set of information that can complement national migration data. Although the extent of the problems may vary across LGUs given their particularly unique characteristics, the combined set of information and results from these LGUs can be very useful in informing national planners and policymakers in their decision making process.

Given the complexity of migration, however, it is also acknowledged that the migration data collected through CBMS are still limited. In fact, there are important migration issues that are not captured in the current CBMS-HPQ, such as the role of migration networks, presence of illegal migration, return migration, changes in family structure and relationship due to migration, individual remittance sending pattern and household remittance spending pattern, among others, which is deemed to be relevant in the context of the Philippines. Given this, additional information may be collected to gain a more comprehensive understanding of these issues and how they are linked to the poverty situation of households and the communities. Therefore, to complement the existing data that are being collected through the CBMS-HPQ, a rider questionnaire that

has been developed and pilot-tested under this study may be administered by selected LGUs in the Philippines. In particular, following the CBMS approach, a set of representative LGUs in the country (including those where international migration is deemed to be very relevant) may be encouraged to administer the CBMS-HPQ and the rider questionnaire in their respective localities. Additional qualitative information may also be collected through, for instance, interviews with the community residents and local officials and focus group discussions (FGDs) to enhance the understanding of the results based of the quantitative data. To the extent possible, these LGUs should follow this approach all at the same time using the same data collection instruments in order to have similar definitions and reference periods. In addition, this could be done on a more regular basis in order to complement the existing data in the Philippines. Having a more comprehensive set of data for these selected LGUs for several years, instead of one single year, could improve the capability of CBMS to capture the complexity of migration and uncover dynamic relationships.

It is deemed that the collection of migration data following the CBMS approach offers a more systematic way of monitoring migration and its impact on poverty, especially at the local level. In addition, since CBMS has already been institutionalized in the Philippines, its sustainability can also be ensured. The community validation activity that is embedded in the CBMS process is also one important advantage of CBMS over other data collection system. By allowing the community to provide feedback and suggest solutions on the key issues and problems identified based on the collected data, this mechanism provides a venue by which the local people can participate in the decision making processes. In this context, the people are allowed to exercise one central human capability (i.e., control over one's environment as identified by Nussbaum (2003)) by being able to participate effectively in making decisions on matters that affect their lives.

Although CBMS data can provide concrete measures of the overall impact of international migration, the magnitude of the impact may also vary across households and across communities. In fact, the local environment may also influence the degree to which these households are affected by migration. Constraints in local structural conditions, for instance, may prevent households to fully benefit from migration. According to Nussbaum (1997), the purpose of public policy is to promote "combined capabilities", i.e., "internal capabilities combined with suitable external conditions" for the exercise of the function. Therefore, aside from promoting the states of the person (e.g., through necessary education and care), it is important to prepare the environment (e.g., external institutions and material conditions) that is favorable for the exercise of the function. Following these arguments, the remittances, skills, status or ideas acquired by the migrants through migration should be combined with enabling structural conditions to be able to achieve the functioning. These highlight the important role of the government in achieving the full benefits from migration and hence, the need for a more comprehensive CBMS dataset that can help identify which policies are more appropriate give the current environment.

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Annex A. CBMS Household Profile Questionnaire version 11-2004-11

Source: CBMS-Philippines (https://www.pep-net.org/sites/pep-net.org/files/typo3doc/pdf/CBMS_country_proj_profiles/Philippines/Training_Materials/Module1/HPQ/11200411/HPQ_11200411.pdf)

MIMAP-CBMS FORM 1: TAGALOG VERSION VN: 11-2004-11

MIMAP CBMS

Community-Based Monitoring System

Household Profile Questionnaire

A. PAGKAKAKILANLAN

I. Lokasyon : 1. Rural 2. Urban ☐

II. Pagkakakilanlan ng Lokasyon

a. Lalawigan : _____ ☐☐☐☐
b. Lungsod/Bayan : _____ ☐☐☐☐
c. Barangay : _____ ☐☐☐☐
d. Purok/Sitio : _____ ☐☐☐☐

III. Numerong Pagkakakilanlan ng Sambahayan : _____ (ID No.)

IV. Pangalan ng Tagapanayam : _____

V. Pangalan ng Nakapanayam : _____

VI. Tirahan ng Sambahayan : _____

_____

_____

VII. Petsa ng Panayam : ☐

VIII. Oras Nagsimula : ☐

IX. Oras Natapos : ☐

X. Puna/pansin sa kalidad at tiwala sa nakuhang impormasyon.

_____

_____

ID Number:_____

PUNAN ANG MGA SUMUSUNOD NA KINAKAILANGANG IMPORMASYON HINGGIL SA SAMBAHAYAN BATAY SA MGA KASAGUTAN NG NAKAPANAYAM.

B. DEMOGRAPIYA

(1A)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(9A)	(9B)
BILANG	Ilang miyembro mayroon dito sa inyong sambahayan? Sino ang puno ng sambahayan? Sinu-sino ang mga ibang miyembro ng sambahayan?	Ano ang relasyon ni __ sa puno ng sambahayan?	Si __ ba ay lalaki o babae?	Ano ang edad ni __ noong huli niyang kaarawan?	Si __ ba ay may katutubong lahi?	KUNG MAYROON SA (6) Saang katutubong lahi napapabilang si __ ?	Ano ang blood type ni __?	PARA SA 0-5 TAONG GULANG KUNIN ANG ANTAS NG KALUSUGAN NG MGA BATA 0-5 TAONG GULANG MULA SA BARANGAY HEALTH WORKER	Ano ang katayuang sibil ni __ ?	Ano ang relihiyon ni __ ?
	PANGALAN (APELYIDO, UNANG PANGALAN)	(TINGNAN ANG KODIGO SA IBABA)	*1. Lalaki* *2. Babae*		*1. Mayroon* *2. Wala*	(TINGNAN ANG KODIGO SA IBABA)	*1. TYPE A* *2. TYPE B* *3. TYPE AB* *4. TYPE O* *5. Hindi alam*	*1- Above Normal* *2- Normal* *3- Below Normal (Moderate)* *4- Below Normal (Severe)*	(TINGNAN ANG KODIGO SA IBABA)	(TINGNAN ANG KODIGO SA IBABA)
1		1								
2										
3										
4										
5										
6										
7										
8										
9										
10										

HIGIT BA SA SAMPU (10) ANG MIYEMBRO NG SAMBAHAYAN? ☐
1 OO, GUMAMIT NG PANIBAGONG TALATANUNGAN
2 HINDI

(3) Relasyon sa puno ng sambahayan
1 - Puno
2 - Asawa
3 - Anak
4 - Manugang
5 - Apo
6 - Magulang
7 - Ibang kamag-anak (itala)
8 - Katulong
9 - Iba pang hindi kamag-anak (itala)

(7) Katutubong lahi/pangkat
1 - Bago
2 - Ibanag
3 - Kankanaey
4 - Mangyan
5 - Ibaloi
6 - Aeta
7 - Tagbanauas
8 - Cuyonen
9 - Subanen
10 - B'laan
11 - Mandaya
12 - Manobo
13 - Teduray
14 - Bukidnon
15 - Ati
16 - Cimaron
17 - Itom
18 - Pullon
19 - Badjao
20 - Batak
21 - Palawano
22 - Tau't bato
23 - Dumagat
24 - T'boli
25 - Iba pa (itala)

(9A) Katayuang sibil
1 - Walang asawa
2 - May asawa
3 - Biyudo/Biyuda
4 - Hiwalay sa asawa
5 - Iba pa (itala)

(9B) Relihiyon
1 - Katoliko
2 - Protestante
3 - Iglesia ni Kristo
4 - Aglipay
5 - Islam
6 - Iba pa (itala)
7 - Wala

ID Number:_____

TIYAKIN ANG KAHALAGAHAN, PAGKAKUMPLETO AT PAGKAWASTO NG MGA NAKUHANG IMPORMASYON.

C. PANDARAYUHAN			D. EDUKASYON					E. SAMAHANG KINAANIBAN	
(1B)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
BILANG	Gaano katagal na naninirahan si __ dito sa barangay?	Saan nanirahan si __ bago lumipat dito sa barangay?	Nag-aaral ba si __ sa paaralan ?	KUNG OO SA (12) Anong taon at baitang ang kanyang pinag-aaralan ?	KUNG OO SA (12) Saan nag-aaral na paaralan si __?	Ano ang pinakamataas na antas sa pag-aaral ang natapos ni __?	PARA SA 10 TAONG GULANG PATAAS Si __ ba ay nakakabasa at nakakasulat ng simpleng mensahe sa alinmang wika o dialekto?	Si __ ba ay mayroong kinaaanibang samahan o asosasyong pangkomunidad?	KUNG OO SA (17) Ano ang pangalan ng asosasyon/ samahang kinaaaniban ni __?
NG	BILANG NG TAON NG PANINIRAHAN SA BARANGAY	BARANGAY, BAYAN/ LUNGSOD, PROBINSYA AT BANSA	*1. Oo* *2. Hindi (PUMUNTA SA 15)*	BAITANG/ ANTAS	*1. Pribado* *2. Publiko*	BAITANG/ ANTAS	*1. Oo* *2. Hindi*	*1. Mayroon (PUMUNTA SA 18)* *2. Wala (PUMUNTA SA 1C)*	PANGALAN NG SAMAHAN
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									

ID Number:_____

F. KATANGIANG PANGKABUHAYAN

	(1C)	(19)	(20)		(21)		(22)	(23)	(24)	(25)
			KUNG MAYROON SA (19)						KUNG WALA SA (19)	
BILANG	ISULAT ANG MGA PANGALAN BAGO MAGSIMULA	Si __ ba ay may hanap-buhay noong nakaraang tatlong buwan?	Noong nakaraang tatlong buwan, ano ang pangunahing hanap-buhay ni __ ? ILARAWANG MABUTI ANG URI NG HANAPBUHAY, HAL., MAGSASAKA NG PALAY, GURO SA MABABANG PAARALAN AT IBA PA		Saang negosyo o industriya nagha-hanapbuhay si __? ILARAWANG MABUTI ANG URI NG NEGOSYO O INDUSTRIYA, HAL., SAKAHAN NG PALAY, MABABANG PAARALAN AT IBA PA.		Saang lugar ang pinapa-sukan o isinasa-gawang hanapbuhay?	Ano ang katayuan o kalagayan ni __ sa kan-yang hanap-buhay o trabaho?	Bakit si __ ay walang hanapbuhay noong nakaraang tatlong buwan?	Naghahanap ba si __ ng hanapbuhay noong nakaraang tatlong buwan?
	UNANG PANGALAN	*1. Mayroon (PUMUNTA SA 20, 21, 22 AT 23)* *2. Wala (PUMUNTA SA 24 AT 25)*	PANGUNAHING HANAPBUHAY	(TINGNAN ANG KODIGO SA IBABA)	NEGOSYO O INDUSTRIYA	(TINGNAN ANG KODIGO SA IBABA)	BARANGAY, BAYAN/ LUNGSOD, PROBINSYA	(TINGNAN ANG KODIGO SA IBABA)	(TINGNAN ANG KODIGO SA IBABA)	*1. Oo* *2. Hindi*
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										

(20) Pangunahing hanapbuhay
1 - Opisyal ng pamahalaan at mga samahang may sariling interes, pinag-isang tagapangasiwa, tagapamahala, may-aring taga-pamahala at tagapangasiwa
2 - Propesyonal
3 - Tekniko at mga kaugnay na propesyon
4 - Mga Clerk
5 - Tagapagsilbi at tagapagbenta
6 - Magsasaka, mangingisda at manggagawa sa kagubatan
7 - Manggagawa o negosyante sa kalakalan
8 - Tagapagpatakbo ng planta at makinarya, assemblers
9 - Laborer at di-bihasang trabahador
10- Mga natatanging hanapbuhay

(21) Negosyo o industriya
1 - Agrikultura
2 - Pangingisda
3 - Pangungubat
4 - Paggawa ng produkto
5 - Konstruksyon
6 - Pagmimina at Pagtitibag
7 - Kuryente, gaas at tubig
8 - Pangangalakal at Pagtitinda
9 - Transportasyon, Pag-limbak at Komunikasyon
10 - Pamayanan, Panlipunan at Personal na Serbisyon
11 - Serbisyo sa Patustusan, Paseguruhan, mga Pag-aari at Negosyo
12 - Iba pa, hindi kabilang sa nabanggit (itala)

(23) Katayuan/kalaga-yan sa hanapbuhay/ trabaho
1 - Permanente
2 - Panandalian o "seasonal"
3 - Paiba-iba o palipat-lipat ng trabaho o negosyo araw-araw o linggo-linggo

(24) Dahilan kung bakit walang trabaho
1 - Naniniwalang walang makukuhang trabaho
2 - Naghihintay ng resulta mula sa inaplayang trabaho
3 - Panandaliang nagkasakit/ kapansanan
4 - Masamang panahon
5 - Naghihintay ng muling pagbubukas ng dating pinapasukang trabaho
6 - Bata pa, matanda na, retiro o may permanenteng kapansanan
7 - Taong-bahay
8 - Nag-aaral
9 - Iba pang dahilan, (itala)

ID Number:_____

G. MGA KASAMBAHAY

26. May miyembro ba ang sambahayan na nag-iisang magulang na may kinakalingang anak? ☐

1 Mayroon **(PUMUNTA SA 27)**

2 Wala **(PUMUNTA SA 29)**

	(27)	(28)
	Ano ang pangalan ng kasambahay na nag-iisang magulang? **PANGALAN**	Ano ang dahilan bakit nag-iisang magulang si ____? **(TINGNAN ANG KODIGO SA IBABA)**
1		
2		

(28) Dahilan kung bakit nag-iisang magulang

1. Pagkamatay ng asawa.
2. Nakakulong ang asawa.
3. Walang kakayahang pisikal at/o mental ng asawa.
4. Hiwalay sa asawa, legal man o hindi nang hindi bababa sa isang taon at nasa kanyang pangangalaga ang kanyang mga anak.
5. Pagkawalang-bisa ng kasal ayon sa batas ng korte o simbahan at nasa kanyang pangangalaga ang mga anak.
6. Higit sa isang taon nang iniwan o inabandona ng asawa.
7. Ina/ama na hindi ikinasal at piniling kalingain ang mga anak.
8. Mag-isang nagbibigay ng pangangalaga sa bata, sa kondisyong siya ay lisensyadong "foster parent" ng DSWD o itinalaga bilang "legal guardian" ng korte.
9. Mag-isang umaako ng responsibilidad sa bata dahil sa pagkamatay, pag-abandona, pagkawala o kawalang komunikasyon ng magulang nito nang hindi bababa sa isang taon.
10. Iba pa, Itala.

29. Mayroon ba kayong kasambahay na nakapasa sa board o bar exam? ☐

1 Mayroon **(PUMUNTA SA 30)**

2 Wala **(PUMUNTA SA 32)**

	(30)	(31)
	Ano ang pangalan ng kasambahay na nakapasa sa board / bar exam? **PANGALAN**	Ano ang naipasang propesyon ni ___ sa bar / board exam? **PROPESYON**
1		
2		

32. May miyembro ba ang sambahayan na may kapansanan? ☐

1 Mayroon **(PUMUNTA SA 33)**

2 Wala **(PUMUNTA SA 36)**

	(33)	(34)	(35)
	Ano ang pangalan ng kasambahay na may kapansanan? **PANGALAN**	Ano ang uri ng kapansanan ni ____? **(TINGNAN ANG KODIGO SA IBABA)**	Ano ang sanhi ng kapansanan ni ___? **(TINGNAN ANG KODIGO SA IBABA)**
1			
2			

(34) Uri ng Kapansanan

1. Bulag ang isang mata
2. Bulag ang dalawang mata
3. Putol ang kamay
4. Mongoloid
5. Cleff palate
6. Malabo ang paningin
7. Kuba ang katawan
8. Baldado ang paa
9. Baldado ang kamay
10. Ngongo
11. Autistic
12. Bali ang gulugod
13. Paralitik ang katawan
14. Hydrocephalus
15. Pipi
16. Bingi
17. Pipi at bingi
18. Lumpo
19. Deformity
20. Polio
21. Mental impairment
22. Cerebral palsy
23. Epileptic
24. Unano
25. Iba pa (itala)

(35) Sanhi ng kapansanan

1. In born
2. Pagkakasakit
3. Aksidente

(36)	(37)	(38)
ISULAT ANG PANGALAN NG KASAMBAHAY NA MAY 60 TAONG GULANG PATAAS	Si ___ ba ay may "senior citizen's" ID? **1. Mayroon 2. Wala**	**KUNG OO SA (37)** Saan nagagamit ni ___ ang kanyang ID?
1		
2		
3		

ID Number:_____

H. KALUSUGAN

39. Noong nakaraang labing-dalawang buwan, kayo ba o sinuman inyong kasambahay ay nagpagamot upang malunasan ang sakit? ☐

1 Oo **(PUMUNTA SA 40)**
2 Hindi **(PUMUNTA SA 41)**
3 Hindi nagkasakit **(PUMUNTA SA 41)**

40. Sa huling pagkakasakit ng sinumang miyembro ng sambahayan, saan kayo nagpagamot upang malunasan ang sakit? ☐

1 Public hospital
2 Private Hospital/Clinic
3 Rural Health Units
4 Brgy. Health Station/Center
5 Sa albularyo
6 Iba pa, itala

(41) Ilan ang mag-asawa sa inyong samba-hayan?	(42) Ano ang pangalan ng mga mag-asawa? PANGALAN	(43) Gumagamit ba sina ___ ng pamamaraan ng papagplano ng pamilya? 1. Oo 2. Hindi 3. Hindi alam	(44) KUNG OO SA (43) Ano ang ginagamit na pamamaraan ng pagpaplano ng pamilya nina_ ? (TINGNAN ANG KODIGO SA IBABA)
1			
2			

(44) Pamamaraan ng pagpaplano ng pamilya

1. Rhythm method
2. Mucus
3. Body temperature
4. IUD
5. Condom
6. Diaphragm
7. Pills
8. Injectible
9. Vasectomy
10. Tubal ligation
11. Iba pa, itala

I. BIKTIMA NG KRIMEN

Noong nakaraang labing-dalawang buwan, kayo ba o sinuman sa inyong kasambahay ay naging biktima ng alin man sa mga sumusunod na krimen?

Uri ng Krimen	(45) 1. Oo 2. Hindi	(46) Kabuuan	(47) Lalaki	(48) Babae
1 Pagpatay				
2 Pagnanakaw				
3 Panggagahasa				
4 Pananakit				
5 Ibang krimen, itala				

J. MGA DATING KASAMBAHAY

49. Mayroon ba kayong dating kasambahay na namatay noong nakaraang labing-dalawang buwan? ☐

1 Mayroon **(PUMUNTA SA 50)**
2 Wala **(PUMUNTA SA 56)**

KUNG MAYROON SA (49)

(50) Ano ang pangalan ng kasambahay na namatay ? PANGALAN	(51) Kasarian? 1 - Lalaki 2 - Babae	(52) Ano ang edad ni__ noong namatay? EDAD	(53) Ano ang sanhi ng pagkamatay ni ___? (TINGNAN ANG KODIGO SA IBABA)	(54) Bago namatay, si ___ ba ay nabigyan ng kaukulang pagpapa-gamot? 1 - Oo 2 - Hindi	(55) KUNG OO SA (54) Saang paga-mutan nabigyan ng kaukulang pagpapagamot? (TINGNAN ANG KODIGO SA IBABA)
1					
2					
3					
4					

(53) Sanhi ng pagkamatay

1 Sakit sa puso
2 Sakit sa "vascular system"
3 Pneumonia
4 Tuberculosis
5 Cancer
6 Diarrhea
7 Tigdas
8 Komplikasyon sa pagbubuntis o panganganak
9 Iba pang sanhi, itala

(55) Saan nagpapagamot

1 Public hospital
2 Private hospital/clinic
3 Rural health units
4 Brgy. Health station/center
5 Albularyo
6 Iba pa, itala

ID Number:_____

K. TUBIG AT KALINISAN

56. Ano ang pinagkukunan ng tubig na inumin ng sambahayan?

1 Pamayanang sistema sa tubig - sariling gamit
2 Pamayanang sistema sa tubig - kasalo ang ibang sambahayan
3 Artesian well deep - sariling gamit
4 Artesian well deep - kasalo ang ibang sambahayan
5 Artesian well shallow - sariling gamit
6 Artesian well shallow - kasalo ang ibang sambahayan
7 Dug well - sariling gamit
8 Dug well - kasalo ang ibang sambahayan
9 Ilog, sapa, lawa, bukal at iba pang anyong tubig
10 Bottled water (mineral, purified, distilled)
11 Iba pang pinagkukunan. Itala _____

57. Anong uri ng palikuran ang ginagamit ng sambahayan?

1 Water sealed flush to sewerage system/septic tank - sariling gamit
2 Water sealed flush to sewerage system/septic tank - kasalo ang ibang sambahayan
3 Hukay na may takip
4 Hukay na walang takip
5 Walang palikuran
6 Iba pa, itala _____

L. TIRAHAN

58. Ano ang katayuan ng inyong sambahayan sa pamamalagi sa bahay at lupang inyong tinitirahan?

1 Pag-aari ang bahay at lupa
2 Inuupahan ang bahay/kwarto at lupa
3 Pag-aari ang bahay ngunit inuupahan ang lupa
4 Pag-aari ang bahay, libreng upa sa lupa na may pahintulot ng may-ari
5 Pag-aari ang bahay, libreng upa sa lupa ngunit walang pahintulot ng may-ari
6 Libreng paninirahan sa bahay at lupa na may pahintulot ng may-ari
7 Libreng paninirahan sa bahay at lupa na walang pahintulot ng may-ari
8 Iba pa, (itala) _____

KUNG ANG SAGOT SA PAMAMA-LAGI SA BAHAY AT/O LUPA SA (58) AY KODIGO "2", PUMUNTA SA (60). KUNG ANG SAGOT SA (58) AY ALINMAN SA "1", "3", "4", "5", "6", "7" O "8", PUMUNTA SA (59). KUNG ANG SAGOT AY "3", ITANONG LANG ANG PARA SA BAHAY.

59. Sa inyong palagay, magkano ang tantiyang upa sa isang buwan sa inyong tinitirahan kung ito ay inyong inuupahan?

60. May kuryente ba sa inyong bahay?

1 Mayroon **(PUMUNTA SA 61)**
2 Wala **(PUMUNTA SA 62)**

61. Magkano ang karaniwang binabayaran ninyo para sa konsumo sa kuryente kada buwan?

62. Mayroon ba ang inyong sambahayan ng mga sumusunod na nagagamit na kasangkapan?

1 - Mayroon
2 - Wala

1. Rado/Cassette
2. Telebisyon
3. VHS/VCD/DVD
4. Refrigerator / Freezer
5. Plantsa de Koryente
6 LPG Gas Stove/Range
7. Washing Machine
8. Microwave Oven
9. Cellphone
10. Computer
11. Air condition
12. Kotse, Dyip, Motorsiklo, at iba pang sasakyang de-motor

SAGUTIN BATAY SA URI NG MATERYALES NA GINAGAMIT AT SA PAGKAKAGAWA SA NASABING BAHAGI NG BAHAY:

63. Materyales na ginamit sa DINGDING

64. Materyales na ginamit sa BUBONG

1 Strong materials (concrete, brick, stone, wood, galvanized iron, asbestos)
2 Light materials (bamboo, sawali, cogon, nipa)
3 Salvaged/makeshift materials
4 Mixed but predominantly strong materials
5 Mixed but predominantly light materials
6 Mixed but predominantly salvaged materials

ID Number:_____

M. PINAGMUMULAN NG KITA NG SAMBAHAYAN			
M.1. GAWAING PANGKABUHAYAN		**NETONG KITA**	
		(A)	**(B)**
Noong nakaraang labing-dalawang buwan, kayo ba o sinuman sa mga kasambahay ay nagsagawa ng mga sumusunod na gawaing pangkabuhayan para magkaroon ng kita para sa sambahayan?		Magkano ang kabuuang netong kita mula sa mga gawaing pangkabuhayan na ito noong nakaraang labing-dalawang buwan? (Sa Piso)	
URI NG GAWAING PANGKABUHAYAN	**1 - OO 2 - HINDI**	**SA SALAPI**	**SA BAGAY**
65. Pagsasaka at paghahalaman tulad ng pagtatanim ng palay, mais, kamote, gulay, prutas, at iba pang pananim.		65A	65B
66. Pag-aalaga ng mga hayop katulad ng kalabaw, baka, baboy, kambing, manok, bibe at iba pa. Kasama sa gawaing ito ang pagkuha ng gatas mula sa kalabaw, baka at kambing at pagkuha ng itlog mula sa manok, bibe at pugo.		66A	66B
67. Pangingisda o panghuhuli ng isda at iba pang yamang tubig tulad ng tahong, suso, talaba, seaweeds, etc. Kasama din dito ang pag-aalaga ng isda katulad ng bangus, tilapia, talaba, tahong, at iba pa.		67A	67B
68. Pangangahoy at pangangaso, tulad ng pagtatanim ng puno, pagkuha ng panggatong, pagkuha ng mga produktong mula sa gubat gaya ng kahoy, cogon, nipa, rattan, kawayan at iba pa o panghuhuli ng mga hayop tulad ng usa, baboy-ramo, mga ibon at iba pa.		68A	68B
69. Pagtitinda o pangangalakal ng anumang produkto (wholesale o retail). Kasama dito ang pagtitinda sa palengke, lansangan, mails, bahay-bahay at iba pa.		69A	69B
70. Paggawa ng produkto tulad ng basahan, patahian ng damit, tsinelas, bagoong, tuyo at iba pa.		70A	70B
71. Mga serbisyong pantao o pangbayan tulad ng serbisyong pangkalusugan, "dental", pamamalakad ng paaralan, "restaurants", "hotel" at iba pa.		71A	71B
72. Serbisyo sa transportasyon at komunikasyon. Halimbawa nito ay pagpapasada ng dyipni, trisikel, taxi, "messenger" at "postal service". Kasama din dito ang mga negosyong nagbibigay ng serbisyong pagtatago at pag-iimbak ng produkto.		72A	72B
73. Pagmimina ng graba, buhangin, bakal, ginto at iba pang mahahalagang bato. Kasama din dito ang paggawa ng asin (salt extraction), pagtitibag, atbp.		73A	73B
74. Konstruksyon tulad ng paggawa at pagkumpuni ng bahay, gusali, tulay at iba pa.		74A	74B
75. Mga gawaing pangkabuhayan na hindi kahalintulad sa mga nabanggit, tulad ng serbisyo sa kuryente, gaas at tubig, mga negosyo ukol sa pinansyal tulad ng real estate, insurance at iba pa.		75A	75B
76. KABUUANG NETONG KITA MULA SA GAWAING PANGKABUHAYAN		**76A: Pagsamahin ang netong kita mula (65A) hanggang (75A)** 76A	**76B: Pagsamahin ang netong kita mula (65B) hanggang (75B)** 76B

ID Number:_____

M. PINAGMUMULAN NG KITA NG SAMBAHAYAN		
M.2 SAHOD/SWELDO MULA SA PINAPASUKANG TRABAHO		
77. Noong nakaraang labing-dalawang buwan, ano ang kabuuang halaga ng sweldo/sahod na natanggap ninyo o sinumang namamasukan na kasambahay?	**KABUUANG KITA**	
	(A) SA SALAPI	**(B) SA BAGAY**
PANGALAN NG KASAMBAHAY a		
b		
c		
d		
KABUUANG SAHOD/SWELDO	**77A**	**77B**
M.3. IBA PANG PINAGKUKUNAN NG KITA		
Noong nakaraang labing-dalawang buwan, magkano ang natanggap ninyo o sinuman sa inyong kasambahay mula sa mga sumusunod?	**KITA**	
	(A) SA SALAPI	**(B) SA BAGAY**
78. Bahaging produksyon katulad ng ani na pananim (hal. palay, gulay at prutas) at mga hayop (hal. baka, manok, etc) na pinaalagaan sa ibang sambahayan.	**78A**	**78B**
79-1. Suporta galing sa mga kamag-anak na nasa ibang bansa o Overseas Filipino Workers (OFW).	**79-1A**	**79-1B**
79-2. Iba pang suporta galing sa ibang bansa, katulad ng pensyon, benepisyo, kita mula sa puhunan sa negosyo, tulong pinansyal o regalong natanggap mula sa mga institusyon na nasa ibang bansa.	**79-2A**	**79-2B**
80. Suporta o tulong pinansyal galing sa mga kamag-anak, pamahalaan o pribadong institusyon dito sa bansa.	**80A**	**80B**
81. Bayad galing sa pinauupahang lupa, gusali at iba pang ari-arian. Hindi kasama dito ang mga lupain na ginagamit sa agrikultura (agricultural land).	**81A**	**81B**
82. Mga interes o tubo galing sa perang nakaimpok sa banko at mga pautang sa ibang tao o sambahayan.	**82A**	**82B**
83. Pensyon, benepisyo mula sa pagreretiro, at "social security benefits".	**83A**	**83B**
84. Dibidendo o mga kita sa mga pinamuhunan sa ibang negosyo .	**84A**	**84B**
85. Iba pang kita na hindi kasama sa mga nabanggit.	**85A**	**85B**
86. KABUUANG KITA MULA SA IBA PANG PINAGKUKUNAN NG KITA	**86A: Pagsamahin ang kita mula (78A) hanggang (85A)**	**86B: Pagsamahin ang kita mula (78B) hanggang (85B)**
	86A	**86B**
87. KABUUANG TANTIYA NG UPA NG TINITIRAHANG BAHAY AT LUPA	**87: Kunin ang buwanang tantiya ng upa mula sa (59) at paramihin ng 12 buwan** ➡	**87B**
88. KABUUANG KITA SA SALAPI AT SA BAGAY	**88A: Pagsamahin ang kita sa (76A), (77A) at (86A)**	**64B:Pagsamahin ang kita sa (76B), (77B), (86B) at (87B)**
	88A	**88B**
89. KABUUANG KITA NG SAMBAHAYAN	**89: Pagsamahin ang kita sa (88A) at (88B)** ➡	**89**

ID Number:_____

N. AGRIKULTURA, PANGHAHAYUPAN AT PANGINGISDA

ITANONG LAMANG ANG (90) HANGGANG (95) KUNG ANG SAGOT SA (65) AY OO (KODIGO 1). KUNG ANG SAGOT SA (65) AY HINDI (KODIGO 2), PUMUNTA SA (96)

90. Ano ang katayuan ng ninyo o ng kasambahay sa pamamalagi sa lupang inyong sinasaka?

1 Pag-aari ngunit iba ang nagsasaka
2 Pag-aari ang lupang sinasaka
3 Namumuwisan
4 Nangungupahan
5 Hiniram ang lupa sa may-ari
6 Iba pa, itala _____

91. Gaano kalawak ang lupang sinasaka?

1 Mababa sa 1 hektarya
2 1 - 3 hektarya
3 3.1 - 5 hektarya
4 Higit sa 5 hektarya

(92) Noong nakaraang labing-dalawang buwan, anu-ano ang itinanim ninyong mga pananim o inalagaang punongkahoy?	(93) Noong huling anihan, gaano kadami ang inaning __? **(in kilograms)**
1 Palay	
2 Mais	
3	
4	
5	
6	

94. Umuupa ba ng manggagawa sa gawaing bukid?

1 Oo **(PUMUNTA SA 95)**
2 Hindi **(PUMUNTA SA 96)**

95. Ilang manggagawa ang inuupahan para sa mga sumusunod na gawain:

1 Paghahanda ng lupa
2 Pagtatanim, lipat-tanim at ulit-tanim
3 Pangagalaga ng tanim
4 Pag-aani
5 Mga gawain pagkatapos ng anihan (paghahakot ng naani, pagbobodega, etc.)

ITANONG LAMANG ANG (96) HANGGANG (97) KUNG ANG SAGOT SA (66) AY OO (KODIGO 1). KUNG ANG SAGOT SA (66) AY HINDI (KODIGO 2), PUMUNTA SA (98)

96. Noong nakaraang labing-dalawang buwan, ano ang mga inalagaang hayop para pagkakitaan?	1 - Oo 2 - Hindi	Ilan?
1 Patabaing baboy		
2 Inahing baboy		
3 Kambing		
4 Kalabaw		
5 Baka		
6 Manok		
7 Paitluging manok		
8 Itik/bibe		
9 Iba pang hayop, itala		

97. Gaano ang karaniwang dami ng produksyon mula sa pag-aalaga ng hayop?

1 Buhay na hayop (bilang)	
2 Karne (timbang - kilograms)	
3 Gatas (litro)	
4 Itlog (bilang)	

ITANONG LAMANG ANG (98) HANGGANG (114) KUNG ANG SAGOT SA (67) AY OO (KODIGO 1). KUNG ANG SAGOT SA (67) AY HINDI (KODIGO 2), PUMUNTA SA (115)

98. Noong nakaraang labing-dalawang buwan, kayo ba o sinuman sa inyong kasambahay ay nagsagawa ng pag-aalaga ng isda o iba pang yamang-tubig?

1 Oo **(PUMUNTA SA 99)**
2 Hindi **(PUMUNTA SA 107)**

99. Saan nag-alaga ng isda o iba pang yamang tubig?

1 Fishpond **(PUMUNTA SA 100)**
2 Fishcage **(PUMUNTA SA 101)**
3 Iba pa, itala **(PUMUNTA SA 103)**

100. Gaano kalawak ang inyong fishpond?

1 Mababa sa 1 hektarya
2 1 - 3 hektarya
3 3.1 - 5 hektarya
4 Higit sa 5 hektarya

101. Ilan fishcage mayroon kayo?

102. Ano ang sukat ng inyong fishcage?	(SQ. M.)
1 Fishcage 1	
2 Fishcage 2	
3 Fishcage 3	

ID Number:_____

N. PANGINGISDA

(103) Noong nakaraang labing-dalawang buwan, anu-ano ang mga inalagaang isda o iba pang yamang-tubig?	(104) Gaano kadami ang karaniwang ani mula sa pag-aalaga ng isda o iba pang yamang tubig? (in kilograms)
1 Tilapia	
2 Bangus	
3 Hito	
4 Sugpo/hipon	
5	
6	

105. Umuupa ba ng manggagawa sa gawaing ito? ☐
1 Oo **(PUMUNTA SA 106)**
2 Hindi **(PUMUNTA SA 107)**

106. Ilan ang inuupahang manggagawa sa gawaing ito? ☐

107. Noong nakaraang labing-dalawang buwan, kayo ba o sinuman sa inyong kasambahay ay nagsagawa ng pangingisda o panghuhuli ng isda o iba pang yamang-tubig upang pagkakitaan? ☐
1 Oo **(PUMUNTA SA 108)**
2 Hindi **(PUMUNTA SA 115)**

108. Saan nangingisda? ☐
1 Dagat
2 Lawa
3 Ilog
4 Sapa
5 Iba pang anyong tubig (itala)

109. Mayroon ba kayong bangka? ☐
1 Mayroon **(PUMUNTA SA 110)**
2 Wala **(PUMUNTA SA 111)**

110. Ang inyo bang bangka ay de-motor? ☐
1 Oo
2 Hindi

111. Kung walang bangka, ano ang ginagamit sa pangingisda? ☐

112. Ilang beses ang paglabas upang mangisda sa loob ng isang buwan? ☐

113. Ilang buwan nagsasagawa ng pangingisda noong nakaraang labing-dalawang buwan? ☐

114. Gaano karami ang karaniwang huli sa bawat panghuhuli? ☐

115. Noong nakaraang labing-dalawang buwan, kayo ba o sinuman sa inyong kasambahay ay nagtrabaho bilang manggagawa sa bukid o palaisdaan? ☐
1 Oo **(PUMUNTA SA 116)**
2 Hindi **(PUMUNTA SA 120)**

KUNG OO SA (115)

(116) Sino-sino sa mga kasambahay ang nagtrabaho bilang manggagawa sa bukid o palaisdaan? PANGALAN	(117) Ano ang mga isinagawang gawain sa bukid o palaisdaan? (TINGNAN ANG KODIGO SA IBABA)	(118) Noong nakaraang labing-dalawang buwan, ilang araw nagtrabaho sa bukid o palaisdaan?	(119) Magkano ang kita sa isang araw mula sa paggawa sa bukid/palaisdaan?
1			
2			
3			
4			

(117) Gawain sa bukid/palaisdaan

1. Paghahanda ng lupa
2. Pagbunot ng punla
3. Pagtatanim, lipat tanim at ulit tanim
4. Pagdadamo
5. Pagpapatubig/pagdidilig
6. Pag-aabono/pagpapataba
7. Paglalagay ng pamatay-peste
8. Pag-aani
9. Mga gawain pagkatapos ng anihan (paghahakot ng naani, pagbobodega, etc.)

ID Number:_____

O. NEGOSYO

ITANONG LAMANG ANG (120) HANGGANG (122) KUNG OO (KODIGO 1) ANG SAGOT SA ALINMANG GAWAING PANGKABUHAYAN MULA (69) HANGGANG (75). KUNG LAHAT NG SAGOT SA (69) HANGGANG (75) AY HINDI (KODIGO 2), PUMUNTA SA (123).

120	121	122
Ano ang pangalan ng inyong mga negosyo?	Ang _____ ba ay nakarehistro sa DTI? **1 Oo 2 Hindi**	Ang __ ba ay may mayor's permit? **1 Mayroon 2 Wala**
1		
2		

P. DALAS NG PAGKAIN

123. Kadalasan, ilang beses kumakain ang inyong sambahayan sa isang araw? ☐

124. Ilang beses kumain ang inyong sambahayan kahapon? ☐

KUNG MAGKAIBA ANG BILANG NG PAGKAIN KAHAPON (124) SA KADALASANG BILANG NG PAGKAIN NG SAMBAHAYAN (123), ITANONG ANG (125). KUNG MAGKAPAREHO ANG SAGOT, PUMUNTA SA (126).

125. Ano ang dahilan ng pagkakaiba? ☐

1 Kakulangan sa pagkain
2 Pag-aayuno
3 Sobrang pagkain
4 May karamdaman
5 Iba pang dahilan, itala

126. Noong nakaraang tatlong buwan, nakaranas ba ang sambahayan ng kakulangan sa pagkain? ☐

1 Oo **(PUMUNTA SA 127)**
2 Hindi **(PUMUNTA SA 129)**

127. Mga ilang araw nakaranas ng kakulangan sa pagkain ang sambahayan noong nakaraang tatlong buwan?

(128) BILANG NG ARAW

PANGALAN NG BUWAN

a. **Unang Buwan** _____ ☐

b. **Ikalawang Buwan** _____ ☐

c. **Ikatlong Buwan** _____ ☐

Q. PAMAMAHALA SA BASURA

129. Ano ang pamamaraan/sistema sa pamamahala sa basura ang ginagawa ng sambahayan?

1 - Oo 2 - Hindi

1 Kinokolekta ang basura ☐
2 Sinusunog ☐
3 Composting ☐
4 Recycling ☐
5 Waste segregation ☐
6 Hukay na may takip ☐
7 Hukay na walang takip ☐
8 Iba pa, itala ☐

(MAAARING HIGIT SA ISA ANG SAGOT)

ITANONG LAMANG ANG (130) KUNG ANG SAGOT SA TANONG (129) AY KODIGO "1".

130. Gaano kadalas ang pagkokolekta ng basura? ☐

1 Araw-araw
2 Isang beses sa isang linggo
3 Dalawang beses sa isang linggo
4 Iba pa, itala

R. OVERSEAS FILIPINO WORKERS

131. Mayroon ba kayong dating kasambahay na OFW? ☐

1 Mayroon **(PUMUNTA SA 132)**
2 Wala **(PUMUNTA SA IX)**

(132)	(133)	(134)	(135)
Ano ang kanyang pangalan?	Ano ang relasyon ni __ sa puno ng sambahayan? **(TINGNAN ANG KODIGO SA IBABA)**	Ano ang hanapbuhay ni ___?	Saang bansa naghahanap-buhay si ___?
1			
2			
3			
4			

(133) Relasyon sa puno ng sambahayan

2 Asawa
3 Anak
4 Manugang
5 Apo
6 Magulang
7 Iba pa, itala

Annex B. CBMS Household Profile Questionnaire version 06-2009-01

Source: CBMS-Philippines (https://www.pep-net.org/sites/pep-net.org/files/typo3doc/pdf/CBMS_country_proj_profiles/Philippines/CBMS_forms/HPQ_06200901_Eng.pdf)

CBMS FORM 1 : ENGLISH VERSION

VN: 06-2009-01
NSCB Approval No. DILG-0903-01
Expires December 31, 2012

CBMS

Community-Based Monitoring System

Household Profile Questionnaire

CONFIDENTIALITY

This survey is authorized by the Provincial Government of _____ per SP Resolution No. _____
All information collected will be held strictly confidential.

A. IDENTIFICATION

I. Identification of Location

a. Province : _____ ☐☐☐☐
b. City/Municipality : _____ ☐☐☐☐
c. Barangay : _____ ☐☐☐☐
d. Purok / District : _____ ☐☐☐☐

II. Household Identification Number : _____ ☐☐☐☐

III. Household Address : _____

_____

IV. Name of Respondent : _____

V. Date of Interview : ☐

VI. Time Started : ☐

VII. Time Finished : ☐

VIII. Name of Enumerator : _____

IX. Assessment of the quality and reliability of elicited information.

_____

_____

_____

ID Number:_____

DIRECTIONS: FILL-UP ALL THE NEEDED INFORMATION ABOUT THE HOUSEHOLD BASED ON THE ANSWERS GIVEN BY THE RESPONDENT.

B. DEMOGRAPHY										C. MIGRATION	
(1A)	(2)	(3)	(4)	(5)		(6)	(7)	(8)	(9)	(10)	(11)	(12)
NUMBER	How many members are there in the household? Who is the head of the household? Who are the other members of the household?	How is ___ related to the head of the household?	Is ___ male or female?	When is ___'s date of birth?		Was __'s birth registered with the local civil registrar?	What is __'s civil status?	What is __'s religious affiliation?	Does __ belong to any indigenous tribe?	IF YES IN (9) What indigenous tribe does __ belong to?	How long has __ been staying in the barangay?	Where was __'s last place of residence before staying in the barangay?
	FULL NAME (SURNAME, FIRST NAME)	(SEE CODES BELOW)	*1. Male* *2. Female*	MM / DD / YYYY	AGE	*1. Yes* *2. No*	(SEE CODES BELOW)	(SEE CODES BELOW)	*1. Yes* *2. No* (GO TO 11)	(SEE CODES BELOW)	(NUMBER OF YEARS STAYING IN THE BARANGAY)	BARANGAY, CITY/ MUNICIPALITY, PROVINCE & COUNTRY
1		1										
2												
3												
4												
5												
6												
7												
8												
9												
10												

ARE THERE MORE THAN 10 MEMBERS IN THIS HOUSEHOLD?
1 YES, USE NEW FORM
2 NO

(3) Relation to head of the household
1 - Head
2 - Spouse
3 - Son/Daughter
4 - Son/Daughter-in-law
5 - Grandchildren
6 - Parents
7 - Other relatives, specify
8 - Housemaid/boy
9 - Others, specify

(7) Civil status
1 - Single
2 - Legally Married
3 - Widowed
4 - Divorced/ Separated
5 - Common Law/ "Live in"
6 - Unknown

(8) Religion
1 - Catholic
2 - Protestant
3 - Iglesia ni Kristo
4 - Aglipay
5 - Islam
6 - Others, specify
7 - None

(10) Indigenous tribe
1 - Bago
2 - Ibanag
3 - Kankanaey
4 - Mangyan
5 - Ibaloi
6 - Aeta
7 - Tagbanuas
8 - Cuyonen
9 - Subanen
10 - B'laan
11 - Mandaya
12 - Manobo
13 - Teduray
14 - Bukidnon
15 - Ati
16 - Cimaron
17 - Itom
18 - Pullon
19 - Badjao
20 - Batak
21 - Palawano
22 - Tau't Bato
23 - Dumagat
24 - T'boli

ID Number:_____

CHECK FOR THE RELEVANCE, COMPLETENESS AND ACCURACY OF THE INFORMATION ELICITED FROM THE RESPONDENT.

	D. EDUCATION AND LITERACY					E. COMMUNITY & POLITICAL PARTICIPATION					F. NUTRITION
(1B)	(13)	(14)	(15)	(16)	(17)	(18)	(19)		(20)	(21)	(22)
	FOR 3 YEARS OLD & ABOVE				FOR 10 YEARS OLD & ABOVE				FOR 17 YEARS OLD & ABOVE		FOR MEMBERS 0-5 YEARS OLD
NUMBER	Is __ attending school?	IF YES IN (13): What grade or year is __ currently attending?	IF YES IN (13): Is _____ attending a private or public school?	What is __'s highest educational level completed?	Can __ read and write a simple message in any language or dialect ?	Is __ a member of a community organization?	IF YES IN (18): What is the name of community organization?		Is __ a registered voter in the municipality/city?	IF YES IN (20): Did __ vote in the last election?	GET THE NUTRITIONAL STATUS OF CHILDREN 0-5 YEARS OLD FROM THE BARANGAY NUTRITION SCHOLAR
	1. Yes 2. No (GO TO 16)	(SEE CODES BELOW)	1 - PUBLIC 2 - PRIVATE	(SEE CODES BELOW)	*1. Yes 2. No*	*1. Yes 2. No (GO TO 20)*	NAME OF COMMUNITY ORGANIZATION)	(SEE CODES BELOW)	*1. Yes 2. No (GO TO 22)*	*1. Yes 2. No*	(SEE CODES BELOW)
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											

(14) Grade/Year Level and (16) Highest Educational Attainment

00 - No Grade Completed
01 - Day Care
02 - Kindergarten / Preparatory

ELEMENTARY
11 - Grade I
12 - Grade II
13 - Grade III
14 - Grade IV
15 - Grade V
16 - Grade VI/ VII
17 - Elementary graduate

SECONDARY
21 - 1st Year HS
22 - 2nd Year HS
23 - 3rd Year HS
24 - 4th Year HS or higher
25 - HS Graduate

POST SECONDARY
26 - 1st Yr Post Secondary
27 - 2nd Yr Post Secondary
28 - 3rd Yr Post Secondary
29 - Post Secondary Graduate (specify course)

COLLEGE
31 - 1st Year College
32 - 2nd Year College
33 - 3rd Year College
34 - 4th Year College or higher
35 - College Graduate (specify course)

POST GRADUATE
36 - Post Grad w/ units
37 - Graduate (specify PhD / Master's course)

(19) Community organization
1 - Religious
2 - Youth
3 - Cultural
4 - Political
5 - Women's
6 - Agricultural
7 - Labor
8 - Civic
9 - Cooperatives
10 - Senior citizens
11 - Others, specify

(22) Nutritional status
1 - Above normal
2 - Normal
3 - Below normal (moderate)
4 - Below normal (severe)

ID Number:_____

(1C) NUMBER	WRITE DOWN FIRST THE NAMES OF EACH MEMBER	G. ECONOMIC ACTIVITY											
		(23)	(24)		(25)		(26)	(27)	(28)	(29)	(30)	(31)	(32)	(33)
		FOR 5 YEARS OLD & ABOVE							IF NO IN (23)					
		Did __ work, have a job or business during the last three months?	IF YES IN (23) What was __'s primary job, occupation or business during the past three months? SPECIFY FOR EX., PALAY FARMER, FILING CLERK, FACTORY WORKER, ELEM. TEACHER, ETC.		What business or industry is __ engaged in or worked in job, occupation or business (refer to Q. 24)? SPECIFY FOR EX., PALAY FARM, FISH CANNING FACTORY, PUBLIC ELEM. SCHOOL, ETC.		What is the nature of ___'s employment?	How do you classify __'s job or employment?	Did __ look for work/try to establish business during the past three months?	IF YES IN (28) What has __ been doing to look for work ?	IF NO IN (28) Why __ did not look for work during the past three months?	When was the last time __ looked for work?	Had opportunity for work existed during the last 3 months or the next month, would __ have been available?	Is __ willing to take up work during the past 3 months or within the next months?
	FIRST NAME	1. Yes (GO TO 24) 2. No (GO TO 28)	PRIMARY JOB, OCCUPATION OR BUSINESS	(SEE CODES BELOW)	INDUSTRY/ SECTOR	(SEE CODES BELOW)	(SEE CODES BELOW)	(SEE CODES BELOW)	1. Yes 2. No (GO TO 30)	(SEE CODES BELOW)	(SEE CODES BELOW)	1 - 4 to 6 mos. ago 2 - more than 6 mos. ago 3 - never	1. Yes 2. No	1. Yes 2. No
1														
2														
3														
4														
5														
6														
7														
8														
9														
10														

(24) Job, occupation or business
1 - Officials of government and special interest organization, corporate executives, managers, managing proprietors and supervisors
2 - Professionals
3 - Technicians and associate professionals
4 - Clerks
5 - Service workers and shop and market sales workers
6 - Farmers, forestry workers and fisherfolk
7 - Trades and related workers
8 - Plant and machine operators and assemblers
9 - Laborers and unskilled workers
10 - Special occupations

(25) Industry/sector
1 - Agriculture, Hunting and Forestry
2 - Fishing
3 - Mining and Quarrying
4 - Manufacturing
5 - Electricity, Gas and Water Supply
6 - Construction
7 - Wholesale & Retail Trade; Repair of Motor Vehicles, Motorcycles and Personal and Household Goods
8 - Hotel and Restaurants
9 - Transport, Storage and Communication
10 - Financial Intermediation
11 - Real Estate, Renting and Business Activities
12 - Public Administration and Defense; Compulsory Social Security
13 - Education
14 - Health & Social Work
15 - Other Community, Social and Personal Service Activities
16 - Private Households with Employed Persons
17 - Extra- territorial Organizations & Bodies

(26) Nature of employment
1 - Permanent job/ business/unpaid family work
2 - Short-term or seasonal or casual job/ business
3 - Worked on different jobs on day to day or week to week

(27) Class of Worker
0 - Worked for a household
1 - Worked for a private establishment
2 - Worked for government/ government corporation
3 - Self employed without employees
4 - Employer in own family-operated farm or business
5 - Worked with pay on own family operated farm or business
6 - Worked without pay on own family operated farm or business

(29) Job Search Method
1 - Registered in public employment agency
2 - Registered in private employment agency
3 - Approached employer directly
4 - Approached relatives / friends
5 - Placed or answered private advertisements
6 - Others (specify)

(30) Reasons not looking for work
1 - Believes no work is available
2 - Awaiting results of previous job application
3 - Temporary illness/ disability
4 - Bad weather
5 - Waiting for rehire/job recall
6 - Too young/old, retired permanently disabled
7 - Housekeeping
8 - Schooling
9 - Other reasons (specify)

ID Number: _____

H. OTHER FAMILY MEMBERS

(34) Do you have family members who is at present not in the household but is expected to return in the household within the next twelve months? ☐

1 Yes (GO TO 35)

2 No (GO TO 40)

	(35) What is the name of the family member?	(36) What was the age of __ as of last birthday?	(37) Is __ male or female? 1 - Male 2 - Female	(38) How is __ related to the head of the household? (SEE CODES BELOW)	(39) What is the reason why __ is at present not in the household? (SEE CODES BELOW)
1					
2					

(38) and (42) Relation to the head of the household
2. Spouse
3. Son/daughter
4. Son-in-law/daughter-in-law
5. Grandchild
6. Parent
7. Others, specify ___

(39) Reason
1. Schooling
2. Working
3. Others, specify

I. OVERSEAS FILIPINO WORKER

(40) Was there any former household member who is an OFW? ☐

1 Yes (GO TO 41)

2 No (GO TO 45)

	(41) What is the name of the OFW?	(42) How is __ related to the head of the household? (SEE CODES OF QUESTION 38)	(43) In what country does ____ work abroad?	(44) What kind of work is ____ doing abroad?
1				
2				

J. HOUSEHOLD MEMBERS - SOLO PARENT

(45) Does the household have a member who is a solo parent taking care of a child/children? ☐

1 Yes (GO TO 46)

2 No (GO TO 48)

	(46) What is the name of the member who is a solo parent? NAME	(47) What is the reason why ___ is a solo parent? (SEE CODES BELOW)
1		
2		

(47) Reason why member is a solo parent
1 - Death of spouse
2 - Imprisonment of spouse for at least one year
3 - Mental and physical incapacity of spouse
4 - Legal or de facto separation from spouse for at least one year
5 - Annulment of marriage as decreed by court or church
6 - Abandonment of spouse for at leat one year
7 - Unmarried mother or father who preferred to keep the child instead of others caring for him/her
8 - Any other person who solely provides parental care and support to a child provided he/she is a duly licensed foster parent of DSWD, or duly appointed legal guardian by the court through adoption or legal guardianship
9 - Any family member who solely assumes the responsibility as head of the family as a result of death, abandonment, prolonged absence or disappearance of parent for at least one year
10 - Other reasons, specify _____

J. HOUSEHOLD MEMBERS - DISABILITY

(48) Does the household have any member who has any physical or mental disability? ☐

1 Yes (GO TO 49)

2 No (GO TO 54)

	(49) What is the name of member who has disability? NAME	(50) What type of disability does __ have? (SEE CODES BELOW)	(51) What is the cause of ___'s disability? (SEE CODES BELOW)	(52) What assistance did ___ receive for his/her disability? SPECIFY	(53) From whom did ___ receive this assistance? (SEE CODES BELOW)
1					
2					

(50) Type of disability
1 Total blindness
2 Partial blindness
3 Low vision
4 Totally deaf
5 Partially deaf
6 Hard of hearing
7 Oral defect
8 One hand
9 No hands
10 One leg
11 No legs
12 Mild cerebral palsy
13 Severe cerebral palsy
14 Regularly intellectually impaired
15 Severely intellectually impaired
16 Regularly impaired by mental illness
17 Severely impaired by mental illness
18 Regularly multiple impaired
19 Severely multiple impaired
20 Others (specify)

(51) Cause of disability
1. In-born
2. Illness
3. Accident
4. Old age
5. Others,specify

(53) Assistance from
1. Government
2. NGO
3. Others (specify)

ID Number:_____

J. HOUSEHOLD MEMBERS - SENIOR CITIZENS

(54) WRITE THE NAME OF THE HOUSEHOLD MEMBER WHO IS 60 YEARS OLD AND ABOVE	(55) Does ___ have senior citizen's ID? 1. Yes 2. No	(56) IF YES IN (55) Where was ___ able to use the senior citizens ID?
1		
2		

J. HOUSEHOLD MEMBERS - PROFESSIONALS

(57) Do you have any household member who passed the board or bar exam? ☐

1 Yes (GO TO 58)

2 No (GO TO 60)

(58) What is the name of the household member who passed the board or bar exam? NAME	(59) What profession did ___ pass in the bar / board PROFESSION
1	
2	

K. HEALTH

(60) During the past twelve months, did you or any member of the household avail of medical treatment for any illness? ☐

1 Yes (GO TO 61)
2 No (GO TO 62)
3 Did not get sick (GO TO 62)

(61) During the last illness of any member of the household, where did you go to avail medical treatment? ☐

1 Public hospital (Provincial hospital)
2 Public hospital (Municipal/City hospital)
3 Public hospital (District hospital)
4 Public hospital (National)
5 Private Hospital/Clinic
6 Rural Health Units
7 Brgy. Health Station/Center
8 Non-medical/non-trained Hilot/Personnel
9 Others, specify

(62) How many married couples are there in the household?	(63) What are the names of the married couples? NAMES	(64) Do ___ and ___ use any family planning method? 1. Yes 2. No 3. Don't Know	(65) IF YES IN (64) What type of family planning method do ___ and ___ use? (SEE CODES BELOW)
1			
2			

(65) Family Planning Method

1. Basal body temperature (BBT)
2. Billings ovulation method
3. Standard days method
4. Symptothermal method
5. Lactational Amenorrhea Method (LAM)
6. Barrier method (condom, diaphragm)
7. IUD
8. Pills
9. Injectible
10. Vasectomy
11. Tubal ligation
12. Don't know
13. Others, specify ___

L. PREVIOUS HOUSEHOLD MEMBERS

(66) Was there any previous household member who died in the past twelve months? ☐

1 Yes (GO TO 67)
2 No (GO TO 71)

IF YES IN (66)

(67) What is the name of the person who died? NAME	(68) Is ___ male or female? 1 - Male 2 - Female	(69) What was __'s age at the time of death? AGE	(70) What was the cause of __'s death? (SEE CODES BELOW
1			
2			

(70) Cause of death

1. Disease of the heart
2. Disease of the vascular system
3. Pneumonia
4. Tuberculosis
5. Cancer
6. Diarrhea
7. Measles
8. Complications during pregnancy or childbirth
9. Other causes, specify

M. INCIDENCE OF CRIME

During the past twelve months, have you or any member of the household been a victim of any of the following crimes?

Type of Crime	(71) 1 - Yes 2 - No	(72) How many members? TOTAL	(73) MALE	(74) FEMALE
1. Murder/ Homicide				
2. Theft/Robbery				
3. Rape				
4. Physical Injury				
5. Others, specify				

ID Number: _____

N. WATER AND SANITATION

(75) What is your household's main source of drinking water?

1 Community water system - own use
2 Community water system - shared with other households
3 Artesian deep well - own use
4 Artesian deep well - shared with other
5 Artesian shallow well - own use
6 Artesian shallow well - shared with other households
7 Dug/shallow well - own use
8 Dug/shallow well - shared with other households
9 River, stream, lake, spring and other bodies of water
10 Bottled water/Purified/Distilled water
11 Tanker truck/Peddler
12 Other sources (specify) _____

ASK QUESTION 76 IF THE ANSWER IN QUESTION 75 IS "1", "2", "3", "4", "5", "6", "7", "8", "9" OR "12". IF THE ANSWER IS QUESTION 75 IS "10" OR "11", GO TO 77.

(76) How far is the source of drinking water from your house?

1 Within premises
2 Outside premises but 250 meters or less
3 251 meters or more
4 Don't know

(77) What kind of toilet facility does the household use?

1 Water sealed flush to sewerage system/septic tank - own use
2 Water sealed flush to sewerage system/septic tank - shared with other households
3 Closed pit
4 Open pit
5 No toilet
6 Others, (specify) _____

O. HOUSING

(78) What is the tenure status of the housing unit and lot occupied by your household?

1 Owner, owner-like possession of house and lot
2 Rent house/room including lot
3 Own house, rent lot
4 Own house, rent-free lot with consent of owner
5 Own house, rent-free lot without consent of owner
6 Rent-free house and lot with consent of owner
7 Rent-free house and lot without consent of owner
8 Other tenure status (specify) _____

ASK QUESTION 79 IF THE ANSWER TO QUESTION 78 IS "1", "3", "4", "5", "6", "7" OR "8". IF THE ANSWER IS "3", ASK ONLY FOR THE IMPUTED RENT FOR THE HOUSE. IF THE ANSWER TO QUESTION 78 IS "2", GO TO QUESTION 80.

(79) In your own estimate, how much is the imputed rent per month for the house and/or lot?

(80) Is there electricity in the house/building?

1 Yes (GO TO 81)
2 No (GO TO 83)

	1. Yes 2. No
(81) What is the source of electricity in the house/building?	
1 Electric company	
2 Generator	
3 Solar	
4 Battery	
5 Others (specify)	
(82) How much does your household usually pay for your electric consumption per month?	
(83) Does your household own any of the following items?	1. Yes 2. No
1 Radio / Radio Cassette	
2 Television	
3 CD/VCD/DVD	
4 Stereo/Component	
5 Karaoke	
6 Refrigerator / Freezer	
7 Electric Fan	
8 Electric Iron	
9 LPG Gas Stove/Range	
10 Washing Machine	
11 Microwave Oven	
12 Personal Computer	
13 Mobile Phone / Cellular Phone	
14 Landline Telephone	
15 Air-conditioner	
16 Sewing Machine	
17 Car,Jeep,Motorcycle/other motorized vehicles	
18 Others (specify) _____	

ANSWER BASED ON YOUR OBSERVATION OF THE CONSTRUCTION MATERIALS USED IN THE SAID PART OF THE HOUSING STRUCTURE.

(84) Construction materials used on the WALLS of the house

(85) Construction materials used on the ROOF of the house

1 Strong materials (concrete, brick, stone, wood, galvanized iron, asbestos)
2 Light materials (bamboo, sawali, cogon, nipa)
3 Salvaged/makeshift materials
4 Mixed but predominantly strong materials
5 Mixed but predominantly light materials
6 Mixed but predominantly salvaged materials

ID Number:_____

P. SOURCES OF INCOME			
P.1. ENTREPRENEURIAL ACTIVITIES		**NET INCOME**	
During the past twelve months, did you or any member of your household engage as operator in any of the following entrepreneurial activities to earn income or profit?	1 - YES 2 - NO	What was the total net value of income from these activities during the past twelve months? (in pesos)	
		(A) IN CASH	(B) IN KIND
(86) Crop farming and gardening such as growing palay, corn, roots and tubers, vegetables, fruits, nuts, ornamental plants, etc.		86A	86B
(87) Livestock and poultry raising such as raising of carabaos, cattle, hogs, horses, chicken, ducks, etc., and the production of fresh milk, eggs, etc.		87A	87B
(88) Fishing activities such as capture of fish; gathering of fry, shells, seaweeds, etc.; culturing fish, oyster, mussel, etc.		88A	88B
(89) Forestry and hunting activities such as tree planting (falcata, gmelina, rubber trees etc.), firewood gathering, small-scale logging, charcoal making, gathering of forestry product (cogon, nipa, rattan, bamboo, resin, gum, etc.) or hunting of wild animals/birds, etc.		89A	89B
(90) Wholesale and retail trade including market vending, sidewalk vending and peddling, etc.		90A	90B
(91) Manufacturing activities such as mat weaving, tailoring, dressmaking, bagoong making, fish drying, etc.		91A	91B
(92) Community, social and personal services such as medical and dental practice, practice of trade, operation of school, restaurants and hotels, etc.		92A	92B
(93) Transportation, storage and communication service such as operation of jeepneys or taxis, storage and warehousing activities, messengerial services, etc.		93A	93B
(94) Mining and quarrying activities such as mineral extraction like salt making, gold mining, gravel, sand and stone quarrying, etc.		94A	94B
(95) Construction like repair of house, building or any structure		95A	95B
(96) Activities not elsewhere classified, including electricity, gas and water, financing, insurance, real estate and business services		96A	96B
(97) TOTAL NET INCOME FROM ENTREPRENEURIAL ACTIVITIES		97A: Add the net income from (86A) to (96A)	97B: Add the net income from (86B) to (96B)
		97A	97B

ID Number:_____

P. SOURCES OF INCOME		
P.2 SALARIES AND WAGES FROM EMPLOYED MEMBERS		
(98) During the past twelve months, how much was the gross salaries and wages earned of employed members of your household?	GROSS SALARY	
	(A) IN CASH	(B) IN KIND
NAME OF EMPLOYED MEMBER 1		
2		
3		
4		
TOTAL SALARIES AND WAGES	98A	98B
P.3 OTHER SOURCES OF INCOME		
During the past twelve months, how much did you or any member of your household receive from the following?	INCOME	
	(A) IN CASH	(B) IN KIND
(99) Net share of crops, fruits and vegetables produced or livestock and poultry raised by other households	99A	99B
(100) Remittances from Overseas Filipino Workers	100A	100B
(101) Other Cash receipts, gift, support, relief and other income from abroad including pensions, retirement, workmen's compensation, dividends from investments, etc.	101A	101B
(102) Cash receipts, support, assistance, relief and other income from domestic sources, including assistance from government and private sources	102A	102B
(103) Rentals received from non-agricultural lands, buildings, spaces and other properties	103A	103B
(104) Interest from bank deposits, interest from loans extended to other families.	104A	104B
(105) Pension and retirement, workmen's compensation and social security benefits	105A	105B
(106) Dividends from investments	106A	106B
(107) Other sources of income not elsewhere classified	107A	107B
(108) TOTAL INCOME FROM OTHER SOURCES OF INCOME	108A: Add the income from (99A) to (107A)	108B: Add the income from (99B) to (107B)
	108A	108B
(109) TOTAL IMPUTED RENT FROM OWNED OR RENT-FREE HOUSE AND/OR LOT	109B: Get the monthly imputed rent from (79) and multiply by 12 months	109B
(110) TOTAL INCOME IN CASH AND IN KIND	110A= (97A) + (98A) + (108A)	110B = (97B) + (98B) + (108B) + (109B)
	110A	110B
(111) TOTAL HOUSEHOLD INCOME	111= (110A) + (110B)	111

ID Number: _____

Q. AGRICULTURE

INSTRUCTIONS:
IF CODE "1" IN (86), ASK QUESTIONS (112) TO (117)
IF CODE "2" IN (86), GO TO (118)

(112) What is the tenure status of the agricultural land being tilled by the household?
1 Own or owner-like possession
2 Rent
3 Not owned but with consent of owner
4 Not owned and without consent of owner
5 Others, specify _____

(113) What is the area of the agricultural land?
1 Less than 1 hectare
2 1 - 3 hectares
3 3.1 - 5 hectares
4 More than 5 hectares

(114) During the past twelve months, what type of crop or fruit-bearing trees did your household harvest?	(115) During the past twelve months, how much did you harvest?
1 Palay	
2 Corn	
3 Oil palm	
4 Other crops, specify ___	
5	
6	

(116) Do you or any member of the household use any of the following agricultural equipments/facilities?	1-Yes	2-No	(117) Does the household own the equipment? 1-Yes	2-No
1 Beast of burden				
2 Plow				
3 Harrow				
4 Mower				
5 Thresher/Corn sheller				
6 Insecticide/Pesti-cide				
7 Farm tractor				
8 Hand tractor				
9 Turtle/Mudboat				
10 Planter/Transplan-ter/ Dryer				
11 Mechanical dryer				
12 Multipurpose drying pavement				
13 Rice mill/corn mill/ feed mill				
14 Harvester, any crop				
15 Warehouse granary				
16 Farmshed				
17 Irrigation pump				
18 Others, specify				

R. LIVESTOCK RAISING

INSTRUCTIONS:
IF CODE "1" IN (87), ASK QUESTIONS (118) AND (119)
IF CODE "2" IN (87), GO TO (120)

(118) For the past twelve months, what were the livestock or poultry that your household raised to earn income?	1 - Yes 2 - No	How many?
1 Hog for fattening		
2 Sow		
3 Goat		
4 Carabao		
5 Cow		
6 Chicken		
7 Chicken for egg laying		
8 Duck		
9 Other livestock/poultry specify		

(119) For the past 12 months, what was the usual volume of production of livestock or poultry raised by your household?	Type	Volume
1 Live animals (number of heads)		
2 Meat (weight - in kilograms)		
3 Milk (in liters)		
4 Eggs (number)		
5 Others, specify ____		

S. FISHING

INSTRUCTIONS:
IF CODE "1" IN (88), ASK QUESTIONS (120) TO (128)
IF CODE "2" IN (88), GO TO (129)

(120) Where does your household do fishing?		1-Yes 2-No
1 Fishpond	(IF YES GO TO 121)	
2 Fishcage	(IF YES GO TO 122)	
3 Sea		
4 Marsh		
5 Lake	(IF YES GO TO 124)	
6 River		
7 Stream/Creek		
8 Others, specify ____		

(121) What is the area of your fishpond?
1 Less than 1 hectare
2 1 - 3 hectares
3 3.1 - 5 hectares
4 More than 5 hectares

(122) How many fishcages does your household have?

(123) What is the area of your fishcage?	(SQ. M.)
1 Fishcage 1	
2 Fishcage 2	
3 Fishcage 3	
4 Fishcage 4	

ID Number:_____

S. FISHING

(124) For the past twelve months, what were the fishes or aquatic animals cultured or caught by your household?	(125) How much was the volume of fish harvested/caught in the past twelve months? **(in kilograms)**
1 Tilapia	
2 Milkfish	
3 Catfish	
4 Mudfish	
5 Carp	
6 Others, specify ____	
7	
8	
9	
10	

(126) Do you have a fishing boat?

1 Yes, motorized
2 Yes, non-motorized
3 No

(127) Do you or any member of the household use any of the following equipment for fishing?		(128) Does the household own the equipment?	
	1-Yes 2-No	1-Yes	2-No
1 Fish net			
2 Electricity			
3 Bagnets			
4 Gillnets			
5 Traps			
6 Hooks and line			
7 Sift net			
8 Others, specify			

T. WASTE MANAGEMENT

(129) What is the system of garbage disposal by the household?	1. Yes 2. No
1 Garbage collection	
2 Burning	
3 Composting	
4 Recycling	
5 Waste segregation	
6 Compost pit with cover	
7 Compost pit without cover	
8 Others, specify	

ASK QUESTIONS (130) AND (131) IF THE ANSWER TO (129.1) IS YES (CODE 1). IF THE ANSWER TO (129.1) IS NO (CODE 2), GO TO 132.

(130) Who collects the garbage?

1 Municipal/city garbage collector
2 Barangay garbage collector
3 Private garbage collector

(131) How often is the garbage collected?

1 Daily
2 Thrice a week
3 Twice a week
4 Once a week
5 Others, specify

U. NATURAL CALAMITIES

(132) During the past twelve months, was your household severely affected by natural or manmade disasters such as typhoon, flood or fire?

1 Yes **(GO TO 133)**
2 No **(GO TO 134)**

(133) What was the natural or manmade disaster that affected your household?	1. Yes 2. No
1 Typhoon	
2 Flood	
3 Drought	
4 Earthquake	
5 Volcanic eruption	
6 Armed conflict	
7 Fire	
8 Others, (specify)	

V. FOOD ADEQUACY

(134) In the last three months, did it happen even once that your household experienced hunger and not have anything to eat?

1 Yes **(GO TO 135)**
2 No **(GO TO 137)**

IF YES IN (134)

During the past 3 months, how many days did your household experience hunger and not having anything to eat?	(135) NAME OF MONTH	(136) NUMBER OF DAYS
a. First Month		
b. Second Month		
c. Third Month		

ID Number:_____

W. ACCESS TO PROGRAMS

(137) Did you or any member of your household a recipient of the Comprehensive Agrarian Reform Program? ☐

1 Yes (GO TO 138)

2 No (GO TO 139)

IF YES IN (137)

(138) When did you become a recipient of the program?

Month	Day	Year

(139)		(140)	(141)	(142)	(143)
During the past twelve months, did you or any member of your household receive or avail of any of the following programs?		**IF YES IN (139)** What was the name of this program?	Who implemented this program?	How did this program affect your household?	How do you classify the effect of this program in your household?
TYPE OF PROGRAM	***1 - YES 2 - NO***	**FULL NAME OF PROGRAM**	**(SEE CODES BELOW)**	**EFFECT OF THE PROGRAM**	**1 - Positive effect 2 - No effect 3 - Negative effect**
1. Philhealth for Indigents					
2. Health assistance program (Ex. free eye checkup, dental services, etc.)		1.			
		2.			
3. Supplemental feeding program		1.			
		2.			
4. Education / scholarship program		1.			
		2.			
5. Skills or livelihood training program		1.			
		2.			
6. Housing program		1.			
		2.			
7. Credit program		1.			
		2.			
8. Other types of program, specify		1.			
		2.			

(141) 1-national 2-province 3-city/municipality 4-barangay 5-private organizations / NGOs 6 - don't know

Annex C. CBMS Household Profile Questionnaire version 01-2011-01

Source: CBMS-Philippines (https://www.pep-net.org/sites/pep-net.org/files/typo3doc/pdf/CBMS_country_proj_profiles/Philippines/Training_Materials/Module1/HPQ/01201101/01312013_CBMS_HPQ01201101_Eng_FINAL.pdf)

CBMS FORM 1: ENGLISH VERSION

VN: 01-2011-01
NSCB Approval No. DILG-1214-01
Expires Dec. 31, 2013

CBMS

Community-Based Monitoring System

Household Profile Questionnaire

This survey is authorized by the Local Government of ____ per SB Resolution # ____
All information collected will be held strictly confidential.

A. IDENTIFICATION

I. Identification of Location :

a. Province : _____
b. City/Municipality : _____
c. Zone : _____
d. Barangay : _____
e. Purok/Sitio : _____
f. Street : _____
g. House Number : _____

h. Additional Identification : ☐

1 - Road Island
2 - Under the bridge
3. Park
4. Sidewalk
5. Others, specify
6. None

II. Household Identification Number : _____ (ID No.)

III. Type of Building/House/Dwelling Unit: ☐

1 - Single house
2 - Duplex
3 - Apartment/accessoria condominium/townhouse
4 - Commercial/industrial/ agricultural building/house
5 - Others (e.g., cart, tree, etc), specify

IV. Name of Respondent : _____

V. Date of Interview : ☐

VI. Time Started : ☐

VII. Time Finished : ☐

VIII. Name of Enumerator : _____

IX. Signature of Enumerator : _____

X. Assessment of the quality and reliability of elicited information :

_____

_____

XI. Name and Signature of Supervisor : _____

ID Number:_____

DIRECTIONS: FILL-UP ALL THE NEEDED INFORMATION ABOUT THE HOUSEHOLD BASED ON THE ANSWERS GIVEN BY THE RESPONDENT.

	B. DEMOGRAPHY										C. MIGRATION	
(1A)	(2)	(3)	(4)	(5)		(6)	(7)	(8)	(9)	(10)	(11)	(12)
NUMBER	How many members are there in the household including OFWs? Who is the head of the household? Who are the other members of the household?	How is ___ related to the head of the household?	What is ___'s sex?	When is ___'s date of birth?		Was ___'s birth registered with a local civil registrar?	What is ___'s civil status ?	What is ___'s religion?	Does ___ belong to any indigenous tribe?	IF YES IN (9) What indigenous tribe does ___ belong to? *EX. AETA, ATI, MANGYAN, TBOLI, etc.*	How long has ___ been staying in the barangay?	Where was ___'s last place of residence before staying in the barangay?
	SURNAME FIRST NAME MIDDLE NAME	(SEE CODES BELOW)	*1. Male* *2. Female*	MM/ DD/ YYYY	AGE	*1. Yes* *2. No*	(SEE CODES BELOW)	(SEE CODES BELOW)	*1. Yes* *2. No* (GO TO 11)	INDIGENOUS TRIBE PROVINCE	NUMBER OF YEARS	BARANGAY, CITY/ MUNICIPALITY, PROVINCE & COUNTRY
1		1										
2												
3												
4												
5												
6												
7												
8												
9												
10												

ARE THERE MORE THAN 10 MEMBERS IN THIS HOUSEHOLD? ☐

1 YES, USE NEW FORM
2 NO

(3) Relation to head of the household

1 - Head
2 - Spouse
3 - Son/Daughter
4 - Son/Daughter-In-Law
5 - Grandchildren
6 - Parents
7 - Other relatives, specify
8 - Housemaid/boy
9 - Others, specify

(7) Civil status

1 - Single
2 - Legally married
3 - Widowed
4 - Divorced/Separated
5 - Common Law/ "Live in"
6 - Unknown

(8) Religion

1 - Catholic
2 - Protestant
3 - Iglesia ni Kristo
4 - Aglipay
5 - Islam
6 - Born-again
7 - Mormons
8 - Jehovah's Witness
9 - 7th-Day Adventists
10 - Others, specify
11 - None

ID Number:_____

CHECK FOR THE RELEVANCE, COMPLETENESS AND ACCURACY OF THE INFORMATION ELICITED FROM THE RESPONDENT.

	D. OFW		E. EDUCATION AND LITERACY					F. COMMUNITY & POLITICAL PARTICIPATION				
(1B)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)		(22)	(23)
			FOR 3 YEARS OLD & ABOVE				FOR 10 YEARS OLD & ABOVE				FOR 17 YEARS OLD AND ABOVE	
				IF YES IN (15)					IF YES IN (20)			IF YES IN (22)
NUMBER	Is ___ an OFW?	In which country does ___ work?	Is ___ attending school?	What grade or year is ___ currently attending?	Where does ___ attend school?	What is ___'s highest educational attainment?	Can ___ read and write in a simple message in any language or dialect?	Is ___ a member of a community organization?	What is the name of the community organization?		Is ___ a registered voter?	Did ___ vote in the last election?
	1. Yes 2. No (GO TO 15)	COUNTRY	*1. Yes 2. No (GO TO 18)*	(SEE CODES BELOW)	*1 - Public 2 - Private*	(SEE CODES BELOW)	*1. Yes 2. No*	*1. Yes 2. No (GO TO 22)*	NAME OF COMMUNITY ORGANIZATION	(SEE CODES BELOW)	*1. Yes 2. No (GO TO 24)*	*1. Yes 2. No 3. Don't know*
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												

(16) Grade/Year Level and (18) Highest Educational Attainment

	ELEMENTARY	SECONDARY	POST SECONDARY	COLLEGE	MASTER'S/PHD
00 No Grade Completed	11 Grade I	21 1st Year HS	26 1st Yr Post Secondary	31 1st Year College	36 Post Grad w/ units
01 Day Care	12 Grade II	22 2nd Year HS	27 2nd Yr Post Secondary	32 2nd Year College	37 Graduate,
02 Kindergarten / Preparatory	13 Grade III	23 3rd Year HS	28 3rd Yr Post Secondary	33 3rd Year College	(specify PhD / Master's course)
	14 Grade IV	24 4th Year HS or higher	29 Post Secondary Graduate (specify course)	34 4th Year College or higher	
	15 Grade V	25 HS Graduate		35 College Graduate (specify course)	
	16 Grade VI/ VII				
	17 Elementary Graduate				

(21) Community Organization

1 - Religious	6 - Agricultural
2 - Youth	7 - Labor
3 - Cultural	8 - Civic
4 - Political	9 - Cooperatives
5 - Women's	10 - Senior citizens
	11 - Others, specify

ID Number:_____

(1C)		G. ECONOMIC ACTIVITY							
		(24)	(25)		(26)		(27)	(28)	(29)
NUMBER	WRITE DOWN FIRST THE NAMES OF EACH MEMBER	FOR 5 YEARS OLD & ABOVE							
		Did ___ work, have a job or business during the past week?	IF YES IN (24)						
			What is ___'s primary job, occupation or business during the past week? *SPECIFY, FOR EX., RICE FARMER, ELEMENTARY TEACHER, ETC.*		What business or industry is ___ engaged in or worked in job, occupation or business? *SPECIFY THE KIND OF BUSINESS OR INDUSTRY, FOR EX., RICE FARM, ELEMENTARY SCHOOL, ETC.*		What is the nature of ___'s employment?	How many hours did ___ work during the past week?	Did ___ want more hours of work during the past week?
	FIRST NAME	*1. Yes (GO TO 25) 2. No (GO TO 32)*	PRIMARY JOB, OCCUPATION OR BUSINESS	(SEE CODES BELOW)	INDUSTRY/ SECTOR	(SEE CODES BELOW)	(SEE CODES BELOW)	NUMBER OF HOURS	*1. Yes 2. No*
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									

(25) Job, occupation or business

1 - Officials of government and special interest organization, corporate executives, managers, managing proprietors and supervisors
2 - Professionals
3 - Technicians and associate professionals
4 - Clerks
5 - Service workers and shop and market sales workers
6 - Farmers, forestry workers and fisherfolk
7 - Trades and related workers
8 - Plant and machine operators and assemblers
9 - Laborers and unskilled workers
10 - Special occupations

(26) Industry/ Sector

1 - Agriculture, Forestry and Fishing
2 - Mining and Quarrying
3 - Manufacturing
4 - Electricity, Gas, Steam and Air Conditioning Supply
5 - Water Supply; Sewerage, Waste Management and Remediation Activities
6 - Construction
7 - Wholesale & Retail Trade; Repair of Motor Vehicles and Motorcycles
8 - Transportation and Storage
9 - Accomodation and Food Service Activities
10 - Information and Communication
11 - Financial and Insurance Activities
12 - Real Estate Activities
13 - Professional, Scientific and Technical Activities
14 - Administrative and Support Service Activities
15 - Public Administration and Defense; Compulsory Social Security
16 - Education
17 - Human Health & Social Work Activities
18 - Arts, Entertainment and Recreation
19 - Other Service Activities
20 - Activities of Households as Employers; Undifferentiated Goods-and-Services Producing Activities of Household for Own Use
21 - Activities of Extra-Territorial Organizations and Bodies

(27) Nature of Employment

1 - Permanent job/ business/unpaid family work
2 - Short-term or seasonal or casual job/business
3 - Worked on different jobs on day to day or week

ID Number:_____

(1D) NUMBER	(30)	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	H. NUTRITION (39)
	FOR 5 YEARS OLD & ABOVE								FOR 18 YEARS OLD & ABOVE	FOR MEMBERS 0-5 YEARS OLD
	IF YES IN (24)		IF NO IN (24)	IF YES IN (32)	IF NO IN (32)					
	Did __ look for additional work during the past week?	How do you classify ___'s job or employ-ment?	Did ___ look for work or try to establish business during the past week?	What has ___ been doing to look for work?	Why did ___ not look for work?	When was the last time ___ looked for work?	Had opportunity for work existed during the past week, would ___ have been available?	Is ___ willing to take up work during the past week or within the next two weeks?	Is ___ a member of SSS or GSIS?	GET THE NUTRITIONAL STATUS OF CHILDREN 0-5 YEARS OLD AND DATE OF REPORT FROM THE BARANGAY NUTRITION SCHOLAR
	1. Yes *2. No*	(SEE CODES BELOW)	*1. Yes* *2. No* (GO TO 34)	(SEE CODES BELOW) (GO TO 36)	(SEE CODES BELOW)	**1.** > 1 week < 1 month **2.** 1 < 6 months **3.** > 6 months 4. Never	*1. Yes* *2. No*	*1. Yes* *2. No*	*1. Yes* *2. No*	(SEE CODES BELOW) / DATE OF REPORT
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										

(31) Class of worker
1- Working for a household
2- Working for a private establishment
3- Working for government/ government corporation
4- Self-employed without employees
5- Employer in own family-operated farm or business
6- Working with pay on own family-operated farm or business
7- Working without pay on own family-operated farm or business
8- Working for government of other country

(33) Job Search Method
1 - Registered in public employment agency
2 - Registered in private employment agency
3 - Approached employer directly
4 - Approached relatives/ friends
5 - Placed or answered private advertisements
6 - Others, specify

(34) Reasons for not looking for work
1 - Believes no work is available
2 - Awaiting results of previous job application
3 - Temporary illness/ disability
4 - Bad weather
5 - Waiting for rehire/job recall
6 - Too young/old, retired, permanently disabled
7 - Housekeeping
8 - Schooling
9 - Others, specify

(39) Nutritional Status
1 - Above normal
2 - Normal
3 - Below normal (moderate)
4 - Below normal (severe)

ID Number:_____

(1E)		I. CHARACTERISTICS OF HOUSEHOLD MEMBERS											
		(40)	(41)	(42)	(43)	(44)	(45)	(46)	(47)	(48)		(49)	(50)
NUMBER	WRITE DOWN FIRST THE NAMES OF EACH MEMBER	FOR MEMBERS WHO ARE COLLEGE GRADUATES		Is __ a solo parent taking care of a child/ children?	IF YES IN (42)	Does__ have any physical or mental disability?	IF YES IN (44)			IF YES IN (47)		FOR 60 YEARS OLD AND ABOVE	IF YES IN (49)
		Did__ pass the board or bar exam?	IF YES IN (40) What profession did ___ pass in the board or bar exam?		What is the reason why __ is a solo parent?		What type of disability does__ have?	What is the cause of __'s disability?	Does __ have a PWD's ID?	For what purpose was ___ able to use the ID?		Does __ have a Senior Citizen's ID?	For what purpose was ___ able to use the ID?
	FIRST NAME	*1. Yes* *2. No* (GO TO 42)	PROFESSION	*1. Yes* *2. No* (GO TO 44)	(SEE CODES BELOW)	*1. Yes* *2. No* (GO TO 49)	(SEE CODES BELOW)	(SEE CODES BELOW)	*1. Yes* *2. No* (GO TO 49)	(SEE CODES BELOW)		*1. Yes* *2. No* (GO TO 51)	(SEE CODES BELOW)
1													
2													
3													
4													
5													
6													
7													
8													
9													
10													

(43) Reason why member is a solo parent
1. Death of spouse
2. Imprisonment of spouse for at least one year
3. Mental and physical incapacity of spouse
4. Legal or de facto separation from spouse for at least one year
5. Annulment of marriage as decreed by court or church
6. Abandonment of spouse for at least one year
7. Unmarried mother or father who preferred to keep the child instead of others caring for him/ her
8. Any other person who solely provides parental care and support to a child provided he/she is a duly licensed foster parent of DSWD, or duly appointed legal guardian by the court through adoption or legal guardianship
9. Any family member who solely assumes the responsibility as head of the family as a result of death, abandonment, prolonged absence, or disappearance of parent for at least one year
10. Other reasons, specify

(45) Type of disability
1 Total blindness
2 Partial blindness
3 Low vision
4 Totally deaf
5 Partially deaf
6 Hard of hearing
7 Oral defect
8 One hand
9 No hands
10 One leg
11 No legs
12 Cerebral palsy
13 Epileptic
14 Mentally ill
15 Mentally retarded
16 Autistic
17 Hunchback
18 Multiple impairment
19 Others, specify

(46) Cause of disability
1. In-born
2. Illness
3. Accident
4. Old age
5. Others, specify

(48) and (50) use of ID
1. Discount on medicine
2. Discount in hospital
3. Discount in food/ restaurant
4. Discount in transportation
5. Free/Discount in cinema
6. Not yet used
7. Others, specify

I.D. Number: _____

J. HEALTH

(51) During the past 12 months, did you or any member of the household got sick (aside from common cough, colds and fever)?
1 Yes **(GO TO 52)**
2 No **(GO TO 55)**

(52) What are these sicknesses or diseases ?
(1. YES 2. NO)

- Pneumonia
- Bronchitis
- Diarrhea
- Influenza
- Hypertension
- Tuberculosis
- Disease of the heart
- Malaria
- Chicken pox
- Dengue fever
- Cholera
- Typhoid Fever
- Heat stroke
- Asthma
- Others, specify _____

(53) Did you or any member of the household avail of medical treatment for any illness?
1 Yes **(GO TO 54)**
2 No **(GO TO 55)**

(54) Did you avail medical treatment in any of the following :
(1. YES 2. NO)

Public hospital
- National
- Provincial
- District
- Municipal/City
- Private hospital/Clinic
- Rural Health Units
- Brgy Health Station/Center
- Non-medical/non-trained Hilot/Personnel
- Others, specify _____

(55) How many couples are there in this house-hold?	(56) What are the names of the couples?	(57) Do __ and __ use any family planning method?	(58) IF YES IN (57) What type of family planning method do __ and __ use?
	NAMES	1. Yes 2. No 3. Don't know 4. Not applicable	(SEE CODES BELOW)
1			
2			
3			

(58) Family Planning Method
1. Male sterilization
2. Female sterilization
3. Pill
4. IUD
5. Injectible
6. Implants
7. Patch
8. Condom
9. Female condom
10. Diaphragm
11. Foam/Jelly/Cream
12. Mucus, Billings, Ovulation
13. Basal Body Temperature
14. Symptothermal
15. Standard days method
16. Calendar/Rhythm/ Periodic Abstinence
17. Withdrawal
18. Others, specify

K. FOOD ADEQUACY

(59) In the last three months, did it happen even once that your household experience hunger and do not have anything to eat?
1 Yes **(GO TO 60)**
2 No **(GO TO 62)**

During the past three months, how many days did your household experience hunger and do not have anything to eat?	(60) NAME OF MONTH	(61) NUMBER OF DAYS
a. First Month		
b. Second Month		
c. Third Month		

L. HOUSEHOLD MEMBERS WHO DIED

(62) Was there any household member who died in the past 12 months?
1 Yes **(GO TO 63)**
2 No **(GO TO 67)**

IF YES IN (62)

(63) What is the name of the person who died? NAME	(64) What is __'s sex? 1 - Male 2 - Female	(65) What was __'s age at the time of death? AGE	(66) What was the cause of __'s death? (SEE CODES BELOW)
1			
2			
3			

(66) Cause of death
1. Disease of the heart
2. Disease of the vascular system
3. Pneumonia
4. Tuberculosis
5. Cancer
6. Diarrhea
7. Measles
8. Complication during pregnancy or childbirth
9. Accident (ex. hit by a vehicle)
10. Diabetes
11. Disease of the lungs
12. Disease of the kidney
13. Drowned from flood
14. Victim of landslide
15. Electrocuted during typhoon
16. Other causes, specify

M. INCIDENCE OF CRIME

During the past 12 months, have you or any member of the household been a victim of any of the following crimes?

Type of Crime	(67) 1 - Yes 2 - No	(68) How many? TOTAL	(69) MALE	(70) FEMALE
1. Murder/ Homicide				
2. Theft/Robbery				
3. Rape				
4. Physical Injury				
5. Others, specify				

N. WASTE MANAGEMENT

(71) What is the system of garbage disposal adopted by the household?

	1. Yes 2. No
1 Garbage collection	
2 Burning	
3 Composting	
4 Recycling	
5 Waste segregation	
6 Pit with cover	
7 Pit without cover	
8. Throwing of garbage in river, vacant lot, etc.	
9 Others, specify	

ASK QUESTIONS (72) AND (73) IF CODE "1" IN (71.1)

(72) Who collects the garbage?
1 Municipal/city garbage collector
2 Barangay garbage collector
3 Private garbage collector
4 Others, specify

(73) How often is the garbage collected?
1 Daily
2 Thrice a week
3 Twice a week
4 Once a week
5 Others,specify

I.D. Number: _____

O. WATER AND SANITATION

(74) What is your household's main source of drinking water? ☐

(75) What is the main source of water for other household needs (washing, cooking, cleaning, etc.)? ☐

1 Piped water into dwelling
2 Piped water to yard/plot
3 Public tap/stand pipe
4 Tube well or borehole
5 Protected dug well
6 Semi-protected dug well
7 Unprotected dug well
8 Protected water from spring
9 Unprotected water from spring
10 Rainwater
11 Tanker truck
12 Cart with small tank
13 Surface water (River, Dam, etc.)
14 Bottled/Mineral water
15 Others, specify

ASK QUESTION (76) IF THE ANSWER IN (74) IS "3", "4", "5", "6", "7", "8", "9" OR "13". IF THE ANSWER IN QUESTION (74) IS "1", "2", "10", "11", "12" OR "14", GO TO (77).

(76) How far is the source of drinking water from your house? ☐

1 Within premises
2 Outside premises but 250 meters or less
3 251 meters or more
4 Don't know

(77) How much does your household usually pay for your water consumption per month? ☐

(78) What type of toilet facility does the household use? ☐

1 Water sealed flush to sewerage system/septic tank - own use
2 Water sealed flush to sewerage system/septic tank - shared with other households
3 Closed pit
4 Open pit
5 No toilet
6 Others, specify

P. HOUSING

(79) What is the tenure status of the housing unit and lot occupied by your household? ☐

1 Owner, owner-like possession of house and lot
2 Rent house/room including lot
3 Own house, rent lot
4 Own house, rent-free lot with consent of owner
5 Own house, rent-free lot without consent of owner
6 Rent-free house and lot with consent of owner
7 Rent-free house and lot without consent of owner
8 Living in a public space with rent
9 Living in a public space without rent
10 Other tenure status, specify

ASK (80) IF THE ANSWER IN (79) IS "1", "3", "4", "5", "6", "7" OR "9". IF THE ANSWER IS "3", ASK ONLY FOR THE IMPUTED RENT FOR THE HOUSE. IF THE ANSWER IN (79) IS "2" OR "8", GO TO (81).

(80) In your own estimate, how much is the imputed rent per month for the house and/or lot? ☐

(81) Is there an electricity in the dwelling place? ☐

1 Yes **(GO TO 82)**
2 No **(GO TO 84)**

(82) What is the source of electricity in the dwelling place?	1. Yes 2. No
1 Electric company	
2 Generator	
3 Solar	
4 Battery	
5 Others, specify	

(83) How much does your household usually pay for your electric consumption per month? ☐

(84) Does your household own any of the following items?	1 - Yes 2 - No	IF YES IN (84) (85) How many?
1 Radio / Radio Casette		
2 Television		
3 CD/VCD/DVD		
4 Stereo/Component		
5 Karaoke/Videoke		
6 Refrigerator / Freezer		
7 Electric Fan		
8 Electric Iron		
9 LPG Gas Stove/Range		
10 Washing Machine		
11 Microwave Oven		
12 Computer/Laptop/Netbook		
13 Internet Connection		
14 Cellphone		
15 Landline Telephone		
16 Air conditioner		
17 Sewing Machine		
18 Car, Jeep, etc		
19 Tricycle, Motorcycle etc		
20 Land (Agricultural/Residential/ Commercial)		
21 Others, specify		

ANSWER BASED ON YOUR OBSERVATION OF THE CONSTRUCTION MATERIALS USED IN THE SAID PART OF THE HOUSING/DWELLING STRUCTURE.

(86) Construction materials used on the WALLS of the house ☐

(87) Construction materials used on the ROOF of the house ☐

1 Strong materials (concrete, brick, stone, wood, galvanized iron, asbestos)
2 Light materials (bamboo, sawali, cogon, nipa)
3 Salvaged/makeshift materials
4 Mixed but predominantly strong materials
5 Mixed but predominantly light materials
6 Mixed but predominantly salvaged materials

I.D. Number: _____

Q. SOURCES OF INCOME

Q.1. ENTREPRENEURIAL ACTIVITIES

During the past twelve months, did you or any member of your household engage as operator in any of the following entrepreneurial activities to earn income or profit?	1 - YES 2 - NO	NET INCOME (A) What was the total net value of income from these activities during the past twelve months? (in pesos) (A) IN CASH	(B) IN KIND
LIVELIHOOD ACTIVITIES			
(88) Crop farming and gardening such as growing palay, corn, roots and tubers, vegetables, fruits, nuts, ornamental plants, etc.		88A	88B
(89) Livestock and poultry raising such as raising of carabaos, cattle, hogs, horses, chicken, ducks, etc., and the production of fresh milk, eggs, etc.		89A	89B
(90) Fishing activities such as capture of fish; gathering of fry, shells, seaweeds, etc.; culturing fish, oyster, mussel, etc.		90A	90B
(91) Forestry and hunting activities such as tree planting (falcata, gmelina, rubber trees, etc.), firewood gathering, small-scale logging, charcoal making, gathering of forestry product (cogon, nipa, rattan, bamboo, resin, gum, etc.) or hunting of wild animals/birds, etc.		91A	91B
(92) Wholesale and retail trade including market vending, sidewalk vending and peddling, etc.		92A	92B
(93) Manufacturing activities such as mat weaving, tailoring, dressmaking, bagoong making, fish drying, etc.		93A	93B
(94) Community, social and personal services such as medical and dental practice, practice of trade, operation of school, restaurants and hotels, etc.		94A	94B
(95) Transportation, storage and communication service such as operation of jeepneys or taxis, storage and warehousing activities, messengerial services, etc.		95A	95B
(96) Mining and quarrying activities such as mineral extraction like salt making, gold mining, gravel, sand and stone quarrying, etc.		96A	96B
(97) Construction like repair of house, building or any structure		97A	97B
(98) Activities not elsewhere classified, including electricity, gas and water, financing, insurance, real estate and business services		98A	98B
(99) TOTAL NET INCOME FROM ENTREPRENEURIAL ACTIVITIES		(99A): Add the net income from (88A) to (98A) 99A	(99B): Add the net income from (88B) to (98B) 99B

Q.2 SALARIES AND WAGES FROM EMPLOYED MEMBERS

100. During the past twelve months, how much was the gross salaries and wages earned by employed members of your household?	GROSS SALARY (A) IN CASH	(B) IN KIND
NAME OF EMPLOYED MEMBER 1		
2		
3		
4		
5		
TOTAL SALARIES AND WAGES	100A	100B

Q.3. OTHER SOURCES OF INCOME

During the past twelve months, how much did you or any member of your household receive from the following?	INCOME (A) IN CASH	(B) IN KIND
101. Net share of crops, fruits and vegetables produced or livestock and poultry raised by other households	101A	101B
102. Remittances from Overseas Filipino Workers	102A	102B
103. Other Cash receipts, gift, support, relief and other income from abroad including pensions, retirement, workmen's compensation, dividends from investments, etc.	103A	103B
104. Cash receipts, support, assistance, relief and other income from domestic sources, including assistance from government and private sources	104A	104B
105. Rentals received from non-agricultural lands, buildings, spaces and other properties	105A	105B
106. Interest from bank deposits, interest from loans extended to other families.	106A	106B
107. Pension and retirement, workmen's compensation and social security benefits	107A	107B
108. Dividends from investments	108A	108B
109. Other sources of income not elsewhere classified	109A	109B
110. TOTAL INCOME FROM OTHER SOURCES OF INCOME	110A: Add the income from (101A) to (109A)	110B: Add the income from (101B) to (109B)
111. TOTAL IMPUTED RENT FROM OWNED OR RENT-FREE HOUSE AND/OR LOT	111B: Get the monthly imputed rent from (80) and multiply by 12 months	
112. TOTAL INCOME IN CASH AND IN KIND	112A = 99A + 100A + 110A	112B = 99B + 100B + 110B + 111B
113. TOTAL HOUSEHOLD INCOME	113 = 112A + 112B	

ID Number ____

R. AGRICULTURE

ASK QUESTIONS (114)-(119) IF CODE "1" IN (88). IF CODE "2" IN (88), GO TO (120)

(114) What is the tenure status of the agricultural land being tilled by the household?
1 Own or owner-like possession
2 Rent
3 Not owned but with consent of owner
4 Not owned and without consent of owner
5 Others, specify

(115) What is the area of the agricultural land?
1 Less than 1 hectare
2 1 - 3 hectares
3 3.1 - 5 hectares
4 More than 5 hectares

	(116) During the past twelve months, what type of crop or fruit-bearing trees did your household harvest?	(117) During the past twelve months, how much did you harvest? (in kilograms)
1	Palay	
2	Corn	
3	Coconut	
4	Other crops, specify	
5		

	(118) Do you or any member of the household use any of the following agricultural equipments/facilities?	1-Yes 2-No	(119) Does the household own the equipment? 1-Yes 2-No
1	Beast of burden		
2	Plow		
3	Harrow		
4	Mower		
5	Thresher/Corn sheller		
6	Insecticide/Pesti-cide sprayer		
7	Farm tractor		
8	Hand tractor		
9	Turtle/Mudboat		
10	Planter/Transplan-ter/Dryer		
11	Mechanical dryer		
12	Multipurpose drying pavement		
13	Rice/corn/ feed mill		
14	Harvester, any crop		
15	Warehouse granary		
16	Farmshed		
17	Irrigation pump		
18	Others, specify		

S. LIVESTOCK RAISING

ASK QUESTIONS (120)-(121) IF CODE "1" IN (89). IF CODE "2" IN (89), GO TO (122)

	(120) For the past twelve months, which livestock or poultry was raised and provided the following products? (SEE CODES BELOW)		(121) What was the volume of production?
1	Live animals (number of heads)		
2	Meat (weight - in kilograms)		
3	Milk (in liters)		
4	Eggs (number)		
5	Others, specify		

(120) 1-Hog/Sow 2-Goat 3-Carabao 4-Cow 5-Chicken 6-Duck 7-Others, specify

ASK QUESTIONS (122)-(123) IF CODE "1" IN (88) OR (89)

(122) Do you have an insurance for the following:	1 - Yes 2 - No	(123) Who is the insurance provider?
(122.1) Crops		
(122.2) Livestock and poultry		
(122.3) Agricultural equipments/facilities		

(123) 1 - Government insurance
2 - Private insurance company
3 - Bank
4 - Others, specify

T. FISHING

ASK QUESTIONS (124)-(132) IF CODE "1" IN (90). IF CODE "2" IN (90), GO TO (133)

(124) Where does your household do fishing?		1-Yes 2-No
1 Fishpond	(IF YES, GO TO 125)	
2 Fishcage	(IF YES, GO TO 126)	
3 Sea		
4 Marsh		
5 Lake	(IF YES, GO TO 128)	
6 River		
7 Stream/Creek		
8 Others, specify		

(125) What is the area of your fishpond?
1 Less than 1 hectare
2 1 - 3 hectares
3 3.1 - 5 hectares
4 More than 5 hectares

(126) How many fishcages does your household have?

	(127) What is the area of your fishcage?	(SQ. M.)
1	Fishcage 1	
2	Fishcage 2	
3	Fishcage 3	
4	Fishcage 4	

	(128) For the past twelve months, what were the fishes or aquatic animals cultured or caught by your household?	(129) How much was the volume of fish harvested/caught in the past twelve months? (in kilograms)
1	Tilapia	
2	Milkfish	
3	Catfish	
4	Mudfish	
5	Carp	
6	Others, specify	
7		
8		
9		
10		

(130) Do you have a fishing boat?
1 Yes, motorized
2 Yes, non-motorized
3 No

	(131) Do you or any member of the household use any of the following equipment for fishing?	1-Yes 2-No	(132) Does the household own the equipment? 1-Yes 2-No
1	Fish net		
2	Electricity		
3	Bagnets		
4	Gillnets		
5	Traps		
6	Hooks and line		
7	Sift net		
8	Others, specify		

ID Number: _____

U. CLIMATE CHANGE

U.1. AGRICULTURE

ASK QUESTIONS (133)-(136) IF CODE "1" IN (88) AND IF ENGAGED IN FARMING AND LIVING IN THE COMMUNITY FOR AT LEAST 3 YEARS

(133) Compared to 3 years ago, did your harvest __?
1. Decrease **(GO TO 134)**
2. Increase **(GO TO 135)**
3. Remain the same **(GO TO 135)**

(134) What is the primary reason for the decrease in harvest?
1. Increase in cost of farm inputs such as seeds, fertilizer, pesticides, etc.
2. Affected by drought
3. Affected by typhoon
4. Affected by flood
5. Affected by pests
6. Decrease in supply of water from the irrigation
7. Change in primary occupation of member
8. Others, specify

	1- Yes	2- No	(136) Why?
(135) During the past 3 years, did you do the following in the last planting season?			
(135.1) Changed the variety of the same crop			
(135.2). Changed major crop			

(136)
1. The former crop is more expensive
2. More resistant to pests and diseases
3. The present crop does not require much water
4. The present crop enables the member to earn more profit
5. Availability of crops
6. Others, specify

U.2. LIVESTOCK AND POULTRY

ASK QUESTIONS (137)-(138) IF CODE "1" IN (89) AND IF RAISING LIVESTOCK AND POULTRY AND LIVING IN THE COMMUNITY FOR AT LEAST 3 YEARS

(137) Compared to 3 years ago, did the number of your livestock and poultry __?
1. Decrease **(GO TO 138)**
2. Increase **(GO TO 139)**
3. Remain the same **(GO TO 139)**

(138) What is the primary reason for the decrease in number of livestock and poultry?
1. Increase in cost of farm inputs (feeds, chicks, etc.)
2. Stricken with diseases (swine flu, bird flu, foot and mouth disease, etc.)
3. Decrease in land holding
4. Affected by typhoon
5. Affected by flood
6. Affected by extreme hot weather condition
7. Others, specify

U.3. FISHERY

ASK QUESTIONS (139)-(140) IF CODE "1" IN (90) AND IF ENGAGED IN FISHING AND LIVING IN THE COMMUNITY FOR AT LEAST 3 YEARS

(139) Compared to 3 years ago, did your fish catch ___ ?
1. Decrease **(GO TO 140)**
2. Increase **(GO TO 141)**
3. Remained the same **(GO TO 141)**

(140) What is the primary reason for the decrease in fish catch?
1. Decrease in fishing area due to government restrictions
2. Decrease in fishing area due to competition
3. Fewer fishes
4. Occurrence of coral bleaching
5. Fishkill
6. Occurrence of oil spill and other kinds of pollution
7. Less frequent fishing because of increase in fuel prices and other expenses
8. Frequent occurrence of typhoons
9. Others, specify

U.4. CALAMITIES

(141) During the past 12 months, which of the following calamities affected your household:	1. Yes 2. No	IF YES IN (141) **(142)** How many times did the __ happen?	**(143)** Did you receive any kind of assistance? 1-Yes 2-No	IF YES IN (143) **(144)** Where did it come from?
1. Typhoon				
2. Flood				
3. Drought				
4. Earthquake				
5. Volcanic eruption				
6. Landslide				
7. Tsunami				
8. Fire				
9. Forest fire				
10. Armed conflict				
11. Others, specify				

(144) Assistance from: 1. Government 2. NGO 3. Relatives 4. Others, specify

ASK QUESTIONS (145)-(154) IF LIVING IN THE COMMUNITY FOR AT LEAST 3 YEARS

U.5. TEMPERATURE

(145) Compared to 3 years ago, is the temperature hotter now in your area?
1. Yes 2. No

U.6. ELECTRICITY

(146) Compared to 3 years ago, are brownouts more frequent now in your area?
1. Yes 2. No

U.7. SEA LEVEL

(147) Compared to 3 years ago, does the sea level ___ in your area?
1 Increase
2 Decrease
3 Remain the same
4. Don't know

U.8. WATER

(148) Compared to 3 years ago, does the water supply ____ in your area?
1. Decrease **(GO TO 149)**
2. Increase **(GO TO 150)**
3. Remain the same **(GO TO 150)**

(149) What is the primary reason for the decrease in water supply?
1. Drought
2. Broken faucet/pump
3. Lower water level in the dam
4. Less frequent delivery of tanker truck/peddler
5. Increase in number of consumers
6. Others, specify

U.9. FLOODING

(150) Compared to 3 years ago, do floods occur more often in your area now?
1. Yes **(GO TO 151)**
2. No **(GO TO 151)**
3. Did not experience flood **(GO TO 153)**

(151) Three years ago, how long does it usually take for the flood to subside? (Specify the number of hours)

(152) During the past 12 months, how long does it usually take for the flood to subside? (Specify the number of hours)

U.10. DROUGHT

(153) Compared to 3 years ago, does drought occur more often in your area now?
1. Yes **(GO TO 154)**
2. No **(GO TO 154)**
3. Did not experience drought **(GO TO 155)**

(154) In the past 3 years, how long did the last drought occur?
1. < 1 month
2. 1 month < 2 months
3. 2 months < 3 months
4. 3 months < 4 months
5. 4 months < 5 months
6. 5 months or more

U.11. EVACUATION

(155) During the past 3 years, did you move out/leave your previous dwelling unit because of any calamity?
1. Yes 2. No

(156) During the past 3 years, did you temporarily evacuate your house because of any calamity?
1. Yes **(GO TO 157)**
2. No **(GO TO 158)**

(157) Where did you stay when you temporarily evacuate?
1. School
2. Church
3. Covered court/gym
4. Relative's house
5. Neighbor or friend's house
6. Others, specify

U.12. DISASTER PREPAREDNESS

(158) Do you have a disaster preparedness kit?
1. Yes **(GO TO 159)**
2. No **(GO TO 161)**

(159) Do yo have the following in your disaster preparedness kit?	1 - Yes 2 - No	**(160)** How many days will it last?
1. Water		
2. Food (canned goods, biscuit, bread)		
3. Matches/Lighter		
4. Flashlight/Emergency light		
5. Radio/Transistor (battery-operated)		
6. Candle		
7. Medical kit		
8. Whistle		
9. Clothes		
10. Blanket		
11. Battery (cellphone, flashlight, radio, etc.)		
12. Important documents (land title, birth certificate, etc.)		
13. Others, specify		

U.13. INSURANCE

(161) Do you have an insurance for the following?	1-Yes 2- No	**(162)** Who is the insurance provider?
161.1 House		
161.2 Motorized vehicle		
161.3 Appliances		

(162) 1 - Government insurance 2 - Private insurance company 3 - Bank 4 - Others, specify

I.D. Number : _____

S. PROGRAMS

(163)		(164)	(165)	(166)	(167)
During the past 12 months, did you or any member of your household receive or avail of any of the following programs?		IF YES IN (163) What is the name of the program?	What is the name of the member of the household who is a beneficiary/member of the program?	Who implemented this program?	Was this program helpful?
TYPE OF PROGRAM	**1 - Yes 2 - No**	**FULL NAME OF THE PROGRAM**	**NAME OF THE MEMBER**	**(SEE CODES BELOW)**	**1- Yes 2- No 3- Not yet used**
1. Pantawid Pamilyang Pilipino Program (4Ps) - Conditional Cash Transfer					
2. NFA rice program					
3. Comprehensive Agrarian Reform Program (CARP)					
4. Food for School					
5. Food for Work					
6. Self-Employment Assistance - Kaunlaran (SEA-K)					
7. Day Care Center Services					
8. Philhealth - OFW					
9. Philhealth - Employed					
10. Philhealth - Individually paying					
11. Philhealth - Sponsored					
12. Philhealth - Lifetime					
13. Other health insurance (Maxicare, Medicare, Intellicare, etc.)		1.			
		2			
14. Health assistance		1.			
		2.			
15. Supplemental feeding		1.			
		2.			
16. Education / scholarship program		1.			
		2.			
17. Skills or livelihood training program		1.			
		2.			
18. Credit program		1.			
		2.			
19. Housing program		1.			
		2.			
20. Other programs, specify		1.			
		2.			

(166) 1 - National; 2 - Province; 3 - City/Municipality; 4 - Barangay; 5 - Congress/District; 6 - Private Organizations/NGOs; 7 - Don't know; 8 - Others, specify

Annex D. CBMS Household Profile Questionnaire version 10-2013-01

Source: CBMS-Philippines (https://www.pep-net.org/sites/pep-net.org/files/typo3doc/pdf/CBMS_country_proj_profiles/Philippines/Training_Materials/Module1/HPQ/10201301/FINAL_CBMS_HPQ_English_10201301_V3.pdf)

CBMS FORM 1 VN 10201301
NSCB Approval No: DILG-1237-01
Expires on 30 November 2014

COMMUNITY-BASED MONITORING SYSTEM
Household Profile Questionnaire

A. IDENTIFICATION

I. Location

a. Province:
b. City/Municipality:
c. Zone:
d. Barangay:
e. Purok/Sitio:
f. Street: _____
g. House Number: _____

II. Household Identification Number:

III. Coordinates

A.1 Latitude:
A.2 Longitude:

IV. Name of Respondent: _____
V. Date of Interview: _____
VI. Time Started: _____
VII. Time Finished: _____
VIII. Name and Signature of Enumerator:

_____

IX. Name and Signature of Field Editor/Coordinator:

_____

B. HOUSING CHARACTERISTICS

1. In what type of building does the household reside?

1 Single house
2 Duplex
3 Multi-unit residential (three units or more)
4 Commercial/ industrial/ agricultural building/house (e.g., office, factory, or others)
5 Other housing unit (boat, cave, and others)

2. How many bedrooms does this housing unit have?

3. What type of construction materials are the roof made of?

1 Strong materials (galvanized iron, aluminum, tile, concrete, brick, stone, asbestos)
2 Light materials (cogon, nipa, anahaw)
3 Salvaged/makeshift materials
4 Mixed but predominantly strong materials
5 Mixed but predominantly light materials
6 Mixed but predominantly salvaged materials
7 Not applicable

4. What type of construction materials are the outer walls made of?

1 Strong materials (aluminum, tile, concrete, brick, stone, wood, plywood, asbestos)
2 Light materials (bamboo, sawali, cogon, nipa, anahaw)
3 Salvaged/makeshift materials
4 Mixed but predominantly strong materials
5 Mixed but predominantly light materials
6 Mixed but predominantly salvaged materials
7 Not applicable

C. HOUSEHOLD CHARACTERISTICS

(5) How many household members are overseas workers? (Number)
(6) How many nuclear families are there in the household? (Number)
(7) Is any member of the household pregnant? (1-Yes, 2-No)
(8) Is any member of the household a solo parent? (1-Yes, 2-No)
(9) Is any member of the household disabled? (1-Yes, 2-No)

I.D. Number: _____

D. DEMOGRAPHY

10A NUMBER	(11) How many members are there in the household, including OFWs? Who is the head of the household? Who are the other members of the household? SURNAME / FIRST NAME / MIDDLE NAME	(12) In which nuclear family does ___ belong?	(13) What is __'s relationship to the head of the household? (SEE CODES BELOW)	(14) Is __ male or female? 1. Male 2. Female	(15) In what month, day and year was __ born? MM/ DD/ YYY	AGE	(16) Was ___'s birth registered with the civil registry office? 1. Yes 2. No	(17) FOR 10 YEARS OLD AND ABOVE: What is ___'s marital (civil) status? (SEE CODES BELOW)	(18) What is __'s ethnicity by blood? Is he/she a/an __? MENTION THE PREDOMINANT/ COMMON IP OR NON-IP GROUPS IN THE AREA. ETHNICITY LEAVE BLANK	(19) IF ANSWER TO (5) IS > 0 & AGE IS 10 YEARS OLD AND ABOVE: Is ___ an overseas worker? 1. Yes (GO TO (25)) 2. No	(20) FOR 3 YEARS OLD AND ABOVE: Where was __ residing 3 years ago? 1. Same address now 2. Other address, specify
1		1	1								
2											
3											
4											
5											
6											
7											
8											
9											
10											

ARE THERE MORE THAN 10 MEMBERS IN THIS HOUSEHOLD?
1 YES, USE NEW FORM
2 NO

(13) Relation to head of the household
1 Head
2 Spouse
3 Son/Daughter
4 Son/Daughter-In-law
5 Grandchildren
6 Parents
7 Other relatives, specify
8 Housemaid/boy
9 Others, specify

(17) Marital (Civil) Status
1 Single
2 Married
3 Widowed
4 Divorced/Separated
5 Common-law/Live-in
6 Unknown

I.D. Number: _____

(10B)	E. EDUCATION AND LITERACY						F. POLITICAL PARTICIPATION	
	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)
	FOR 3 YEARS OLD AND ABOVE					FOR 5 YEARS OLD AND	FOR 15 YEARS OLD AND ABOVE	
NUMBER	Is ___ currently attending school?	IF YES IN (21) What grade or year is ___ currently attending? NOTE: CODES 100, 200, 210, 300 AND 400 ARE NOT APPLICABLE	Where does ___ attend school?	IF NO IN (21) FOR 3-24 YEARS OLD Why is ___ not attending school?	What is the highest educational attainment completed by ___? If college graduate, what is his/her course?	Can ___ read and write a simple message in any language or dialect?	Is ___ a registered voter?	IF YES IN (27) Did ___ vote in the last election?
	1. Yes 2. No (GO TO (24))	(SEE CODES BELOW)	1. Public 2. Private	(SEE CODES BELOW)	(SEE CODES BELOW) COURSE / LEAVE BLANK	1. Yes 2. No	1. Yes 2. No (GO TO (29))	1. Yes 2.No 3. Don't know IF OFW, GO TO THE NEXT MEMBER
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								

(22) Grade level (26) Highest educational attainment

0 No Grade
01 Day Care
02 Kindergarten/ Preparatory

GRADE SCHOOL
11 Grade I
12 Grade II
13 Grade III
14 Grade IV
15 Grade V
16 Grade VI

JUNIOR HIGH SCHOOL
17 Grade 7
18 Grade 8
19 Grade 9/3rd Year HS
20 Grade 10/4th Year HS

SENIOR HIGH SCHOOL
21 Grade 11
22 Grade 12

POST SECONDARY/NON-TERTIARY/TECHNICAL VOCATIONAL
23 1st Year PS/N-T/TV
24 2nd Year PS/N-T/TV
25 3rd Year PS/N-T/TV

COLLEGE
31 1st Year College
32 2nd Year College
33 3rd Year College
34 4th Year College or higher

MASTERS/PHD
41 Post Grad w/ units

51 ALS Elementary
52 ALS Secondary
53 SPED Elementary
54 SPED Secondary

100 Grade school graduate
200 High school graduate
210 Post secondary graduate, specify course
300 College graduate, specify course
400 Masters/PhD graduate, specify course

(24) Reason for not attending school

1 Schools are very far
2 No school within the bgy
3 No regular transportation
4 High cost of education
5 Illness/Disability
6 Housekeeping/Taking care of siblings
7 Marriage
8 Employment/looking for work
9 Lack of personal interest
10 Cannot cope with school work
11 Finished schooling
12 Problem with school record
13 Problem with birth certificate
14 Too young to go to school
15 Others, specify

I.D. Number: _____

(10C)		G. ECONOMIC ACTIVITY (29)	(30)	(31)	(32)		(33)		(34)	(35)	(36)	(37)
		FOR 5 YEARS OLD AND ABOVE			IF YES IN (29) OR YES IN (30)				FOR 15 YEARS OLD AND ABOVE			
NUMBER	WRITE THE FIRST NAMES OF EACH MEMBER	Did ___ do any work for at least 1 hour during the past week?	Although ___ did not work, did ___ have a job or business during the past week?	How many work, jobs or businesses does ___ have?	What was ___'s primary occupation during the past week? (SPECIFY OCCUPATION, E.G., ELEMENTARY TEACHER, RICE FARMER, ETC.)		In what kind of industry did ___ work during the past week? (SPECIFY INDUSTRY, E.G., PRIMARY/ELEMENTARY EDUCATION, GROWING PADDY RICE, ETC.)		What is ___'s nature of employment?	What was ___'s normal working hours per day during the past week?	What was ___'s total number of hours worked during the past week?	Did ___ want more hours of work during the past week?
	FIRST NAME	1. Yes (GO TO (31)) 2. No	1. Yes 2. No (GO TO (40))		PRIMARY JOB, OCCUPATION, OR BUSINESS	LEAVE BLANK	BUSINESS/INDUSTRY	LEAVE BLANK	(SEE CODES BELOW)	NUMBER OF HOURS	NUMBER OF HOURS	1. Yes 2. No
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												

(34) Nature of Employment
1 Permanent job/business/unpaid family work
2 Short-term or seasonal or casual job/business/unpaid family work
3 Worked for different employers or customers on day-to-day or week-to-week basis

I.D. Number: _____

(10D)	(38)	(39)	(40)	(41)	(42)	(43)	(44)	(45)	(46)	(47)	(48)		(49)
	FOR 15 YEARS OLD AND ABOVE												
	IF YES IN (29) OR YES IN (30)		IF NO IN (29) AND NO IN (30)								In the past 12 months, how much total salary/wages did ____ receive?		Is ___ a member of SSS or GSIS?
			Did ___ look for work or try to establish business during the past week?	IF YES IN (40)			IF NO IN (40)		Had opportunity for work existed last week or within two weeks, would ___ been available?	Was ___ willing to take up work during the past week or within 2 weeks?	DO NOT INCLUDE SALARY OF HOUSEHOLD MEMBERS WHO ARE OFW AND HOUSEMAIDS/BOYS		
NUMBER	Did ___ look for additional work during the past week?	What is ___'s class of worker?		Was this ___'s first time to look for work or try to establish a business?	What has ___ been doing to find work?	How many weeks has ___ been looking for work?	Why did ___ not look for work?	When was the last time ___ looked for work?					
	1. Yes 2. No	(SEE CODES BELOW)	1. Yes 2. No (GO TO (44))	1. Yes 2. No	(SEE CODES BELOW)	GO TO (46)	(SEE CODES BELOW)	1 - Within last month 2- One to six months 3- More than six months ago	1. Yes 2. No	1. Yes 2. No	(A) CASH	(B) IN KIND	1. Yes, SSS 2. Yes, GSIS 3. Yes, both 4. No
1													
2													
3													
4													
5													
6													
7													
8													
9													
10													

(39) Class of worker

1 Working for private household
2 Working for private business/establishment /farm
3 Working for government/ government corporation
4 Self-employed with no paid employee
5 Employer in own family-operated farm or business
6 Working with pay on own family-operated farm or business
7 Working without pay on own family-operated farm or business

(42) Job search method

1 Registered in public employment agency
2 Registered in private employment agency
3 Approached employer directly
4 Approached relatives or friends
5 Placed or answered advertisements
6 Searched and applied online
7 Others, specify

(44) Reason for not looking for work

1 Tired/Believes no work is available
2 Awaiting results of previous job application
3 Temporary illness/ disability
4 Bad weather
5 Waiting for rehire/job recall
6 Too young/old or retired/ permanent disability
7 Household, family duties
8 Schooling
9 Others, specify

I.D. Number: _____

(10E)		H. HEALTH AND OTHER CHARACTERISTICS OF HOUSEHOLD MEMBERS						I. CRIME		J. NUTRITION
		(50)	(51)	(52)	(53)	(54)	(55)	(56)	(57)	(58)
NUMBER	WRITE THE FIRST NAMES OF EACH MEMBER	IF YES IN (7) AND CODE 2 IN (14)	IF YES IN (8)	IF YES IN (9)	IF YES IN (52)		FOR 60 YEARS OLD AND ABOVE		IF YES IN (56)	FOR 5 YEARS OLD AND BELOW
		Is __ pregnant?	Is __ a solo parent taking care of a child/ children?	Does__ have any physical or mental disability?	What type of disability does __ have?	Does __ have a PWD's ID?	Does __ have a Senior Citizen's ID?	Has ___been a victim of crime in the past 12 months?	a) What crime/s was/were __ a victim of? b) Where did the crime happen?	NUTRITIONAL STATUS OF CHILDREN 0-5 YEARS OLD AND DATE OF RECORD OF BARANGAY NUTRITION SCHOLAR
	FIRST NAME	1. Yes 2. No	1. Yes 2. No	1. Yes 2. No (GO TO (55))	(SEE CODES BELOW)	1. Yes 2. No (GO TO (55))	1. Yes 2. No (GO TO (56))	1. Yes 2. No (GO TO (58))	SEE CODES BELOW / SEE CODES BELOW	LEAVE BLANK / LEAVE BLANK
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										

(53) Disability

1 Total blindness
2 Partial blindness
3 Low vision
4 Totally deaf
5 Partially deaf
6 Oral defect
7 One hand
8 No hands
9 One leg
10 No legs
11 Mild Cerebral palsy
12 Severe Cerebral palsy
13 Retarded
14 Mentally ill
15 Mental retardation
16 Multiple impairment
17 Others, specify

(57)a. Crime

1 Theft
2 Robbery
3 Rape
4 Physical injury
5 Carnapping
6 Cattle rustling
7 Others, specify

(57)b. Location of Crime

1 Within the barangay
2 Outside the barangay but within municipality/city
3 Outside the municipality/city but within province
4 Outside the province

(58) Nutritional Status

1 Above normal
2 Normal
3 Below normal (moderate)
4 Below normal (severe)

I.D. Number: _____

K. WATER AND SANITATION

(59) What is your household's main source of water supply? ☐

1 Own use faucet, community water system
2 Shared faucet, community water system
3 Own use tubed/piped deep well
4 Shared tubed/piped deep well
5 Tubed/piped shallow well
6 Dug well
7 Protected spring
8 Unprotected spring
9 Lake, river, rain, and others
10 Peddler
11 Bottled water
12 Others, specify

ASK (60) IF ANSWER IN (59) IS '2', '3', '4', '5', '6', '7', '8', '9' OR '12'. IF THE ANSWER IN (59) IS '1', '10 or '11', GO TO (61).

(60) How far is this water source from your house? ☐
IN METERS

(61) What type of toilet facility does the household use? ☐

1 Water-sealed, sewer septic tank, used exclusively by household
2 Water-sealed, sewer septic tank, shared with other households
3 Water-sealed, other depository, used exclusively by household
4 Water-sealed, other depository, shared with other households
5 Closed pit
6 Open pit
7 Others (pail system, and others)
8 None

L. HOUSING

(62) What is the tenure status of the housing unit and lot occupied by your household? ☐

1 Own or owner-like possession of house and lot
2 Rent house/room including lot
3 Own house, rent lot
4 Own house, rent-free lot with consent of owner
5 Own house, rent-free lot without consent of owner
6 Rent-free house and lot with consent of owner
7 Rent-free house and lot without consent of owner
8 Living in a public space with rent
9 Living in a public space without rent
10 Other tenure status, specify

ASK (63) IF ANSWER IN (62) IS '1', '3', '4', '5', '6', '7' OR '9'. IF THE ANSWER IS '3,' ASK ONLY FOR THE IMPUTED RENT FOR THE HOUSE. IF THE ANSWER IN (62) IS '2' OR '8,' GO TO (64).

(63) By your own estimate, how much is the imputed rent per month for the house and/or lot? ☐

(64) Is there any electricity in the dwelling place? ☐
1 Yes **(GO TO 65)**
2 No **(GO TO 66)**

(65) What is the source of electricity in the dwelling place?

		1. Yes 2. No
1	Electric company	
2	Generator	
3	Solar	
4	Battery	
5	Others, specify _____	

(66) How many of each of the following items does the household own?		(67) How many were acquired during the past 3 years?
1 Radio/Radio casette		
2 Television		
3 CD/VCD/DVD player		
4 Component/Stereo set		
5 Karaoke/Videoke		
6 Refrigerator/Freezer		
7 Electric fan		
8 Flat iron		
9 LPG gas stove/range		
10 Washing machine		
11 Microwave oven		
12 Computer/Laptop/Netbook		
13 Internet connection		
14 Cellphone		
15 Landline telephone		
16 Air conditioner		
17 Sewing machine		
18 Car, Jeep, atbp.		
19 Tricycle, motorcycle, etc.		
20 Land (Agricultural)		
21 Land (Residential)		
22 Land (Commercial)		
23 Sala/Sofa set		
24 Dining set		
25 Others, specify _____		

(68) Do you have an insurance for the following?	1-Yes 2-No	(69) Who is the insurance provider?
(68.1) House		
(68.2) Motor vehicle		
(68.3) Appliances		

(69) 1 - Government insurance
2 - Private insurance company
3 - Bank
4 - Others, specify

M. WASTE MANAGEMENT

(70) What is the system of garbage disposal adopted by the household?

		1 - Yes	2 - No			1 - Yes	2 - No
1	Garbage collection			6	Pit with cover		
2	Burning			7	Pit without cover		
3	Composting			8	Throwing of garbage		
4	Recycling				in river, vacant lot, etc.		
5	Waste segregation			9	Others, specify		

ASK QUESTIONS (71) AND (72) IF CODE 1 IN (70.1)

(71) Who collects the garbage? ☐
1 Municipal/city collector
2 Barangay collector
3 Private collector
4 Others, specify

(72) How often is the garbage collected? ☐
1 Daily
2 Thrice a week
3 Twice a week
4 Once a week
5 Others,specify

I.D. Number: _____

N. SOURCES OF INCOME

N.1. ENTREPRENEURIAL ACTIVITIES

	During the past 12 months, did you or any member of your household operate any of the following entrepreneurial activities?	1 - Yes 2 - No	NET INCOME (A) What was the total net value of income from these activities during the past 12 months? (in pesos) (A) IN CASH	(B) IN KIND
(73)	CROP FARMING AND GARDENING such as growing of palay, corn, roots and tubers, vegetables fruits, nuts, orchids, ornamental plants, etc.		73A	73B
(74)	LIVESTOCK AND POULTRY RAISING such as raising of carabaos, cattle, hogs, horses, chicken, ducks, etc., and the production of fresh milk, eggs, etc.		74A	74B
(75)	FISHING such as capture fishing (with a boat of three tons or less); gathering of fry, shells, seaweeds, etc.; and culturing fish, oysters, mussel, etc.		75A	75B
(76)	FORESTRY AND HUNTING such as tree planting (ipil-ipil), firewood gathering, small-scale logging (excluding concessionnaires), charcoal making, gathering of forestry product (cogon, nipa, rattan, bamboo, resin, gum, etc.) or hunting of wild animals/birds		76A	76B
(77)	WHOLESALE AND RETAIL including market vending, sidewalk vending, and peddling		77A	77B
(78)	MANUFACTURING such as mat weaving, tailoring, dressmaking, bagoong making, fish drying, etc.		78A	78B
(79)	COMMUNITY, SOCIAL, RECREATIONAL, AND PERSONAL SERVICES such as medical and dental practice, practice of trade, operation of schools, restaurants and hotels, etc.		79A	79B
(80)	TRANSPORTATION, STORAGE AND COMMUNICATION SERVICES such as operation of jeepneys or taxis, storage and warehousing activities, messengerial services, etc.		80A	80B
(81)	MINING AND QUARRYING such as mineral extraction like salt making, gold mining, gravel, sand and stone quarrying, etc.		81A	81B
(82)	CONSTRUCTION or repair of a house, building, or any structure		82A	82B
(83)	ACTIVITIES NOT ELSEWHERE CLASSIFIED including electricity, gas and water; financial, insurance, real estate, and business services		83A	83B
(84)	TOTAL NET INCOME FROM ENTREPRENEURIAL ACTIVITIES		(84A): Add the net income from (73A) to (83A) 84A	(84B): Add the net income from (73B) to (83B) 84B

N.2 SALARIES AND WAGES FROM EMPLOYED MEMBERS

(85)	TOTAL SALARIES AND WAGES	(85A): Add all salaries/wages of all members in cash in Question 48A 85A	(85B): Add all salaries/wages of all members in kind in Question 48B 85B

N.3. OTHER SOURCES OF INCOME

	During the past 12 months, how much did you or any member of your household receive from the following?	GROSS INCOME (A) IN CASH	(B) IN KIND
(86)	Net share of crops, fruits, and vegetables produced, aquaculture products harvested or livestock and poultry raised by other households	86A	86B
(87)	Remittances from Overseas Filipino Workers	87A	87B
(88)	Cash receipts, gifts, support, relief, and other forms of assistance from abroad	88A	88B
(89)	Cash receipts, support, assistance, and relief from domestic sources	89A	89B
(90)	Rentals received from non-agricultural lands, buildings, spaces, and other properties	90A	90B
(91)	Interest from bank deposits, interest from loans extended to other families.	91A	91B
(92)	Pension and retirement, workmen's compensation, and social security benefits	92A	92B
(93)	Dividends from investments	93A	93B
(94)	Other sources of income not elsewhere classified	94A	94B
(95)	TOTAL INCOME FROM OTHER SOURCES OF INCOME	(95A): Add income from (86A) to (94A)	(95A): Add income from (86B) to (94B)
(96)	TOTAL IMPUTED RENT FROM OWNED OR RENT-FREE HOUSE AND/OR LOT	96B: Get the monthly imputed rent from (63) and multiply by 12	
(97)	TOTAL INCOME IN CASH AND IN KIND	(97A) = 84A + 85A + 95A	(97B) = 84B+ 85B+ 95B +96B
(98)	TOTAL HOUSEHOLD INCOME	98= (97A) + (97B)	

ID Number ____

O. AGRICULTURE-FARMING

ASK QUESTIONS (99)-(104) IF CODE '1' IN (73), IF CODE '2' IN (73), GO TO (105)

(99) What is the tenure status of the agricultural land being tilled by the household?

1 Fully-owned
2 Owner-like possession
3 Tenanted
4 Leased/Rented
5 Rent Free
6 Held under Certificate of Land Transfer (CLT) or Certificate of Land Ownership Award (CLOA)
7 Held under Certificate of Ancestral Domain Title/ Certificate of Ancestral Land Title (CADT/CALT)
8 Held under Community-Based Forest Management Agreement (CBFMA)/ Stewardship
9 Others, specify

(100) What is the area of the agricultural land?

	(101) During the past 12 months, what temporary and permanent crops did your household harvest?	(102) During the past 12 months, how much did you harvest? **(in kilograms)**
1		
2		
3		
4		
5		

	(103) How many of each of the following agricultural equipment/facilities does the household use?	Number	(104) How many agricultural equipment/facilities does the household own? Number
1	Beast of burden		
2	Plow		
3	Harrow		
4	Mower		
5	Thresher/Corn sheller		
6	Insecticide/Pesticide sprayer		
7	Farm tractor		
8	Hand tractor		
9	Turtle/Mudboat		
10	Planter/Transplanter/Dryer		
11	Mechanical dryer		
12	Multipurpose drying pavement		
13	Rice/corn/feed mill		
14	Harvester, any crop		
15	Warehouse granary		
16	Farmshed		
17	Irrigation pump		
18	Others, specify		

P. AGRICULTURE-LIVESTOCK RAISING

ASK QUESTIONS (105)-(106) IF CODE '1' IN (74), IF CODE '2' IN (74), GO TO (107)

	(105) For the past 12 months, what types of livestock or other animals were raised and provided the following products? **(SEE CODES BELOW)**	(106) a) Volume of production sold	(106) b) Volume of production consumed
1	Live animals (number of heads)		
2	Meat (weight in kilograms)		
3	Milk (in liters)		
4	Eggs (number)		
5	Others, specify		

(106) 1-Hog/Swine 2-Goat 3-Carabao 4-Cattle 5-Chicken 6-Duck 7-Others, specify

Q. AGRICULTURE-FISHING

ASK QUESTIONS (107)-(115) IF CODE '1' IN (75), IF CODE '2' IN (75), GO TO (116)

(107) Which fishing activity is the household engaged in? (1-Yes 2-No)

1 Catching /gathering fishes, crabs, shrimps, etc.
2 Culturing fish, seaweeds, etc.

ASK QUESTIONS (108)-(112) IF CODE 1 IN 107.1

(108) Where did household/s member/s fish in the past 12 months?

1 Marine waters
2 Inland waters
3 Both

	(109) How many of each of the following types of boats/vessels does the household use in fishing activities?	Number	(110) How many boats/vessels does the household own? Number
1	Boat with engine and outrigger		
2	Boat with engine but without outrigger		
3	Boat without engine but with outrigger		
4	Boat without engine and outrigger		
5	Raft		

	(111) What kind of gears/accessories/devices was/were used? KIND	DO NOT FILL	(112) How many does the household own? Number
1			
2			
3			
4			

ASK QUESTIONS (113)-(115) IF CODE 1 IN 107.2

	(113) What type of aquafarm did the household member/s operate?	1- Yes 2- No
1	Fishpond	
2	Fish pen	
3	Fish cage	
4	Seaweed farm	
5	Oyster farm	
6	Mussel farm	
7	Fish tank	
8	Hatchery	
9	Others, specify	

	(114) For the past 12 months, what were the fishes or aquatic animals cultured or caught by your household?	(115) How much was the volume of fish harvested/caught in the past 12 months? **(in kilograms)**
1		
2		
3		
4		
5		

R. CLIMATE CHANGE

(116) How many years has the household been living in the barangay?

1. 3 years and above **(GO TO 117)**
2. Not more than 3 years **(GO TO 148)**

R.1. CROP FARMING

ASK QUESTIONS (117)-(123) IF CODE '1' IN (73) AND CODE '1' IN 116

(117) How many years has the household been engaged in crop farming?

1. 3 years and above **(GO TO 118)**
2. Not more than 3 years **(GO TO 124)**

(118) Compared with 3 years ago, did your harvest ___?

1. Decrease **(GO TO 119)**
2. Increase **(GO TO 122)**
3. Remain the same **(GO TO 122)**

ID Number: _____

(119) What is the primary reason for the decrease in harvest?
1. Increase in cost of farm inputs such as seeds, fertilizer, etc.
2. Affected by drought
3. Affected by typhoon
4. Affected by flood
5. Affected by pests
6. Decrease in supply of water from the irrigation
7. Change in primary occupation of member
8. Others, specify

(120) During the past 3 years, did you do the following in the last planting season?

	1 - Yes 2 - No	(121) Why?
120.1 Changed the variety of the same crop		
120.2 Changed major crop		

(121)
1. The former crop are more expensive
2. More resistant to pests and diseases
3. The present crop does not require much water
4. The present crop enables the member to earn more profit
5. Availability of crops
6. Others, specify

(122) Do you have an insurance for the following:

	1 - Yes 2 - No	123 Who is the insurance provider? (SEE CODES BELOW)
122.1 Crops		
122.1 Agricultural equipment/ facilities		

R.2. LIVESTOCK AND POULTRY

ASK QUESTIONS (124)-(128) IF CODE '1' IN (74) AND CODE '1' IN 116

(124) How many years has the household been engaged in livestock and poultry raising?
1. 3 years and above **(GO TO 125)**
2. Not more than 3 years **(GO TO 127)**

(125) Compared with 3 years ago, did the number of your livestock and poultry __?
1. Decrease **(GO TO 126)**
2. Increase **(GO TO 127)**
3. Remain the same **(GO TO 127)**

(126) What is the primary reason for the decrease in number of livestock and poultry?
1. Increase in cost of farm inputs (feeds, chicks, etc.)
2. Stricken with diseases (swine flu, bird flu, foot and mouth disease, etc.)
3. Decrease in land holding
4. Affected by typhoon
5. Affected by flood
6. Affected by extreme hot weather condition
7. Others, specify

(127) Do you have livestock and poultry insurance?
1. Yes **(GO TO 128)**
2. No **(GO TO 129)**

(128) Who is the insurance provider? **(SEE CODES BELOW)**

R.3. FISHING

ASK QUESTIONS (129)-(133) IF CODE '1' IN (75) AND CODE '1' IN 116

(129) How many years has the household been engaged in fishing?
1. 3 years and above **(GO TO 130)**
2. Not more than 3 years **(GO TO 134)**

(130) Compared with 3 years ago, did your fish catch ___ ?
1. Decrease **(GO TO 131)**
2. Increase **(GO TO 132)**
3. Remain the same **(GO TO 132)**

(131) What is the primary reason for the decrease in fish catch?
1. Decrease in fishing area due to government restrictions
2. Decrease in fishing area due to competition
3. Fewer fishes
4. Occurrence of coral bleaching
5. Fishkill
6. Occurrence of oil spill and other kinds of pollution
7. Less frequent fishing because of increase in fuel prices and other expenses
8. Frequent occurrence of typhoons
9. Others, specify

(132) Do you have fisheries insurance?
1. Yes **(GO TO 133)**
2. No **(GO TO 134)**

(133) Who is the insurance provider? **(SEE CODES BELOW)**

(123), (128), (133)
1 - Philippine Crop Insurance Corporation
2 - Private insurance company
3 - Bank
4 - Others, specify

R.4. TEMPERATURE

(134) Compared with 3 years ago, is the temperature hotter now in your area?
1. Yes
2. No

R.5. ELECTRICITY

(135) Compared with 3 years ago, are brownouts more frequent now in your area?
1. Yes
2. No

R.6. SEA LEVEL

(136) Compared with 3 years ago, did the sea level ___ in your area?
1 Decrease
2 Increase
3 Remain the same
4 Don't know
5 Not applicable

R.7. WATER

(137) Compared with 3 years ago, did the water supply ____ in your area?
1. Decrease **(GO TO 138)**
2. Increase **(GO TO 139)**
3. Remain the same **(GO TO 139)**

(138) What is the primary reason for the decrease in water supply?
1. Drought
2. Broken faucet/pump
3. Lower water level in the dam
4. Less frequent delivery of tanker truck/peddler
5. Increase in number of consumers
6. Others, specify

R.8. FLOODING

(139) Compared with 3 years ago, do floods occur more often in your area now?
1. Yes **(GO TO 140)**
2. No **(GO TO 142)**
3. Did not experience flood **(GO TO 142)**

(140) Three years ago, how long did it usually take for the flood to subside? (Specify the number of hours)

(141) During the past 12 months, how long did it usually take for the flood to subside? (Specify the number of hours)

R.9. DROUGHT

(142) Compared with 3 years ago, does drought occur more often in your area now?
1. Yes **(GO TO 143)**
2. No **(GO TO 144)**
3. Did not experience drought **(GO TO 144)**

(143) In the past 3 years, how long did the last drought occur?
1. < 1 month
2. 1 month < 2 months
3. 2 months < 3 months
4. 3 months < 4 months
5. 4 months < 5 months
6. 5 months or more

R.10. EVACUATION

(144) During the past 3 years, did you move out of/from your previous dwelling unit?
1. Yes **(GO TO 145)**
2. No **(GO TO 146)**

(145) What was your primary reason for moving out of your previous dwelling unit?
1. Calamity
2. Armed conflict
3. Infrastructure development project
4. Others, specify

(146) During the past 3 years, did you temporarily evacuate your house because of any calamity?
1. Yes **(GO TO 147)**
2. No **(GO TO 148)**

(147) Where did you stay when you temporarily evacuated?
1. School
2. Church
3. Covered court/gym
4. Relative's house
5. Neighbor or friend's house
6. Others, specify

I.D. Number: _____

R.11. CALAMITY

(148) During the past 12 months, did your household experience destructive calamities such as a/an:	1-Yes 2-No	(149) IF YES IN (148) How many times did the __ happen?	(150) Did you receive any kind of assistance? 1-Yes 2-No	(151) IF YES IN (150) Where did it come from?
1. Typhoon				
2. Flood				
3. Drought				
4. Earthquake				
5. Volcanic eruption				
6. Landslide/mudslide				
7. Tsunami				
8. Fire				
9. Forest fire				
10. Armed conflict				
11. Others, specify				

(151) Assistance from:
1. Government
2. Nongovernment organization
3. Relatives
4. Others, specify

R.12. DISASTER PREPAREDNESS

(152) Do you have a disaster preparedness kit?
1. Yes (GO TO 153)
2. No (GO TO 155)

(153) Do you have the following in your disaster preparedness kit?	1 - Yes 2 - No	(154) How many days will it last?
1. Water		
2. Food (canned goods, biscuits, bread)		
3. Matches/Lighter		
4. Flashlight/Emergency light		
5. Radio/Transistor (battery-operated)		
6. Candle		
7. Medical kit		
8. Whistle		
9. Clothes		
10. Blanket		
11. Battery (cellphone, flashlight, radio, etc.)		
12. Important documents (land title, birth certificate, etc.)		
13. Others, specify		

S. HUNGER

(155) In the last 3 months, did it happen even once that your household experienced hunger and did not have anything to eat?
1 Yes (GO TO 156)
2 No (GO TO 158)

During the past 3 months, how many days did your household experience hunger and did not have anything to eat?	(156) NAME OF MONTH	(157) NUMBER OF DAYS
a. First Month		
b. Second Month		
c. Third Month		

T. HOUSEHOLD MEMBERS WHO DIED

(158) Were there any household members who died in the past 12 months?
1 Yes (GO TO 159)
2 No (GO TO 163)

IF YES IN (158)

(159) What is the name of the person who died?	(160) What is __'s sex?	(161) What was __'s age at the time of death?	(162) What was the cause of __'s death?
NAME	1 - Male 2 - Female	AGE	(SEE CODES BELOW)
1			
2			
3			

(162) Cause of death
1. Disease of the heart
2. Disease of the vascular system
3. Pneumonia
4. Tuberculosis
5. Cancer
6. Diarrhea
7. Measles
8. Complication during pregnancy or childbirth
9. Accident (e.g., hit by a vehicle)
10. Diabetes
11. Disease of the lungs
12. Disease of the kidney
13. Drowned from flood
14. Victim of landslide
15. Electrocuted during typhoon
16. Murder
17. Other causes, specify

U. PROGRAMS

(163) During the past 12 months, did you or any member of your household receive or avail of any of the following programs?		IF YES IN (163) (164) What is the name of the program?	(165) How many household members are covered by or are members of this program?	(166) What is/are the name/s of the household member/s who is/are beneficiary/ies /members of the program?	(167) Who implemented this program?
TYPE OF PROGRAM	1 - Yes 2 - No	FULL NAME OF PROGRAM		NAME OF HOUSEHOLD MEMBER/S	(SEE CODES BELOW)
1. Sustainable Livelihood Program (DSWD)					
2. Food for School					
3. Food for Work					
4. Cash for Work					
5. Social Pension for the Indigent Senior Citizens					

(167) 1 - National; 2 - Province; 3 - City/Municipality; 4 - Barangay; 5 - Congress/District; 6 - Private Organizations/NGOs; 7 - Don't know; 8 - Others, specify

I.D. Number: _____

U. PROGRAMS

163		IF YES IN (163)			
During the past 12 months, did you or any member of your household receive or avail of any of the following programs?		(164) What is the name of the program?	(165) How many household member/s are covered by or members of this program?	(166) What is/are the name/s of the member of the household who is/are beneficiary/ies/ members of the program?	(167) Who implemented this program?
TYPE OF PROGRAM	**1 - Yes 2 - No**	**FULL NAME OF PROGRAM**		**NAME OF HOUSEHOLD MEMBER/S**	**(SEE CODES BELOW)**
6. Pantawid Pamilyang Pilipino Program (4Ps)					
7. Agrarian Reform Community Development Program (ARCDP)					
8. Training for Work Scholarship Program (TWSP)					
9. Community-Based Employment Program (CBEP)					
10. Philhealth - OFW					
11. Philhealth - Employed					
12. Philhealth - Individually paying					
13. Philhealth - Sponsored					
14. Philhealth - Lifetime					
15. Other health insurance (Maxicare, Medicare, Intellicare, etc.)		1.			
		2			
16. Health assistance		1.			
		2.			
17. Supplemental feeding		1.			
		2.			
18. Education/scholarship program		1.			
		2.			
19. Skills or livelihood training program		1.			
		2.			
20. Credit program		1.			
		2.			
21. Housing program		1.			
		2.			
22. Other programs, specify		1.			
		2.			
		3.			

(167) 1 - National; 2 - Province; 3 - City/Municipality; 4 - Barangay; 5 - Congress/District; 6 - Private Organizations/NGOs; 7 - Don't know; 8 - Others, specify

Annex E. CBMS Barangay Profile Questionnaire version 09-2013-01

Source: CBMS Philippines (https://www.pep-net.org/sites/pep-net.org/files/typo3doc/pdf/CBMS_country_proj_profiles/Philippines/Training_Materials/Module1/BPQ/09201301/BPQ_VN09201301_03102014v.pdf)

CBMS Form 2

CBMS

CBMS FORM 1 VN 09201301
NSCB Approval No: DILG-1237-02
Expires on 30 November 2014

Barangay Profile Questionnaire

Year _____

NOTE: The respondent for this questionnaire should be the Chairperson or the Secretary of the Barangay

Name of Respondent: _____

Position: _____

Date: ☐☐☐☐☐☐☐☐

Time Started: ☐☐☐☐☐☐☐☐

Time Ended: ☐☐☐☐☐☐☐☐

Name of Enumerator: _____

Signature of Enumerator: _____

I. Physical and Demographic Characteristics

(1) Province: _____ ☐☐☐☐

(2) City/Municipality: _____ ☐☐☐☐

(3) Barangay: _____ ☐☐☐☐

(4) Classification: 1 Rural 2 Urban ☐ (enter code)

(5) Number of Puroks/ Sitios: _____

(6) Land Area:

	Total Area (in square kilometer [km])
Residential	
Commercial	
Industrial	
Agricultural	
Mineral	
Timberland	
Special Classes	
Total Land Area	

(7) General Description and Characteristics of the Barangay: **1 Yes 2 No**

1 Plain ☐
2 Upland ☐
3 Mountainous ☐
4 Coastal ☐
5 Others, specify ☐

_____
_____
_____

(8) Boundaries:

East _____ West _____

North _____ South _____

(9) Major Sources of Livelihood: _____

_____

Barangay ID_____

Demographic Reference:

(10) Population:
- Male: (enter number)
- Female: (enter number)
- Total: (enter number)

Reference period:
Source of data:

(11) Number of Households/Families
- Households: (enter number)
- Families: (enter number)

Reference period:
Source of data:

(12) Registered Voters:
- Male: (enter number)
- Female: (enter number)
- Total: (enter number)

Reference period:
Source of data:

(13) Number of Barangay Personnel:

	Total	Female	Male	
a. Tanod				(enter number)
b. Health Worker				(enter number)
c. Nutrition Scholar				(enter number)
d. Purok Leaders				(enter number)
e. Librarian				(enter number)
f. Day Care Worker				(enter number)
g. Utility Worker				(enter number)
h. Others, specify _____ (e.g. Midwife)				(enter number)

Reference period:

(14) Nutritional Status of Children 0–5 Years Old:

	Total	Female	Male	
Above normal				(enter number)
Normal				(enter number)
Below normal (moderate)				(enter number)
Below normal (severe)				(enter number)
Total				(enter number)

Reference period:
Source of data:

Barangay ID_____

II. Service Institutions and Infrastructure

Facility	(15) Is the facility present in the barangay? 1 Yes (GO TO 16) 2 No (GO TO 20)	IF YES IN (15) (16) How many facilities are present in the barangay? List the name/s of facilities in the space provided.		(17) Does the facility have access to safe drinking water? 1 Yes 2 No	(18) Does the facility have access to sanitary toilets? 1 Yes 2 No	(19) Geopoint Latitude	(19) Geopoint Longitude	IF NO IN (15) (20) What is the distance from the barangay hall to the nearest facility (in km)?
Health Facility		(16A)	(16B)					
a. Barangay Health Center								
b. Hospitals			1.					
			2.					
c. Maternity Clinic			1.					
			2.					
d. Child Clinic			1.					
			2.					
e. Maternity and Child Clinic			1.					
			2.					
f. Private Medical Clinic			1.					
			2.					
g. Botika ng Barangay			1.					
h. Botika ng Bayan			1.					
i. Private Drugstores			1.					
			2.					
j. Others, specify _____			1.					
			2.					

Educational Facility	(15)	(16A)	(16B)	(16C) Levels offered (e.g., Grade 1–4)	(17)	(18)	(19)		(20)
a. Day Care Centers			1.						
			2.						
b. Preschool			1.						
			2.						
c. Elementary			1.						
			2.						
d. Secondary			1.						
			2.						
e. Vocational			1.						
			2.						
f. College/University			1.						
			2.						
g. Others, specify _____			1.						
			2.						

Barangay ID_____

Facility and Input Dealer	(15) Is the facility present in the barangay? 1 Yes (GO TO 16) 2 No (GO TO 20)	IF YES IN (15) (16) How many facilities are present in the barangay? List the name/s of facilities in the space provided.		(17) Does the facility have access to safe drinking water? 1 Yes 2 No	(18) Does the facility have access to sanitary toilets? 1 Yes 2 No	(19) Geopoint Latitude	(19) Geopoint Longitude	IF NO IN (15) (20) What is the distance from the barangay hall to the nearest facility (in km)?
Service Facility		(16A)	(16B)					
a. Multipurpose Hall								
b. Police Station								
c. Women's/Crisis Center								
d. Bank			1.					
			2.					
e. Post Office								
f. Market								
g. Others, specify _____								
Agricultural Facility		(16A)	(16B)					
a. Rice Mill			1.					
			2.					
b. Corn Mill			1.					
			2.					
c. Feed Mill			1.					
			2.					
d. Agricultural Produce Market (bagsakan/bulungan)			1.					
			2.					
e. Others, specify _____			1.					
			2.					
Input Dealer								
a. Fertilizer Dealer			1.					
			2.					
b. Pesticide Dealer			1.					
			2.					
c. Seeds Dealer			1.					
			2.					
d. Feeds Dealer			1.					
			2.					
e. Others, specify _____			1.					
			2.					

Public Transport

(21) What types of public transportation are present in the barangay?	1-Yes	2-No
1 Bus		
2 Taxi		
3 Van/FX		
4 Jeepney		
5 Tricycle		
6 Pedicab		
7 Boat		
8 Others, specify		

Barangay ID _____

Road Network

(22)		IF YES IN (22)		
		(23)	(24)	(25)
Are any of the following roads/streets present in the barangay?	1-Yes (GO TO 23) 2-No	What is the length of the road/street? (IN KM)	What is the present condition of the road/street? (SEE CODES BELOW)	Who is maintaining the road/street? (SEE CODES BELOW)
a. Concrete **(IF NO, GO TO 26)**				
b. Asphalt **(IF NO, GO TO 27)**				
c. Gravel **(IF NO, GO TO 28)**				
d. Natural/Earth surface **(IF NO, GO TO 28)**				

(24) Present condition of the road/street
1. Good
2. Fair
3. Poor

(25) Maintained by
1. Private
2. National Government
3. Province
4. Municipality/City
5. Barangay
6. Others, specify _____

(26) If there are no concrete roads or streets in the barangay, what is the distance from the barangay to the nearest concrete road or street? _____ (in kilometers)

(27) If there are no asphalt roads or streets in the barangay, what is the distance from the barangay to the nearest asphalt road or street? _____ (in kilometers)

Water Supply

(28) Is the barangay being served by a water station/company ?	1-Yes (GO TO 29) 2-No	IF YES IN (28)				
		(29)	(30)	(31)	(32)	
		What is the name of the water company?	How many households are being served?	Is the source located in the barangay? 1 Yes (GO TO 32) 2 No (GO TO 33)	Geopoint	
					Latitude	Longitude
a Level II water system		1				
b Level III water system		1				
		2				

(33) Are any of the following water facilities present in the barangay?	1-Yes (GO TO 34) 2-No	IF YES IN (33)					
		(34)	(35)	(36)	(37)	(38)	
		How many units/stations? (Total)	Name	Is the facility functioning? 1 Yes (GO TO 37) 2 No	How many households are being served?	Geopoint	
						Latitude	Longitude
a. Deep Well (Level I)			1.				
			2.				
b. Artesian Well (Level I)			1.				
			2.				
c. Shallow Well (Level I)			1.				
			2.				
d. Commercial Water Refill Stations			1.				
			2.				
e. Others, specify			1.				
			2.				

Garbage/Waste Disposal System

(39)		IF YES IN (39)					IF NO IN (39)
		(40)	(41)	(42)	(43)		(44)
Are any of the following community garbage disposal facilities present in the barangay?	1 - Yes (GO TO 40) 2 - No	How many units? (Total)	Name	How many households are being served?	Geopoint		What is the distance from the barangay to the nearest disposal facility? (in km)
					Latitude	Longitude	
a. Open Dump Site			1.				
			2.				
b. Sanitary Landfill			1.				
			2.				
c. Compost Pits			1.				
			2.				
d. Material Recovery Facility (MRF)			1.				
			2.				
e. Others, specify			1.				
			2.				

Barangay ID _____

Electricity Service

(45) What is the source of electricity in the barangay?	1 - Yes (GO TO 46) 2 - No	IF YES IN (45) (46) What is the name of the company or association that is providing or maintaining the electricity supply?	(47) How many households are being served by the source of electricity?	(48) Is there an electric substation present in the barangay? 1 Yes (GO TO 49) 2 No (GO TO 51)	(49) Geopoint Latitude	(49) Geopoint Longitude
1 Electric Company						
2 Generator						
3 Solar						
4 Battery						
5 Others, specify						
6 None						

IF NO IN (45.1)

(50) What is the distance from the barangay to the nearest electrical station/company? (in kilometers) ☐

Credit Institutions

(51) Are there credit institutions operating in the barangay?

1 Yes **(GO TO 52)**
2 No **(GO TO 54)** ☐

IF YES IN (51) (52) What are the names of the credit institutions?	(53) Contact person and details (Office Address, Telephone, E-mail)
1	
2	
3	

Registered Business Firms *(based on latest records of the barangay)*

(54) How many business firms/establishments are registered in the barangay? ☐ Reference period: _____

III. Significant Events in the Barangay During the Past 3 Years

(55) During the past 3 years, how many times did the event occur? Write the number in the box provided.

1 Typhoon	☐	7 Tsunami	☐	13 Armed Conflict	☐
2 Flooding	☐	8 Fire in Houses/Properties	☐	14 Closure of Large Firm	☐
3 Drought	☐	9 Forest Fire	☐	15 Closure of Many Small Firms	☐
4 Earthquake	☐	10 Epidemic	☐	16 Mass Layoff	☐
5 Volcanic Eruption	☐	11 Pest Infestation	☐	17 Opening of Large Firm	☐
6 Landslide	☐	12 Livestock/Poultry Diseases	☐	18 Opening of Many Small Firms	☐

IV. Disaster Risk Reduction and Preparedness

(56) Does the barangay have a written disaster risk reduction plan? **1-Yes 2-No** ☐

(57) Does the barangay have a disaster/emergency response team? **1-Yes 2-No** ☐

(58) Does the barangay have any of the following disaster/emergency response equipment? **1-Yes 2-No**

1 Rubber Boats	☐	5 Flashlights	☐	9 Others, please specify _____	☐
2 Handheld Radios	☐	6 Medicines/First Aid Supplies	☐		
3 Rain Gear (e.g., raincoats and boots)	☐	7 Life Vests	☐		
4 Emergency/Service Vehicle	☐	8 Megaphone	☐		

(59) Does the barangay have designated evacuation centers?

1 Yes **(GO TO 60)**
2 No **(GO TO 62)** ☐

IF YES IN (59) (60) List the names of the evacuation centers	(61) Geopoint Latitude	(61) Geopoint Longitude
1		
2		
3		

Barangay ID _____

V. Peace and Order

(62) Does the barangay have reported cases on the following crimes during the past 12 months?	1 - Yes (GO TO 63) 2 - No	IF YES IN (62) (63) How many were the victims in the reported cases?						
		Total	Male			Female		
Crimes against Persons			Total	0–17 years old	18 years old & above	Total	0–17 years old	18 years old & above
a. Murder/Homicide								
b. Physical Injury								
c. Rape								
Crimes against Property								
a. Theft								
b. Robbery								
Other Crimes								
a. Prohibited Drug Use								
b. Human Trafficking								
c. Illegal Recruitment								
d. Prostitution								
e. Spousal/Partner Abuse								
f. Sexual Harassment								
g. Other types of crimes, specify								
_____								

VI. Programs, Projects, and Activities (based on the barangay's Annual Investment Program during the past year)

(64) What programs, projects, and activities (PPAs) were implemented in the barangay during the past year?	(65) Provide a brief description of the PPA.	(66) How much was allotted for the PPA?	(67) How many benefited from the PPA during the past year? **(Indicate unit)**
a.			
b.			
c.			
d.			
e.			
f.			
g.			
h.			

VII. Budget, Revenue, and Expenditure

(68) How much was the barangay's budget, revenue, and expenditure during the past 3 years?

	Year	Budget	Revenue	Expenditure
1				
2				
3				

VIII. Spotmap

(Attach a duly accomplished spotmap of the barangay before submitting this form to the supervisor.)

(69) When was the spotmap prepared? **(MM/DD/YY)** _____

(70) Does the spotmap contain the locations of the following?: **1- Yes 2-No 3-Not Applicable**

1. Creeks, Rivers, Waterfalls		4. Barangay Boundaries		8. Barangay Hall, Multipurpose Hall	
2. Road Networks, Bridges, Railroads		5. Schools		9. Church, Chapel	
3. Purok Boundaries		6. Hospitals, Clinics		10. Public Market	
		7. Barangay Health Center			

Note: For mobile data capture system, answer only the items 70.1 to 70.4, and indicate *3-Not Applicable* for items 70.5 to 70.10

Annex F. CBMS core poverty indicators, by site

Indicator	(1) Pasay City		(2) Orion		(3) Looc		(4) Buenavista	
	No.	%	No.	%	No.	%	No.	%
Health								
children 0-4 year old who died	94	0.3	25	0.7	12	1.3	22	0.5
women who died due to pregnancy related-causes	4	0.1	0	0.0	0	0.0	0	0.0
Nutrition								
malnourished children 0-5 year old	3,179	9.9	148	3.5	116	10.2	268	5.4
Housing								
households living in makeshift housing	3,659	5.2	124	1.5	30	1.3	94	0.9
households who are informal settlers	12,313	17.5	1,146	14.2	39	1.7	480	4.8
Water and Sanitation								
households without access to safe water	1,015	1.4	377	4.7	736	32.4	1,135	11.4
households without access to sanitary toilet facility	2,053	2.9	1,200	14.9	489	21.5	652	6.5
Basic Education								
children 6-12 years old not attending elementary	5,316	14.9	860	17.3	137	8.8	883	15.1
children 13-16 years old not attending high school	5,349	27.5	1,011	36.5	301	34.1	975	29.7
children 6-16 years old not attending school	4,131	7.5	1,129	14.6	212	8.7	835	9.1
Income								
households with income below poverty threshold	9,423	13.4	2,348	29.2	1,500	65.9	5,309	53.1
households with income below food threshold	5,049	7.2	1,458	18.1	1,121	49.3	3,909	39.1
households experienced food shortage	862	1.2	294	3.7	15	0.7	112	1.1
Employment								
Unemployed members of the labor force	11,997	10.6	1,279	9.4	472	11.9	1,807	11.0
Peace and Order								
Victims of crime	917	1.3	17	0.2	0	0.0	94	0.9

Note: "The food threshold is the minimum income required by an individual to meet his/her basic food needs and satisfy the nutritional requirements set by the Food and Nutrition Research Institute (FNRI), while remaining economically and socially productive. Put another way, the food threshold helps measure food poverty or "subsistence," which may also be described as extreme poverty. Poverty threshold is a similar concept, but incorporates basic non-food needs, such as clothing, housing, transportation, health, and education expenses, among others." (NSO, 2014). The age ranges elementary school participation rates and high school participation rates that are being monitored under CBMS were revised recently to 6-11 years old for elementary and 12-15 years old for high school. The age ranges elementary school participation rates and high school participation rates that are being monitored under CBMS were revised recently to 6-11 years old for elementary and 12-15 years old for high school.

Source of basic data: CBMS Census: Mabini (2009); M'Lang (2009); Mahinog (2010); Allacapan (2011); Pasay City(2011); Buenavista(2011); Orion (2012); Looc (2012)

Annex F. Continued…

Indicator	(5) Allacapan		(6) Mabini		(7) Mahinog		(8) M'Lang		All Sites (1)+(2)+(3)+(4)+(5)+(6)+(7)+(8)	
	No.	%	No.	%	No.	%	No.	%	No.	%
Health										
children 0-4 year old who died	16	0.4	11	0.3	2	0.1	32	0.4	214	0.4
women who died due to pregnancy related-causes	1	0.1	1	0.002	1	0.4	3	0.2	10	0.1
Nutrition										
malnourished children 0-5 year old	42	0.9	252	5.9	55	3.4	190	1.8	4,250	6.7
Housing										
households living in makeshift housing	352	5.0	153	2.1	94	3.3	1,294	7.0	5,800	4.6
households who are informal settlers	401	5.7	94	1.3	96	3.4	755	4.1	15,324	12.1
Water and Sanitation										
households without access to safe water	1,978	27.9	826	11.1	57	2.0	1,045	5.6	7,169	5.7
households without access to sanitary toilet facility	795	11.2	224	3.0	336	11.8	1,955	10.5	7,704	6.1
Basic Education										
children 6-12 years old not attending elementary	845	17.7	703	14.2	335	17.6	2,683	20.9	11,762	16.2
children 13-16 years old not attending high school	1,038	38.9	859	32.0	274	26.1	2,735	35.2	12,542	30.9
children 6-16 years old not attending school	1,054	14.2	799	10.5	173	5.9	2,586	12.5	10,919	9.7
Income										
households with income below poverty threshold	3,686	52.0	2,564	34.6	1,579	55.5	10,009	53.8	36,418	28.7
households with income below food threshold	1,993	28.1	1,667	22.5	1,100	38.7	7,221	38.8	23,518	18.6
households experienced food shortage	235	3.3	20	0.3	17	0.6	43	0.2	1,598	1.3
Employment										
Unemployed members of the labor force	310	2.8	1,926	18.0	617	15.1	1,458	5.4	19,866	10.0
Peace and Order										
Victims of crime	81	1.1	7	0.1	2	0.1	13	0.1	1,131	0.9

Annex G.Weights and description of variables used in estimating the Deprivation Score

Indicator	Description	Weight
EDUCATION		**0.33**
1. School attendance for school-aged children	A household is deprived if there is at least one member 6-16 years old not attending school	0.167
2. School attainment for household members	A household is deprived if no member of the household 13 years old and above has reached at least Grade 6 or an elementary graduate	0.167
HEALTH		**0.33**
3. Child mortality	A household is deprived if there is at least one member of the household aged 5 years old and below who died in the past 12 months	0.167
4. Nutrition	A household is deprived is there is at least one member 5 years old and below who is malnourished	0.167
LIVING STANDARDS		**0.33**
5. Access to electricity	A household is deprived if it has no access to electricity	0.067
6. Access to safe drinking water	A household is deprived if it has no access to safe drinking water (e.g., source of drinking water is unprotected dug well, unprotected water from spring, surface water line river, etc.)	0.067
7. Access to sanitary toilet facility	A household is deprived if it has no access to sanitary toilet facilities (e.g., open pit or no toilet at all)	0.067
8. Access to good housing conditions	A household is deprived if living as informal settlers or if the house is classified as makeshift	0.067
9. Access to assets that (1) allow access to information (radio, TV, telephone, cellphone) (2) support mobility (car, jeepney) (3) support livelihood (refrigerator, sewing machine, own agricultural land9, own livestock10)	A household is not deprived in assets if it has at least one asset from group (1) and at least one asset from groups (2) or (3)	0.067

Note: Variables and weights are based on the weights suggested by UNDP(2014)

Annex H. Exploring other econometric methods to analyze the impact of international migration on poverty using cross-section CBMS data

In estimating the impact of international migration on poverty, other appropriate methods can also be applied. This section explores two methods, particularly the counterfactual income approach based on the Heckman two-step estimation framework and the propensity score matching method. The purpose of this exercise is to simply demonstrate how these methods can be explored by presenting some initial results of the estimation. The models presented here can still be enhanced in future research.

A. Counterfactual Income Approach based on the Heckman Two-Step Estimation Framework

Since migrant households cannot be treated as a random selection, the Heckman two-step estimation framework[91] can also be used in estimating the counterfactual income of migrant households (i.e., if no member had migrated). This framework was originally developed by Heckman (1979) to account for the selection bias. The modelling process involves estimation of two models where the first one is the selection equation as follows:

$$NM_i^* = \alpha_1 + \beta_1 X_i + \omega Z_i + \mu_i \qquad \text{(Equation H.1)}$$

where NM_i^* is the selection rule for having no migrant. Meanwhile, X_i refers to the vector of household characteristics. The vector of household head characteristics, which was being used in many existing researches, is not be included in our current model given the possible changes in the headship when the migration phenomenon happens as suggested by Cox-Edwards and Rodriguez-Oreggia (2009). Meanwhile, Z_i includes variables that are related to the choice in migration but are not directly affecting the (log) per capita income of households (Y_i). It is ensured that Z_i contain at least one variable that does not appear in X_i. Given this, the migration network variable (*mignetwork1*), as described on Equation 3.1 in Chapter 3, is used as the exclusion restriction. It is assumed that a larger share of migrant households affects the likelihood that a household will send a migrant member abroad. A similar exclusion restriction is used in earlier studies (e.g., Acosta, et al., 2008) but for non-remittance selection equation instead of no-migration selection equation that is being used in this current research. Meanwhile, the second equation under this framework is the income equation for no-migration as follows:

$$logY_i = \alpha_2 + \beta_2 X_i + \theta \lambda_i + \varepsilon_i \qquad \text{(Equation H.2)}$$

where Y_i is the no-migration income of household, X_i is the vector of household characteristics and λ_i is the selection inverse Mills ratio. It should also be noted that the Heckman model assumes joint normality of the error terms.

[91] This basically follows the methods employed by Acosta, et al. (2007) in their study on the impact of remittances on poverty and human capital in Latin America.

To estimate the counterfactual no-migration income, the Heckman two-step estimation framework discussed above was applied. Results show significance of almost all of the variables with migration network (*mignetwork1*) significantly decreasing the likelihood of being a non-migrant household (Table H.1). Corollary, migration network increases the likelihood that households will send a member abroad. The estimated ρ of the model, which indicates the correlation between the errors in the selection and outcome equation, is at 0.842 indicating a relatively high correlation. This positive ratio indicates that the unobservables that increase per capita income tend to occur with unobservables that increase the likelihood of having no migrant member.

Table H.1. Heckman estimation results
(Dependent Variable: Log of per capita income)

Variables	Coeff.	Std. Error
Dependent variable: Log of per capita income		
Demography		
Household size	-0.233***	0.002
Dependency ratio	-0.124***	0.004
Employment		
Number. of adult members with job	0.244***	0.003
Share of female working members (%)	0.007	0.009
Education		
No. of members with tertiary education	0.129***	0.004
Ave. years of schooling of adult members	0.049***	0.001
Location		
Living in an urban area	0.08***	0.009
Municipality/city dummies	Yes	
lambda (λ)	0.695***	0.016
constant	2.441***	0.045
Dependent variable: HH without migrant (Nonmigrant HH=1; Migrant HH=0)		
Demography		
Household size	-0.066***	0.004
Dependency ratio	-0.089***	0.009
Employment		
Number. of adult members with job	0.085***	0.006
Share of female working members (%)	-0.519***	0.015
Education		
No. of members with tertiary education	-0.227***	0.005
Ave. years of schooling of adult members	0.047***	0.002
Location		
Living in an urban area	0.015	0.018
Municipality/city dummies	Yes	
Migration network *(mignetwork1)*	-0.314***	0.022
Wald Chi^2 (14)	95,268	
Probability > Chi^2	0.000	
rho (ρ)	0.842	
Sigma (σ)	0.825	

Note: Household size includes OFW; *** Significant at 1% level

Source: Author's estimation using CBMS Censuses: Mabini (2009); M'Lang (2009); Mahinog (2010); Allacapan (2011); Pasay City(2011); Buenavista(2011); Orion (2012); Looc (2012)

Meanwhile, λ, which is the inverse Mills ratio, is the product of two terms: ρ and σ, and in this model, it is estimated to be: $\hat{\lambda}$= (0.842)(0.825)=0.695. The significance of λ as a predictor of household income suggests that the migrant households are not randomly selected from the pool of households, hence a justification for employing the Heckman framework. Furthermore, the Wald test also indicates that the correlation is highly significant with the reported Chi^2 equal to 95,269 and Probability > Chi^2 equal to 0.000. This implies that the covariates used in the regression model may be appropriate and which further justifies the employment of the Heckman estimation framework.

The estimated coefficients from the model were used to predict the counterfactual income of migrant households. The indicator of income poverty is, then, estimated using the observed income for non-migrant households and the counterfactual income for migrant households. The poor households were identified by comparing the households' per capita income with the official poverty threshold for each province in the Philippines classified by urbanity[92]. The poverty incidence is, then, compared to the observed scenario in order to estimate the change in the poverty incidence in each site. While previous studies on the impact of migration and remittances on poverty focused on the entire sample, it is also useful to estimates the impact on the sub-sample of migrant households and remittance-recipient migrant households, as suggested by Schiff (2006), since the effect on the subpopulation of migrant households can also be as important as the effect on the population as a whole.

Results of the estimation show that international migration has reduced overall poverty incidence (Table H.2). The reduction in poverty, which is around 3.3 percentage points for all households, captures not only the direct impact on migrant households but also the impact on non-migrant households. Focusing on migrant households and remittance-recipient households, results show that should the migrants did not leave for abroad, poverty incidence among migrant households and remittance-recipient households should have been 34.9 percentage points and 41.6 percentage points higher. The distribution of income as show in Figure H.1 shows that indeed migrant households generally experienced higher observed income compared to their counterfactual income.

Furthermore, it appears that rural households benefit more from international migration and remittances compared to urban households as reflected in the larger percentage point reduction in their poverty incidence, i.e., 6.5 percentage points and 1.8 percentage points, respectively. The estimated reduction is significantly larger among migrant households and even larger among remittance recipients who live in rural areas. One of the factors that may have contributed to the lower impact on urban households is the fact that their migrant member could have earned the same level of income locally if migration did not happen. In general, people living in urban areas have better access to local economic opportunities and hence, the migrant households could

[92] This is the lowest level of disaggregation that is available for the official poverty thresholds in the Philippines.

have achieved at least the same level of economic benefits should the migrant member work in their community rather than abroad. This, however, may not always be true in reality because of the interplay of many other factors. Furthermore, it appears that most of the migrants from rural areas are relatively poorer compared to urban households in the first place and therefore, sending a migrant member abroad and receiving remittances is more likely to help more of these households cross the poverty threshold. The larger impact on rural households is also reflected in the distribution of observed and counterfactual income in Figure H.1.

Table H.2. Impact of migration and remittances on income poverty based on Heckman two-step estimation framework

Site	Poverty Incidence								
	All Households			Migrant HHs			Remittance-Recipient HHs		
	(A) Obs.	(B) Counter-factual	(C) Diff. (A)-	(A) Obs.	(B) Counter-factual	(C) Diff. (A)-	(A) Obs.	(B) Counter-factual	(C) Diff. (A)-(B)
All Sites	28.7	32.0	-3.3	13.3	48.1	-34.9	11.5	53.1	-41.6
Location									
Urban	17.8	19.6	-1.8	8.1	29.4	-21.3	7.9	34.8	-26.9
Rural	51.6	58.1	-6.5	20.8	76.0	-55.2	16.6	79.6	-62.9
Municipality/ City									
1. Pasay City	13.4	13.4	0.0	4.5	4.3	0.2	4.6	3.9	0.7
2. Allacapan	52.0	60.2	-8.2	25.1	90.2	-65.1	23.0	90.7	-67.7
3. Orion	29.2	32.6	-3.4	4.7	25.4	-20.7	4.2	25.5	-21.4
4. Mabini	34.6	61.5	-26.9	14.4	94.2	-79.9	12.7	94.8	-82.1
5. Looc	65.9	69.6	-3.7	16.0	60.6	-44.7	0.0	72.0	-72.0
6. Buenavista	53.1	56.4	-3.3	18.7	50.1	-31.4	14.5	53.8	-39.4
7. Mahinog	55.5	62.9	-7.4	20.5	94.1	-73.6	17.3	93.9	-76.6
8. M'Lang	53.8	57.9	-4.1	32.0	86.9	-54.9	24.3	90.1	-65.8

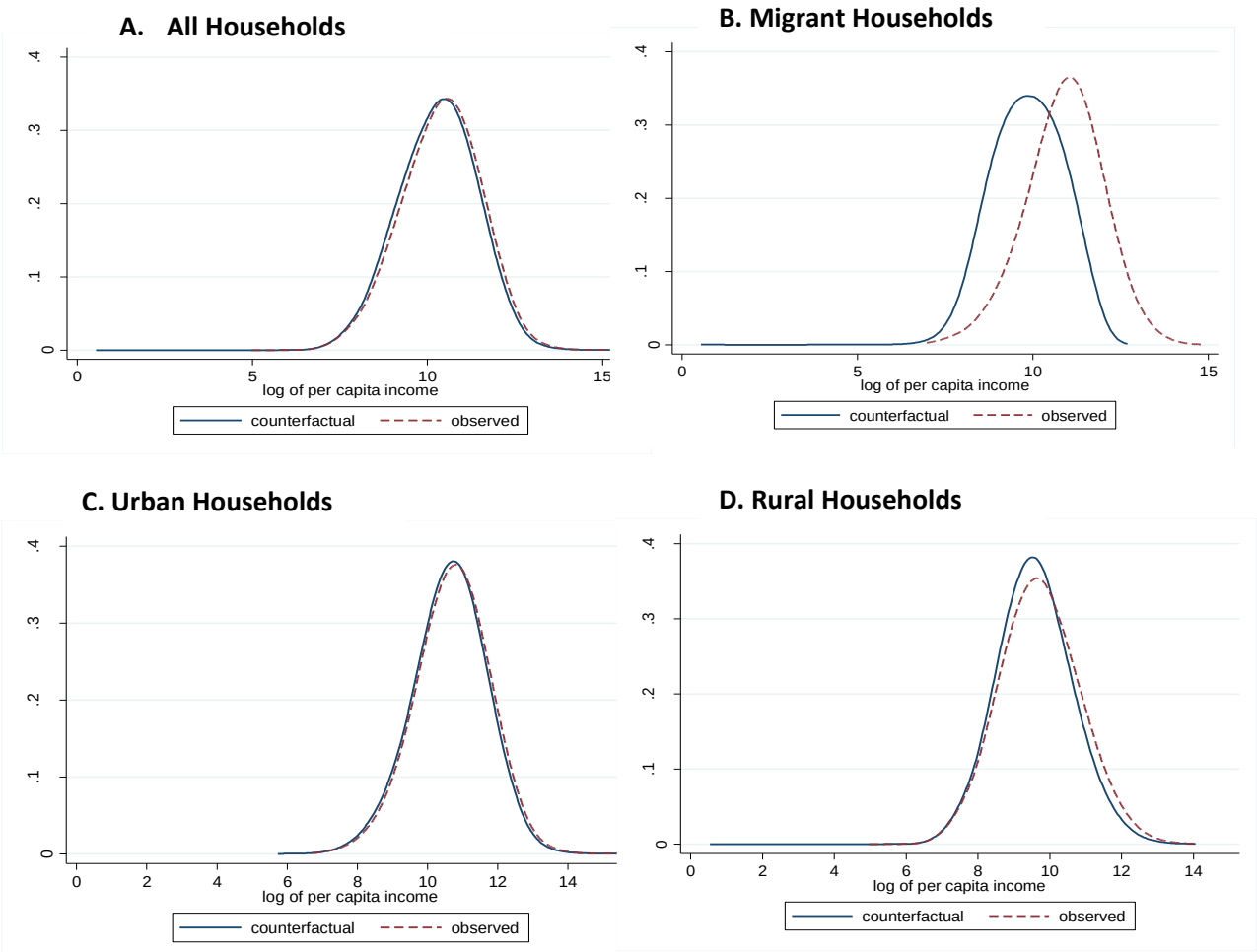
Note: Obs= Observed Poverty Rate; Counterfactual= Counterfactual Poverty Rate; Diff.= Difference between Observed and Counterfactual Poverty Rates. All figures are in percent.

Sources of basic data: CBMS Census: Mabini (2009); M'Lang (2009); Mahinog (2010); Allacapan (2011); Pasay City(2011); Buenavista(2011); Orion (2012); Looc (2012)

Looking at the results by site, it seems that the municipality of Mabini exhibited the highest percentage point reduction in poverty incidence (26.9%) as a result of migration. This means that if migration did not happen, poverty incidence in Mabini should have been 26.9 percentage points higher. At the same time, the municipality recorded the largest percentage point reduction in poverty incidence among migrant households and among remittance-recipients with 79.9 percent and 82.1 percent, respectively. Recall that Mabini also had the highest concentration of migrant households among all the sites covered in this study (i.e., 34.6%). At the same time, the municipality also recorded the highest per capita remittance received in the last 12 months prior to the interview. With remittances as an important source of income for migrant households and with its multiplier effects, households in the municipality have generally experienced improvement in living standards. Furthermore, the larger impact in Mabini is also partly explained by the fact that migrant households are coming from

the poorest income quintiles (based on the counterfactual income) as seen in Figure H.2. An almost similar pattern is observed in Allacapan and Mahinog such that migrant households are coming from the first and second income quintiles explaining the relatively larger impact of migration on poverty.

Figure H.1. Distribution of observed and counterfactual income, by groups of households

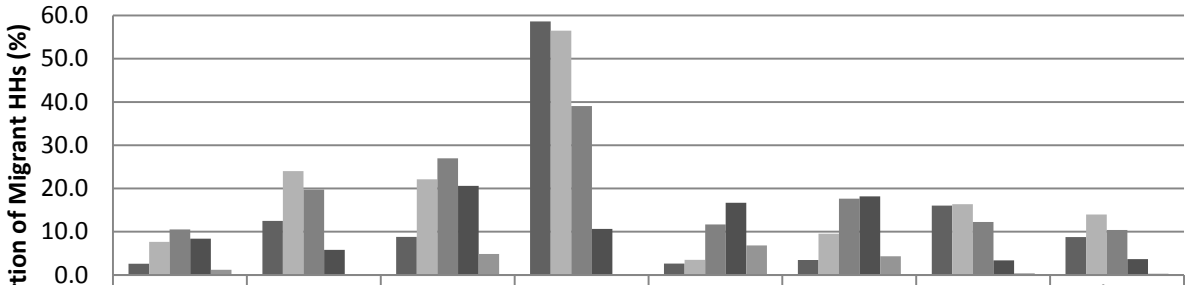


Source: Author's estimation using CBMS Census datasets of Mabini (2009); M'Lang (2009); Mahinog (2010); Allacapan (2011); Pasay City(2011); Buenavista(2011); Orion (2012); Looc (2012)

Meanwhile, Pasay City recorded no change in poverty incidence after migration. The city even recorded a slight increase in poverty incidence among migrant households and remittance-recipient migrant households. This may suggest that sending a member abroad did not compensate for the fall in income that is associated with migration. Households in the city generally have better access to earning opportunities locally and hence, it is possible that migrants could have higher earnings if migration did not happen. This is also supported by the fact that most of the OFWs from Pasay City have completed their college education, which could have helped them achieved relatively higher levels of income if migration did not happen, under the assumption that they

have equal access to these employment opportunities. In addition, it appears that migrant households in Pasay City belong to the middle-income households (i.e., third income quintile based on counterfactual income), with a considerable proportion also coming from the fourth income quintile. This explains further the lower impact of migration in the city. The same pattern can be observed in Orion and Buenavista. Indeed, these results confirm that the position of migrant households in the income distribution play and important role in determining which the extent of reduction in poverty that can be induced by international migration.

Figure A.2. Proportion of migrant households, by income quintile and by site



	Pasay City	Allacapan	Orion	Mabini	Looc	Buenavista	Mahinog	M'Lang
Q1	2.6	12.5	8.8	58.6	2.6	3.5	16.0	8.7
Q2	7.6	24.0	22.1	56.5	3.5	9.5	16.4	14.0
Q3	10.5	19.7	27.0	39.1	11.7	17.6	12.2	10.4
Q4	8.4	5.8	20.6	10.6	16.7	18.2	3.4	3.6
Q5	1.2	0.1	4.8	0.2	6.8	4.3	0.4	0.3

Note: Poverty status is based on the estimated counterfactual income.
Source: Author's estimation using CBMS Census datasets of Mabini (2009); M'Lang (2009); Mahinog (2010); Allacapan (2011); Pasay City(2011); Buenavista(2011); Orion (2012); Looc (2012)

B. Propensity Score Matching (PSM)

Propensity score matching method (PSM) is perhaps one of the most popular non-experimental techniques in evaluation used by researchers as some proponents believe that this method can replicate experimental standards as long as it used properly. This method can be good alternative method to estimate the impact of having a migrant member, especially since migrant households are not randomly selected. At the same time, it does not introduce assumptions to the functional form of the relationship between household characteristics, international migration and poverty. McKenzie, Stillman and Gibson (2010) noted that among the non-experimental methods, PSM with bias-adjustment (aside from difference-in- differences) is one of the best methods for estimating the gains from migration. It corrects for any bias resulting from self-selection on observables by finding a good match for the migrant households among the non-migrant households.

In employing the PSM, a statistical comparison group is constructed based on a model of the probability of participating in the treatment using observed characteristics

(Rosenbaum & Rubin, 1983). This method, therefore, assumes that the selection bias is based only on observed characteristics and cannot account for unobserved factors affecting participation. Preferably, a probit or a logit regression of M on the variables contained in X is used in estimating the propensity score, which measures the "probability of being treated conditional on X" (Rosenbaum & Rubin, 1983).

$$p(X) \equiv \Pr(M = 1|X) = E(M|X) \qquad \text{(Equation B.1)}$$

where $M = \{0,1\}$ is the indicator that determines whether the household sends at least one migrant member abroad and X are the covariates. As with any other estimator, some assumptions must be made for PSM. The two important conditions to make PSM valid include:

1) conditional independence (i.e., unobserved characteristics do not affect participation; the treatment status is assumed to be random, conditional on a set of observed variables);
2) common support overlap in propensity scores across the two groups (in this case, migrant vs. non-migrant households).

As suggested by Caliendo and Kopeinig (2008), only covariates that simultaneously affect participation decision and outcome variable should be included in the estimation. Although it was argued by Rosenbaum and Rubin (1983) that the covariates should be measured prior to the treatment, Lechner (2008) shows that this requirement could be relaxed. According to him, post-treatment measurement of the covariates will not bias the estimate as long as the influence of the treatment on the covariates is not systematic. He concluded that "the fact that some control variables may be influenced by the treatment does not matter as long as the usual formulation of the conditional independence assumption holds". For instance, many of the existing models in migration studies include variables that relate to the household head. However, Cox-Edwards & Rodriguez-Orregia (2009) do not recommend this since it is difficult to identify the head of the household in the counterfactual no-migration scenario based on the available data.

For the purpose of this exercise, Table H.3 presents an example of the estimated logit model that can be used in estimating the propensity score of each household. In particular, household size, share of female working members and average school years of adult members are positively affecting the likelihood of sending a migrant member abroad. This suggests that bigger households, households with higher share of female to total working members and households with more educated members are more likely to have an OFW member. On the other hand, households with higher dependency ratios, households with more employed members, and households living in urban areas are less likely to have an OFW member. Furthermore, poorer conditions in their communities appears to encourage households to migrate abroad. In particular, higher

unemployment rate, higher share of agriculture employment and poorer education conditions tend to increase the likelihood of sending a migrant member abroad.[93]

Table H.3. Logit model for estimating the propensity scores (Dependent Variable: Migrant status, i.e., migrant HH=1; non-migrant HH=0)

	Coeff.	Std. Error
Demography		
Household size	0.269	0.006
Dependency ratio	-0.138	0.016
Employment		
No. of adult members with job	-0.124	0.012
Share of female working member (%)	1.080	0.029
Education		
Ave. years of schooling of adult members	0.160	0.004
Location		
Living in urban area	-0.119	0.028
Municipal-level characteristics		
Unemployment rate (%)	0.177	0.004
Share of employed persons in the agriculture to total number of	0.008	0.001
Proportion of out-of-school children 6-16 years old (%)	0.214	0.005
Constant	-9.164	0.097
LR Chi^2 (9)	9,898	
Prob > Chi^2	0.000	
Pseudo R^2	0.1286	

Note: HH size includes OFW; *** Significant at 1% level

Source: Author's estimation using CBMS Censuses: Mabini (2009); M'Lang (2009); Mahinog (2010); Allacapan (2011); Pasay City(2011); Buenavista(2011); Orion (2012); Looc (2012)

Using the propensity scores estimated above, each treated household (i.e., household with at least one migrant member abroad) is matched with an observationally similar untreated household (i.e., household without a migrant member) based on these scores. There are different matching algorithms that can be used for PSM depending on the way the neighborhood for each treated household is defined, the way the common support problem is handled and the weights assigned to these neighbors (Caliendo & Kopeinig, 2008), including for instance the nearest neighbor matching, caliper and radius matching, stratification and interval matching, and kernel and local linear matching. For the purpose of this exercise, the nearest neighbor matching method[94] is employed, which is the most straightforward matching estimator. Following the rule-of- thumb, five (5) nearest neighbors will be used in matching the migrant with the closest non-migrant households in the dataset with the objective of reducing the standard errors of comparison. Nevertheless, Rosenbaum and Rubin (1985) found that the gain in precision that can be achieved through increasing the matched comparison sample is usually modest. This is also shown in this dataset as the different numbers of nearest neighbor for matching (from one to ten nearest neighbors) produce only very slightly different results.

[93] The signs of the coefficients in the logit model are consistent with the first stage regressions when employing the IV models in estimating the impact of international migration as discussed in section 3.5.3.

[94] Results using other matching algorithms (e.g., caliper and radius, kernel and local linear) provide similar results . Different numbers of nearest neighbors for matching is used but there are only very slight differences.

An important step in the estimation is to check the overlap and region of common support between the migrant and the non-migrant households. As highlighted by Heckman, Ichimura, & Todd (1998), a common source of evaluation bias is the violation of the common support condition. Caliendo and Kopeinig (2008) presented the different ways of checking for overlap and region of common support. The values of propensity scores were checked and were found to be $0 < p(X) < 1$. The overlap assumption and the region of common support between migrant and non-migrant households were also checked through visual analysis[95]. The density distribution of both migrant and non-migrant households were also examined to see if the model does not violate the abovementioned assumptions. In fact, the treated group (i.e., the migrant households) can find good matches from the control group (i.e., non-migrant households). This allows the construction of a counterfactual that can be used to estimate the impact. In order to precisely determine the region of common support, the minima and maxima comparison for both groups were also done. The matching includes only those observations that fall between the minimum and the maximum values for both groups.

Another method that was employed is the one proposed by Sianesi (2004) whereby the matching quality was assessed by re-estimating the propensity scores on the matched sample, i.e., including migrant households and matched non-migrant households. The estimated pseudo-R^2, which demonstrates how well the regressors explain the participation probability was compared to the unmatched sample and indeed, the pseudo-R^2 remains to be fairly low and this implies that there is no systematic difference in the distribution of covariates between migrant and non-migrant households. Recall that the identification of the causal effect based on PSM is based on the assumption of selection observables. Although this cannot be tested in reality, some robustness tests can be done on the estimated ATET with respect to possible violations on this assumption. This, however, is not yet done in this current exercise. Application of the PSM in future research should, therefore, consider this important test of robustness.

Meanwhile, based on the matched migrant households and non-migrant households, the average treatment effects (ATE) were determined by estimating the mean of the difference between the observed and the potential outcomes for each household. This measure captures the expected effect on the outcome if households were randomly assigned to treatment (i.e., sending at least one migrant member abroad). The effects on migrant households were also examined by estimating the average treatment on the treated (ATET). The ATET measures the difference between the observed and potential outcome for those households who actually send a migrant member abroad. In this exercise, the outcome variable that is used in the estimation is either the (log) of per capita income or the income poverty status of the household. Regarding income poverty status, poor households are considered income poor if their per capita income is below the income poverty threshold. Results show that international migration generally benefits all households through increased income and reduction in poverty incidence

[95] According to Lechner (2010), inspecting the propensity score distribution is sufficient to identify a support problem without the need to implement a complicated estimator.

(Table H.4). In particular, households generally experienced an increase in per capita income by about 83.4 percent on average, with a smaller estimate for migrant households at 76.0, on average. This pattern may be explained partly by the fact that migrant households generally have higher income than non-migrant households in the first place and hence, the change in per capita income relative to its total per capita income is smaller. This also supports the claim of earlier studies that since migration is generally expensive in the first place, households which have the resources are the ones who can send a migrant abroad. With the increase in per capita income resulting from international migration, income poverty rate is reduced by about 21.5 percent. The reduction in poverty is more significant among migrant households which is at 22.1 percent.

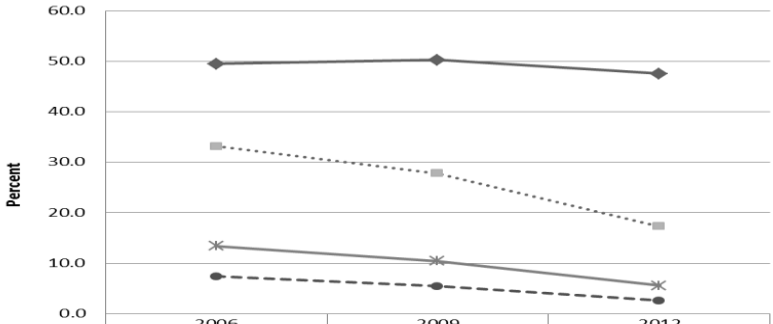
Table H.4. Impact of international migration on (log) per capita income and income poverty based on PSM method

	ATE	Std. Error	ATET	Std. Error
(log) Per capita income	0.834***	(0.021)	0.760***	(0.016)
Income poverty	-0.215***	(0.005)	-0.221***	(0.007)

Note: Matching uses 5 nearest neighbour based on propensity scores. *** Significant at 1% level
Source: Author's estimation using CBMS Censuses: Mabini (2009); M'Lang (2009); Mahinog (2010); Allacapan (2011); Pasay City(2011); Buenavista(2011); Orion (2012); Looc (2012)

Annex I. Poverty measures of Orion panel households (unweighted vs. weighted using Inverse Probability Weights), 2006, 2009 and 2012.

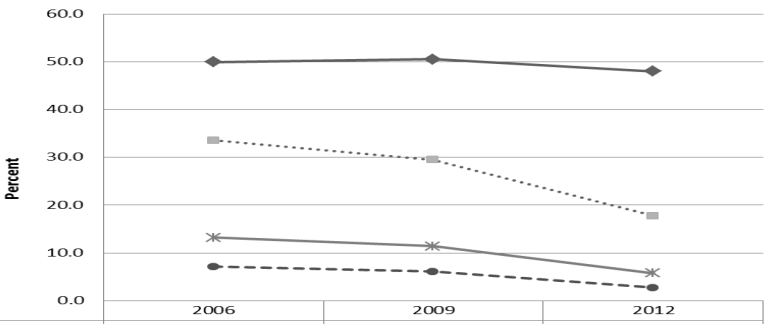
A. Unweighted Estimates (using IPW)



	2006	2009	2012
Gini Coefficient	49.5	50.2	47.5
Poverty Incidence	33.2	27.8	17.3
Poverty Gap	13.4	10.4	5.6
Severity of Poverty	7.4	5.5	2.6

Source of basic data: Constructed panel dataset using CBMS data of Orion (2006, 2009 and

B. Weighted estimates (using IPW)



	2006	2009	2012
Gini Coefficient	49.9	50.6	48.0
Poverty Incidence	33.6	29.5	17.7
Poverty Gap	13.2	11.4	5.8
Severity of Poverty	7.1	6.1	2.7

Source of basic data: Constructed panel dataset using CBMS data of Orion (2006,

Annex J. Effects of international migration on labor force participation based on a pooled logit model

(Dependent variable: labor force participation)

	Coefficient	Robust Std. Err.	Odds ratio	Robust Std. Err.
Migration status (migrant HH=1; non-migrant HH=0)	-0.492***	0.033	0.611***	0.020
Age	-0.015***	0.001	0.985***	0.001
Sex	1.638***	0.028	5.145***	0.144
Years of schooling	0.099***	0.004	1.104***	0.005
Education status (enrolled in school=1; 0 otherwise)	-4.657***	0.111	0.009***	0.001
Living in urban	-0.131***	0.024	0.877***	0.021
Civil status (base category= married)				
Single	-0.171***	0.034	0.843***	0.029
Widow/widower	-0.261***	0.068	0.770***	0.052
Divorced/separated	0.614***	0.089	1.848***	0.164
Live-in/common law	-0.057	0.051	0.945	0.048
unknown civil status	-0.147	0.362	0.863	0.312
Constant	-0.563***	0.069	0.570***	0.039
Wald chi2(11)= 5475.37 Prob > chi2 = 0.000 Pseudo R2 = 0.2283				

Source of basic data: Author's estimation based on the constructed panel dataset using CBMS data of Orion

Annex K. Rider Questionnaire on International Migration (Version 1)

Lalawigan: Batangas Barangay: Saguing Tagapanayam: _____ HH ID: _____
Lungsod/Bayan: Mabini Petsa ng Panayam: _____ Nakapanayam: _____

A. NAGBALIK NA "MIGRANT"

		1	2	3
(1)	Mayroon bang miyembro ang inyong sambahayan na naghanapbuhay o nanirahan sa ibang bansa na nagbalik na? *1 Oo 2 Hindi (Pumunta sa seksiyon B)*			
(2)	Sino-sino ang nagbalik na miyembro? *(Isulat ang pangalan)*			
(3)	Si ___ ba ang nakapanayam? *1 Oo 2 Hindi*			
(4)	Ilang beses nangibang-bansa si ___?			
(5)	Sa kabuuan, gaano katagal namalagi si ___ sa ibang bansa? *(Bilang ng taon at buwan)*			
(6)	Kailan huling nangibang-bansa si ___? *(Buwan at Taon)*			
(7)	Kailan huling nagbalik sa Pilipinas si _____? *(Buwan at Taon)*			
(8)	Saang lungsod at bansa nanirahan o naghanapbuhay si ____?			
(9)	Ano ang pangunahing hanapbuhay ni ___ sa ibang bansa?			
(10)	Saang industriya naghanapbuhay si ___ bago nagbalik?			
(11)	Ano ang pangunahing dahilan ng pagbalik ni ___? *(Tingnan ang kodigo)*			
(12)	Natuto ba si ____ ng bagong kasanayan o kaalaman na naging kapaki-pakinabang sa kanyang pagbabalik? *1 Oo 2 Hindi*			
(13)	Kung Oo sa (12) Anu-anong bagong kasanayan o kaalaman? *(Tingnan ang kodigo sa ibaba)*			
(14)	Si ___ ba ay nagtayo ng negosyo nang siya ay nagbalik? *1 Oo 2 Hindi*			
(15)	Kung Oo sa (14) Anong uri ng negosyo?			
(16)	Kung Oo sa (14) Saan ang lokasyon ng negosyo? *(Brgy/Mun/Lalawigan)*			
(17)	Nais ba ni ___ na muling mangibang-bansa? *1 Oo 2 Hindi*			
(18)	Kung Oo sa (16) Kailan inaasahang muling mangibang-bansa si ___? *(Buwan at Taon)*			

ITANONG ANG SEKSYON B KUNG MAY SAGOT NA "1" SA TANONG (13) NG CBMS HPQ

B. ABSENT NA "MIGRANT"

		1	2	3
(19)	Sino-sino ang miyembro na kasalukuyang nasa ibang bansa? *(Tingnan ang Tanong (13) ng CBMS HPQ; Isulat ang pangalan*			
(20)	Saang lungsod at bansa naninirahan o naghahanapbuhay si ____?			
(21)	Ano ang pangunahing hanapbuhay ni ___ sa ibang bansa? *(Tingnan ang Tanong (25) ng CBMS HPQ)*			
(22)	Saang industriya naghahanapbuhay si ___? *Tingnan ang Tanong (26) ng CBMS HPQ)*			
(23)	Kailan unang nangibang-bansa si ___? *(Buwan at Taon)*			
(24)	Ilang beses nangibang-bansa si ___?			
(25)	Kung >1 sa (24) Kailan huling nangibang-bansa si ___? *(Buwan at Taon)*			
(26)	Sa kabuuan, gaano katagal namalagi si ___ sa ibang bansa? *(Bilang ng taon at buwan*			
(27)	Ano ang pangunahing gawain o pinagkakaabalahan ni ___ bago ang unang pangingibang-bansa? *(Tingnan ang kodigo)*			
(28)	Kung kodigo 2 or 3 in (27) Ano ang pangunahing hanapbuhay ni ___ bago nagtungo sa ibang bansa?			
(29)	Kung kodigo 2 or 3 in (27) Saang industriya naghahanapbuhay si ____ bago nangibang- bansa?			
(30)	Kung kodigo 2 or 3 in (27) Magkano ang buwanang kita o sahod ni ___ bago nangibang-bansa? *(sa piso)*			
(31)	Magkano ang buwanang kita o sahod ni ___ sa ibang bansa? *(sa piso)*			
(32)	Gaano kadalas karaniwang nakikipag-usap si ___sa sino mang miyembro ng sambahayan? *(Tingnan ang kodigo sa ibaba)*			
(33)	Kailan ang inaasahang pagbabalik ni ____? *(Buwan at Taon)*			

(11) Dahilan ng pagbalik
1 May sapat nang kinita at naipon
2 Nagtapos na ang kontrata
3 Natapos na ang kurso sa ibang bansa
4 Nagbitiw sa trabaho
5 Ang taong kasamang nanirahan sa ibang bansa ay nagbalik din
6 Boluntaryong umuwi dahil hindi legal ang paninirahan sa ibang bansa
7 Na-deport
8 Upang mag-retiro
9 Para makasama ang pamilya sa Pilipinas
10 Upang magsimula ng bagong trabaho o magtayo ng bagong negosyo
11 Nahikayat bumalik dahilan sa mga programa ng gobyerno
12 To have a vacation

(13) Bagong kasanayan o kaalamang natutunan
1 Linguwahe
2 Professional na kasanayan (e.g., konstruksyon)
3 Kasanayan sa buhay (e.g., pagmamaneho, pagluluto ng mga bagong putahe)
4 Isyung panlipunan (e.g., importansya ng pangangalaga ng kalikasan/kapaligiran)
5 Iba pa, itala

(27) Pangunahing gawain
1 Nag-aaral
2 Nagtatrabaho nang may bayad
3 Nagpapatakbo ng negosyo
4 Walang hanapbuhay at naghahanap ng trabaho
5 Walang hanapbuhay at hindi naghahanap ng trabaho
6 Nagtatrabaho nang walang bayad (sa bahay o kung saan man)
7 Retirado
8 Iba pa, itala

(32) Dalas ng pag-uusap
1 Araw-araw
2 Linggu-linggo
3 Isang beses kada dalawang linggo
4 Isang beses sa isang buwan
5 Isang beses sa 6 na buwan
6 Isang beses sa isang taon
7 Kung may espesyal na okasyon o "emergency"
8 Iba pa,itala

Isulat ang pangalan ng absent na "migrant"		1	2	3
(34)	Si ___ ba ay puno ng sambahayan bago unang nangibang-bansa? *1 Oo 2 Hindi*			
(35)	Kung may asawa ("2"), hiwalay sa asawa ("3") o live-in ("5") base sa sagot sa Tanong (7) ng CBMS HPQ Saan nakatira ang asawa/long-term partner ni ____? *1 Sa sambahayang ito* ***(Pumunta sa Q36)*** *2 Sa ibang sambahayan sa Pilipinas* ***(Pumunta sa Q39)*** *3 Sa ibang bansa* ***(Pumunta sa Q38)***			
(36)	Kung "1" sa (35) Sino ang asawa/long-term partner ni ___? *Isulat ang pangalan*			
(37)	Kung single ("1"), balo ("3") o hiwalay sa asawa ("4") base sa sagot sa Tanong (7) ng CBMS HPQ Dati bang may asawa/long-term partner si ____ bago nagtungo sa ibang bansa? *1 Oo* ***(Pumunta sa Q39)*** *2 Hindi* ***(Pumunta sa 42)***			
(38)	Kung "3" in (35) Kasama ba ni ___ sa ibang bansa ang kanyang asawa?			
(39)	May mga anak ba si ___? *1 Oo 2 Hindi*			
(40)	Kung "1" sa (39) Saan nakatira ang mga anak ni ____? *(Tingnan ang kodigo sa ibaba)*			
(41)	Kung "1" sa (40) Sino sa mga miyembro ng sambahayan ang anak ni ___? *(Isulat ang pangalan)*			
(42)	Ayon sa iyong nalalaman, paano mo ikukumpara ang kasalukuyang antas ng pamumuhay ni ____ sa dati niyang pamumuhay sa Pilipinas? *(Tingnan ang kodigo sa ibaba; Ipakita ang Showcards)*			

C. MIGRATION NETWORKS					
Isulat ang pangalan ng lahat ng absent at nagbalik na "migrant"		1	2	3	4
(43)	May kakila ba si ___ na nasa ibang bansa bago unang umalis ng bansa? *1 Oo 2 Hindi*				
(44)	Saan nakakuha ng impormasyon si ___ tungkol sa mga oportuninad sa pinuntahang bansa? *(Tingnan ang kodigo)*				
(45)	Paano ginastusan ang unang pangingibang-bansa? *(Tingnan ang kodigo)*				
(46)	Magkano ang tantiyang nagastos sa unang pangingibang-bansa? *(sa Piso)*				
(47)	Mayroon bang kamag-anak o kaibigan na nakasama si ____ sa unang pagbiyahe sa ibang bansa? *1 Oo 2 Hindi*				
(48)	Saang tirahan unang tumuloy si ___ sa unang pangingibang bansa? *(Tingnan ang kodigo sa ibaba)*				
(49)	Bago ang unang pagtungo sa ibang bansa, mayroon na bang hanapbuhay doon na naihanda para sa kanya? *1 Oo 2 Hindi*				
(50)	Kung Hindi sa (49) Gaano katagal naghintay si ___ bago nakahanap ng hanapbuhay? *(Bilang ng buwan)*				
(51)	Habang nasa ibang bansa si ___ miyembro ba sya ng asosasyon ng mga Filipino? *1 Oo 2 Hindi*				

(52)	Mayroon pa bang ibang miyembro ng sambahayan na nais mangibang-bansa? *1 Oo 2 Hindi*	Kung Oo sa (52) (53) Sino ang nais mangibang-bansa?
(54)	Mayroon pa bang ibang miyembro na aalis sa susunod na 6 na buwan? *1 Oo 2 Hindi*	Kung Oo sa (54) (55) Sino ang mangingibang-bansa?

(40) Tinitirhan ng anak
1 Sa sambahayang ito
2 Sa ibang sambahayan sa Pilipinas
3 Kasama ng miyembrong nasa ibang bansa
4 Sa iba pang lugar

(42) Opinyon sa antas ng pamumuhay ng migrant
1 Lumala
2 Bahagyang lumala
3 Walang pagbabago
4 Bahagyang bumuti
5 Bumuti

(44) Pinagmulan ng impormasyon
1 Agensiya ng gobyerno
2 Pribadong "employment agency"
3 Kamag-anak/Kaibigan
4 Online advertisements ng employer
5 Print advertisements ng employer
6 Gobyerno ng bansang pinuntahan
7 Iba pa,itala

(45) Panggastos sa unang pag-alis
1 Sariling ipon
2 Nangutang sa kamag-anak o kaibigan
3 Nangutang sa bangko
4 Nagsanlang ari-arian
5 Employer
6 Iba pa, itala

(48) Unang paninirahan sa ibang bansa
1 Tirahan na bigay ng kumpanya
2 Bahay ng Employer
3 Bahay kamag-anak
4 Bahay ng kaibigan
5 Apartment/kuwarto (sariling gastos)
6 Iba pa,itala

D. REMITTANCES

D1. REMITTANCES MULA SA MIGRANT

	Isulat ang pangalan ng lahat ng absent at nagbalik na "migrant" *(kung ang nagbalik na migrant ay umuwi sa nakalipas na 12 buwan)*	1	2	3	4
(56)	Si ___ ba ay nagpadala ng "remittance" sa nakalipas na 12 buwan? *1 Oo 2 Hindi*				
(57)	Itanong ang Q58 - Q67 kung Oo sa (56)				
	Gaano kadalas ang pagpapadala ni ___ng "remittance"? *(Tingnan ang kodigo sa ibaba)*				
(58)	Anong paraan ng pagpapadala ng "remittance" ang ginamit ni ___? *(Tingnan ang kodigo)*				
(59)	Para kanino ang ipinadalang "remittance" ni ___? *1 Para sa isa o ilang miyembro lamang (Isulat ang pangalan) 2 Para sa buong sambahayan*				
(60)	Sino ang madalas na tumatanggap o kumukuha ng "remittance"? *(Isulat ang pangalan)*				
(61)	Magkano ang kabuuang "remittance" na ipinadala ni __ sa nakalipas na 12 buwan? *(Sa piso)*				
	KABUUANG "REMITTANCE" MULA SA MIYEMBRONG MIGRANT	P _____			

(62) **Saan-saan ginastos ng sambahayan ang "remittance" na natanggap mula sa miyembrong migrant sa nakalipas na 12 buwan?** *(Bilugan ang angkop na kategorya).*

Magkano ang ginastos sa mga sumusunod? *(sa piso; 0 kung wala)*

a. Pagkain		f. Appliances/ kasangkapan	
b. Utilities		g. Negosyo	
c. Edukasyon		h. Pambayad ng utang	
d. Kalusugan		i. Ipon	
e. Ari-arian (e.g., lupa, bahay)		j. Iba pa, itala	

(63)	Si __ ba ay nagpadala ng pera o anumang bagay para sa institusyon or proyekto sa inyong komunidad? *1 Oo 2 Hindi*				
(64)	Kung Oo sa (63) Aling institustyon? *(Tingnan ang kodigo sa ibaba)*				

	Isulat ang pangalan ng lahat ng absent at nagbalik na "migrant" *(kung ang nagbalik na migrant ay umuwi sa nakalipas na 12 buwan)*	1	2	3	4
(65)	Sa nakalipas na 12 buwan, mayroon bang miyembro ang inyong sambayahan na nagpadala ng pera o anumang bagay kay ___ habang siya ay nasa ibang bansa? *1 Oo 2 Hindi*				
(66)	Kung Oo sa (66) Magkano ang halaga ng pera at bagay na ipinadala? *(Sa piso)*				
(67)	Kung Oo sa (66) Anong paraan ng pagpapadala ng "remittance" ang ginamit para kay___? *(Tingnan ang kodigo)*				

D2. IBA PANG REMITTANCES

(68) **Sa nakalipas na 12 buwan, nakatanggap ba ang sambahayan ng pera o anumang bagay mula sa ibang kamag-anak o kaibigan na Filipino na nasa ibang bansa?** *1 Oo 2 Hindi* [ ]

Itanong ang Q69– Q80 kung Oo sa (68)

		1	2	3	4
(69)	Sinu-sino ang nagbigay ng pera o anumang bagay? *(Isulat ang pangalan)*				
(70)	Ano ang relasyon ni ___ sa puno ng sambahayan? *(Tingnan ang kodigo sa ibaba)*				
(71)	Saang lungsod at bansa naninirahan o naghahanapbuhay si ___?				
(72)	Gaano kadalas ang pagpapadala ni ___ng "remittance"? *(Tingnan ang kodigo sa ibaba)*				
(73)	Anong paraan ng pagpapadala ng "remittance" ang ginamit ni ___? *(Tingnan ang kodigo)*				
(74)	Para kanino ang ipinadalang "remittance" ni ___? *1 Para sa isa o ilang miyembro lamang (Isulat ang pangalan) 2 Para sa buong sambahayan*				
(75)	Sino ang madalas na tumatanggap o kumukuha ng "remittance"? *(Isulat ang pangalan)*				
(76)	Magkano ang kabuuang "remittance" na ipinadala ni __ sa nakalipas na 12 buwan? *(Sa piso)*				
	KABUUANG "REMITTANCE" MULA SA IBA PANG FILIPINONG KAMAG-ANAK O KAIBIGAN	P _____			

(57) & (72) Dalas ng pagpapadala ng "remittance"
1 Linggu-lingo
2 Buwan-buwan
3 Dalawang beses sa isang buwan
4 Isang beses sa 6 na buwan
5 Isang beses sa isang taon
6 Kung may espesyal na okasyon lang o emergency
7 Iba pa, itala

(58),(67) & (73) Paraan ng pagpapadala ng "remittance"
1 Money transfer agencies (e.g., western union)
2 Bangko
3 Koreo
4 Pinakidala sa kaibigan o kamag-anak
5 Dinala sa kanyang pag-uwi
6 Iba pa,itala

(64) Institusyong tumanggap
1 Paaralan
2 Pasilidad na pangkalusugan (e.g. ospital, klinik)
3 Religious organization
4 Civic organization
5 Others, specify

(70) Relasyon sa puno ng sambahayan
1 Asawa
2 Anak
3 Manugang
4 Apo
5 Magulang
6 Iba pang kamag-anak, itala
7 Iba pang hindi kamag-anak, itala

(77) **Saan-saan ginastos ng sambahayan ang "remittance" na natanggap mula sa iba pang Filipinong kamag-anak o kaibigan sa ibang bansa sa nakalipas na 12 buwan?** *(Bilugan ang angkop na kategorya).*

Magkano ang ginastos sa mga sumusunod? *(sa piso; 0 kung wala)*

a. Pagkain		f. Appliances/ kasangkapan	
b. Utilities		g. Negosyo	
c. Edukasyon		h. Pambayad ng utang	
d. Kalusugan		i. Ipon	
e. Ari-arian (e.g., lupa, bahay)		j. Iba pa, itala	

(78)	**Sa nakalipas na 12 buwan, mayroon bang miyembro ang inyong sambayahan na nagpadala ng pera o anumang bagay kay ___ habang siya ay nasa ibang bansa?** *1 Oo 2 Hindi*			
(79)	**Kung Oo sa (80)** **Magkano ang halaga ng pera at bagay na ipinadala?** *(Sa piso)*			
(80)	**Anong paraan ng pagpapadala ng "remittance" ang ginamit para kay___?** *(Tingnan ang kodigo sa ibaba)*			

E. KALAGAYAN NG TIRAHAN

(81) **Bago ang unang pangingibang-bansa ng miyembro, ano ang katayuan ng inyong sambahayan sa pamamalagi sa inyong tinitirhan?** *(Tingnan ang kodigo sa ibaba)* ____

(82) **Bago ang unang pangingibang-bansa ng miyembro, ilang silid-tulugan mayroon ang inyong sambahayan?** ____

(83) **Bago ang unang pangingibang-bansa ng miyembro, sa anong uri ng materyales gawa ang bubong ng inyong bahay?** *(Tingnan ang kodigo sa ibaba)* ____

(84) **Bago ang unang pangingibang-bansa ng miyembro, sa anong uri ng materyales gawa ang dingding ng inyong bahay?** *(Tingnan ang kodigo sa ibaba)* ____

(85) **Sa anong uri ng materyales gawa ang sahig ng bahay?** *(Tingnan ang kodigo sa ibaba)* ____

(86) **Bago ang unang pangingibang-bansa ng miyembro, sa anong uri ng materyales gawa ang sahig ng inyong bahay?** *(Tingnan ang kodigo sa ibaba)* ____

(87) **Bago unang pangingibang-bansa ng miyembro, ang maliban sa inyong tinitirhan ngayon, mayroon ba kayong lupa o iba pang bahay na nagbigay ng kita sa inyo o maaring pagkakitaan kung gugustuhin?** ____

(88) **Bago unang pangingibang-bansa ng miyembro, mayroon ba ang inyong sambahayan ng mga sumusunod?** *1 Oo 2 Hindi*

a. Kuryente		c. Tubig mula sa gripo sa loob ng bahay o bakuran	
b. Tagakolekta ng basura		d. Water-sealed flush to sewerage system/septic tank (sarili o kasalo ang ibang sambahayan)	

F. INVESTMENTS

(89) **Mayroon bang miyembro ang sambahayan na nagtayo ng negosyo habang ang miyembro ay nasa ibang bansa?** *1 Oo 2 Hindi* ____

Kung Oo sa (89)

(90) Anong partikular na negosyo ang itinayo?	(91) Kailan itinayo ang negosyo? *(Buwan at Taon)*	(92) Patuloy pa ba ang operasyon ng negosyo? *1 Oo 2 Hindi*
1.		
2.		

(93) **Nakabili ba ng anumang malaking gamit o bagay ang inyong sambahayan mula nang nangibang-bansa ang inyong miyembro?** *1 Oo 2 Hindi* ____

Kung Oo sa (93)

(94) **Alin sa mga sumusunod ang nabili?** *1 Oo 2 Hindi*

1 Appliances/Kasangkapan		4 Lupa	
2 Bahay/Pagpapaayos ng bahay		5 Holidays/ Bakasyon	
3 Sasakyan		6 Iba pa, itala	

(95) **Mayroon bang miyembro ang sambahayan na nakabalik sa pag-aaral dahil sa "remittance" na natatanggap ng inyong sambahayan?** *1 Oo 2 Hindi* ____

Kung Oo sa (95)

(96) **Sino ang nagbalik sa pag-aaral?** ____

G. MGA PROGRAMA

(97) **Mayroon bang miyembro nag inyong sambahayan na nakatanggap ng mga sumusonod na serbisyo na layong tulungan ang OFWs at kanilang pamilya?** *1 Oo 2 Hindi*

1. Scholarship para sa OFW dependents ____
2. Loan assistance ____
3. Scholarship at incentives para sa OFWs/ Seafarers ____
4. Training on financial literacy ____
5. Business counseling/Livelihood assistance ____
6. Health assistance ____
7. Iba pa,itala _____ ____

(80) Paraan ng pagpapadala
1 Money transfer agencies (e.g., western union)
2 Bangko
3 Koreo
4 Pinakidala sa kaibigan o kamag-anak
5 Dinala sa kanyang pag-uwi
6 Iba pa,itala

(81) Tenure status
1 Pag-aari ang bahay at lupa
2 Inuupahan ang bahay/kwarto at lupa
3 Pag-aari ang bahay ngunit inuupahan ang lupa
4 Pag-aari ang bahay,libreng upa sa lupa at may pahintulot ng may-ari
5 Pag-aari ang bahay, walang upa sa lupa ay walang pahintulot ng may-ari
6 Libreng paninirahan sa bahay at lupa na may pahintulot ng may-ari
7 Walang upa sa bahay at lupa at walang pahintulot ng may-ari
8 Naninirahan sa pampublikong lugar na mayroong upa
9 Naninirahan sa pampublikong lugar na walang upa
10 Iba pa, itala

(83) & (84) Materyales ng bubong at dingding
1 Strong materials (*for roof:* galvanized iron, aluminum, tile, concrete, brick, stone, asbestos; *for walls:* aluminum, tile, concrete, brick, stone, wood, plywood, asbestos)
2 Light materials (*for roof:* cogon, nipa, anahaw; *for walls:* bamboo, sawail,cogon, nipa,anahaw)
3 Salvaged/makeshift materials
4 Mixed but predominantly strong materials
5 Mixed but predominantly light materials
6 Mixed but predominantly salvaged materials
7 Not applicable

(85)&(86) Materyales ng sahig
1 Wall to wall carpet, marble, polished wood
2 Floor tile (clay, vinyl), brick or paving tile
3 Cement
4 Raw wood, boards
5 Dirt
6 Others, specify

H. OPINYON

(98) **Sabihin ang antas ng pag-sang-ayon o di pag-sang-ayon sa mga sumusunod na pangungusap:** *(Ipakita ang Showcard)*

1 Lubos na sumasang-ayon 4 Bahagyang di sumasang-ayon
2 Bahagyang sumasang-ayon 5 Lubos na di sumasang-ayon
3 Neutral 99 Hindi alam

a. Sa aking palagay, ang Pilipinas ay isang mabuting lugar para manirahan.	
b. Kung bibigyan ng pagkakataon, ako ay maninirahan sa ibang bansa.	
c. Ako ay nasisiyahan sa paraan ng pagpapatakbo sa Pilipinas.	
d. Ang mga Filipinong nanirahan sa ibang bansa at nagbalik sa Pilipinas ay mas nagpapahalaga sa pagkakapantay-pantay ng mga kababaihan at kalalakihan at gayundin ng lahat ng etnikong grupo.	
e. Ang mga importanteng pampublikong serbisyo (e.g., ospital, paaralan,etc.) ay nagkakaroon ng mababang kalidad dahil ang mga guro, nurse at doktor ay umaalis ng Pilipinas.	
f. Ang mga Filipinong naninirahan sa ibang bansa ay nagbibigay ng importanteng suporta sa komunidad (e.g., pagbibigay ng suporta sa mga paaralan at organisasyon)	
g. Ang mga Filipino ay nahihikayat na mangibang-bansa dahil nakikita nila ang ibang taong nangingibang-bansa.	
h. Dahil naniniwala ang mga tao na ang mga may pinag-aralan at kasanayan (skills) ang nakakapangibang-bansa, sila ay nahihikayat na mag-aral o magsanay.	
i. Ang mga Filipinong nagbalik mula sa ibang bansa ay nakakatulong sa Pilipinas sa pamamagitan ng pakikibahagi sa politika at sa mga isyung panlipunan.	
j. Ang mga Filipinong nasa ibang bansa ay mas nagpapadala ng "remittance" para sa pangagailangan ng pamilya kaysa sa pangagailangan ng komunidad.	
k. Ang pangingibang-bansa ng nanay/tatay o pareho ay may masamang epekto sa kapakanan ng mga anak.	
l. Kung ang asawang babae o lalaki ay mag-isang nangibang-bansa, ang relasyon ng pamilya ay madaling nasisira na nagdudulot ng mas maraming bilang ng hiwalayan sa mga mag-asawa.	
m. Ang mga Filipinong nanirahan sa ibang bansa ay mas nagpapahalaga sa kalikasan at kapaligiran sa kanilang pagbabalik.	

(99) **Paano ninyo ikukumpara ang inyong kasalukuyang situwasyon sa situwasyon bago ang unang pangingibang-bansa ng miyembro?** *(Ipakita ang Showcard)* ☐

1 Lumala 3 Walang pagbabago 5 Bumuti
2 Bahagyang lumala 4 Bahagyang bumuti

(100) **Sa inyong opinyon, ano ang pinakamalaking pagbabago sa inyong pamumuhay mula nang nagkaroon kayo ng miyembrong nasa ibang ibang bansa?**

_____
_____
_____

(101) **Kung bibigyan ng pagkakataon, nanaisin ninyo pa rin bang mangibang-bansa ang inyong miyembro?** ☐

1 Oo 2 Hindi

Bakit mo nasabi iyon? _____
_____

(102) **Sa kabuuan, ano sa palagay mo ang epekto ng pag-alis ng mga Filipino sa pamumuhay ng mga taong narito sa Pilipinas?** *(Ipakita ang Showcard)* ☐

1 Lumala 3 Walang pagbabago 5 Bumuti
2 Bahagyang lumala 4 Bahagyang bumuti

Bakit mo nasabi iyon? _____
_____

(103) **Ano sa palagay mo ang maaring gawin ng gobyerno para masiguro na magkakaroon ng mabuting epekto ang pangingibang-bansa sa pamumuhay ng mga Filipino?**

_____
_____

ITANONG ANG(104) KUNG ANG RETURN MIGRANT ANG NAKAPANAYAM (KUNG OO SA (3))

(104) **Sa kabuuan, masasabi mo bang ikaw ay nasiyahan sa pagtira o pagtatrabaho sa ibang bansa?** *(Ipakita ang Showcard)* ☐

1 Lubos na di nasiyahan 4 Nasiyahan
2 Hindi nasiyahan 5 Lubos na nasiyahan
3 Walang epekto

Bakit mo nasabi iyon? _____
_____
_____

I. CONTACT DETAILS NG ABSENT NA MIGRANT/ NAGBALIK NA MIGRANT *(Kung ang nagbalik na migrant ay inaasahang aalis muli sa susunod na 6 na buwan)*

	1	2	3	4
Pangalan ng migrant				
E-mail address				
Telephone no. sa ibang bansa				
Home address sa ibang bansa				

J. CONTACT DETAILS NG ASOSASYON SA IBANG BANSA *(Kung ang migrant ay miyembro ng asosasyon sa ibang bansa, i.e., Kung Oo sa (51)*

Pangalan ng asosasyon				
Pangalan ng contact person				
E-mail address				
Telephone no.				

Annex L. Rider Questionnaire on International Migration (Version 2)

Lalawigan: BATAAN Barangay: VILLA ANGELES Tagapanayam: _____ HH ID: _____
Lungsod/Bayan: ORION Petsa ng Panayam: _____ Nakapanayam: _____

A. NAGBALIK NA "MIGRANT" (ITANONG SA LAHAT NG SAMBAHAYAN) (L-N-A)

		1	2	3
(1)	Mayroon bang miyembro ang inyong sambahayan na naghanapbuhay o nanirahan sa ibang bansa na nagbalik na? *1 Oo 2 Hindi (Pumunta sa seksyon B)*			
(2)	Sino-sino ang nagbalik na miyembro? *(Isulat ang pangalan)*			
(3)	Si ___ ba ang nakapanayam? *1 Oo 2 Hindi*			
(4)	Kailan unang nangibang-bansa si ___? *(Buwan at Taon)*			
(5)	Ilang beses nangibang-bansa si ___?			
(6)	Kung >1 sa (5) Kailan huling nangibang-bansa si ___? *(Buwan at Taon)*			
(7)	Sa kabuuan, gaano katagal namalagi si ___ sa ibang bansa? *(Bilang ng taon at buwan)*			
(8)	Kailan huling nagbalik sa Pilipinas si ___? *(Buwan at Taon)*			
(9)	Saang lungsod at bansa nanirahan o naghanapbuhay si ___?			
(10)	Ano ang pangunahing hanapbuhay ni ___ sa ibang bansa?			
(11)	Saang industriya naghanap-buhay si ___ bago nagbalik?			
(12)	Ano ang pangunahing dahilan ng pagbalik ni ___? *(Tingnan ang kodigo sa ibaba)*			
(13)	Natuto ba si ___ ng bagong kasanayan o kaalaman na naging kapakipakinabang sa kanyang pagbabalik? *1 Oo 2 Hindi*			
(14)	Kung "Oo" sa (13) Anu-anong bagong kasanayan o kaalaman? *(Tingnan ang kodigo sa ibaba)*			
(15)	Si ___ ba ay nagtayo ng negosyo nang siya ay nagbalik? *1 Oo 2 Hindi*			
(16)	Kung "Oo" sa (15) (16.a) Anong uri ng negosyo?			
	(16.b) Saan ang lokasyon ng negosyo? *(Brgy/Mun/Lalawigan)*			
(17)	Nais ba ni ___ na muling mangibang-bansa? *1 Oo 2 Hindi*			
(18)	Kung "Oo" sa (17) Kailan inaasahang muling mangibang-bansa si ___? *(Buwan at Taon)*			

B. ABSENT NA "MIGRANT" (ITANONG SA SAMBAHAYANG MAY MIYEMBRONG NASA IBANG BANSA O MAY SAGOT NA "1" SA TANONG (20) NG CBMS HPQ. KUNG WALA, MAGTUNGO SA SEKSYON C.) (A)

		1	2	3
(19)	Sino-sino ang miyembro na kasalukuyang nasa ibang bansa? *(Tingnan ang Tanong (20) ng CBMS HPQ; Isulat ang pangalan)*			
(20)	Saang lungsod at bansa naninirahan o naghahanapbuhay si ___?			
(21)	Ano ang pangunahing hanapbuhay ni ___ sa ibang bansa? *(Tingnan ang Tanong (25) ng CBMS HPQ)*			
(22)	Saang industriya naghahanapbuhay si ___? *Tingnan ang Tanong (26) ng CBMS HPQ)*			
(23)	Kailan unang nangibang-bansa si ___? *(Buwan at Taon)*			
(24)	Ilang beses nangibang-bansa si ___?			
(25)	Kung >1 sa (24) Kailan huling nangibang-bansa si ___? *(Buwan at Taon)*			
(26)	Sa kabuuan, gaano katagal namalagi si ___ sa ibang bansa? *(Bilang ng taon at buwan)*			
(27)	Ano ang pangunahing gawain o pinagkakaabalahan ni ___ bago ang unang pangingibang-bansa? *(Tingnan ang kodigo)*			
(28)	Kung kodigo "2" o "3" sa (27) (28.a) Ano ang pangunahing hanapbuhay ni ___ bago nagtungo sa ibang bansa?			
	(28.b) Saang industriya naghahanapbuhay si ___ bago nangibang- bansa?			
	(28.c) Magkano ang buwanang kita o sahod ni ___ bago nangibang- bansa? *(sa piso)*			
(29)	Magkano ang buwanang kita o sahod ni ___ sa ibang bansa? *(sa piso)*			
(30)	Gaano kadalas karaniwang nakikipag-usap si ___sa sino mang miyembro ng sambahayan? *(Tingnan ang kodigo sa ibaba)*			
(31)	Kailan ang inaasahang pagbabalik ni ___ sa Pilipinas? *(Buwan at Taon)*			

(12) Dahilan ng pagbalik
1 May sapat nang kinita at naipon
2 Nagtapos na ang kontrata
3 Natapos na ang kurso sa ibang bansa
4 Nagbitiw sa trabaho
5 Ang taong kasamang nanirahan sa ibang bansa ay nagbalik din
6 Boluntaryong umuwi dahil hindi legal ang paninirahan sa ibang bansa
7 Na-deport
8 Upang mag-retiro
9 Para makasama ang pamilya sa Pilipinas
10 Upang magsimula ng bagong trabaho o magtayo ng bagong negosyo
11 Nahikayat bumalik dahilan sa mga programa ng gobyerno
12 Para magbakasyon
13 Iba pa, itala.

(14) Bagong kasanayan o kaalamang natutunan
1 Linguwahe
2 Professional na kasanayan (e.g., konstruksyon)
3 Kasanayan sa buhay (e.g., pagmamaneho, pagluluto ng mga bagong putahe)
4 Isyung panlipunan (e.g., importansya ng pangangalaga ng kalikasan/kapaligiran)
5 Iba pa, itala

(27) Pangunahing gawain
1 Nag-aaral
2 Nagtatrabaho nang may bayad
3 Nagpapatakbo ng negosyo
4 Walang hanapbuhay at naghahanap ng trabaho
5 Walang hanapbuhay at hindi naghahanap ng trabaho
6 Nagtatrabaho nang walang bayad (sa bahay o kung saan man)
7 Retirado
8 Iba pa, itala

(30) Dalas ng pag-uusap
1 Araw-araw
2 Linggu-linggo
3 Isang beses kada dalawang linggo
4 Isang beses sa isang buwan
5 Isang beses sa 6 na buwan
6 Isang beses sa isang taon
7 Kung may espesyal na okasyon o "emergency"
8 Iba pa,itala

Isulat ang pangalan ng *ABSENT* na "migrant"		1	2	3
(32)	Si ___ ba ay puno ng sambahayan bago unang nangibang-bansa? *1 Oo 2 Hindi*			
(33)	Kung may asawa ("2"), hiwalay sa asawa ("4") o live-in ("5") base sa sagot sa Tanong (17) ng CBMS HPQ			
	(33.a) Sino ang asawa/partner ni ____? *(Isulat ang pangalan)*			
	(33.b) Saan nakatira ang asawa/partner ba ni _____? *1 Sa sambahayang ito; 2 Sa ibang sambahayan sa Pilipinas; 3 Sa ibang bansa- kasama ng asawa; 4 Sa ibang bansa – hindi kasama ng asawa*			
(34)	May mga anak ba si ___? *1 Oo 2 Hindi*			
(35)	Kung "Oo" sa (34)			
	(35.a) Sinu-sino ang anak ni ___? *(Isulat ang pangalan)*			
	(35.b) Saan nakatira ang mga anak ni ___? *1 Sa sambahayang ito; 2 Sa ibang sambahayan sa Pilipinas; 3 Kasama ng miyembrong nasa ibang bansa; 4 Sa iba pang lugar, itala*			
(36)	Kung single ("1"), balo ("3") o hiwalay sa asawa ("4") base sa sagot sa Tanong (17) ng CBMS HPQ			
	Dati bang may asawa/long-term partner si ____ bago nagtungo sa ibang bansa? *1 Oo 2 Hindi*			
(37)	Ayon sa iyong nalalaman, paano mo ikukumpara ang kasalukuyang antas ng pamumuhay ni ____ sa dati niyang pamumuhay sa Pilipinas? *(Tingnan ang kodigo sa ibaba; Ipakita ang Showcard)*			

C. MIGRATION NETWORKS *(ITANONG SA SAMBAHAYANG MAY NAGBALIK O ABSENT NA MIGRANT)* **(N-A)**

Isulat ang pangalan ng lahat ng *NAGBALIK* at *ABSENT* na "migrant"		1	2	3	4
(38)	May kakila ba si ___ na nasa ibang bansa bago unang umalis ng bansa? *1 Oo 2 Hindi*				
(39)	Saan nakakuha ng impormasyon si ___ tungkol sa mga oportuninad sa pinuntahang bansa? *(Tingnan ang kodigo)*				
(40)	Paano ginastusan ang unang pangingibang-bansa? *(Tingnan ang kodigo)*				
(41)	Magkano ang tantiyang nagastos sa unang pangingibang-bansa? *(sa Piso)*				
(42)	Mayroon bang kamag-anak o kaibigan na nakasama si ____ sa unang pagbiyahe sa ibang bansa? *1 Oo 2 Hindi*				
(43)	Saang tirahan unang tumuloy si ___ sa unang pangingibang bansa? *(Tingnan ang kodigo sa ibaba)*				
(44)	Bago ang unang pagtungo sa ibang bansa, mayroon na bang hanapbuhay doon na naihanda para sa kanya? *1 Oo 2 Hindi*				
(45)	Kung "Hindi" sa (44)				
	Gaano katagal naghintay si ___ bago nakahanap ng hanapbuhay? *(Bilang ng buwan)*				
(46)	Habang nasa ibang bansa si ___ miyembro ba sya ng asosasyon ng mga Filipino? *1 Oo 2 Hindi*				

(47) Mayroon pa bang ibang miyembro ng sambahayan na nais o balak mangibang-bansa? *1 Oo 2 Hindi* ☐

(48) Kung "Oo" sa (47)

(48.a) Sino ang miyembrong nais mangibang-bansa? _____

(48.b) Saang lungsod at bansa nais magtungo ng miyembro? _____

(37) Opinyon sa antas ng pamumuhay ng migrant
1 Lumala
2 Bahagyang lumala
3 Walang pagbabago
4 Bahagyang bumuti
5 Bumuti

(39) Pinagmulan ng impormasyon
1 Agensiya ng gobyerno
2 Pribadong "employment agency"
3 Kamag-anak/Kaibigan
4 Online advertisements ng employer
5 Print advertisements ng employer
6 Gobyerno ng bansang pinuntahan
7 Iba pa,itala

(40) Panggastos sa unang pag-alis
1 Sariling ipon
2 Nangutang sa kamag-anak o kaibigan
3 Nangutang sa bangko
4 Nagsanlang ari-arian
5 Employer
6 Iba pa, itala

(43) Unang paninirahan sa ibang bansa
1 Tirahan na bigay ng kumpanya
2 Bahay ng Employer
3 Bahay kamag-anak
4 Bahay ng kaibigan
5 Apartment/kuwarto (sariling gastos)
6 Iba pa,itala

D. REMITTANCES

D1. REMITTANCES MULA SA MIYEMBRONG MIGRANT *(ITANONG SA SAMBAHAYANG MAY NAGBALIK O ABSENT NA MIGRANT)* (N-A)

	Isulat ang pangalan ng lahat ng *NAGBALIK (kung umuwi sa nakalipas na 12 buwan)* at *ABSENT* na "migrant"	1	2	3	4
(49)	Si ___ ba ay nagpadala ng "remittance" sa nakalipas na 12 buwan? *1 Oo 2 Hindi*				
(50)	Itanong ang (50) – (59) kung "Oo" sa (49)				
	Para kanino ang ipinadalang "remittance" ni ___? *1 Para sa isa o ilang miyembro lamang (Isulat ang pangalan) 2 Para sa buong sambahayan*				
(51)	Sino ang madalas na tumatanggap o kumukuha ng "remittance"?				
(52)	Ano ang pangunahing paraan ng pagpapadala ng "remittance" ang ginamit ni ___?*(Tingnan ang kodigo)*				
(53)	Gaano kadalas ang pagpapadala ni ___ng "remittance"? *(Tingnan ang kodigo sa ibaba)*				
(54)	Magkano ang kabuuang "remittance" na ipinadala ni ___ sa nakalipas na 12 buwan? *(Sa piso)*				
	KABUUANG "REMITTANCE" MULA SA LAHAT NG MIYEMBRONG MIGRANT	P _____			

(55) Saan-saan ginastos ng sambahayan ang "remittance" na natanggap mula miyembrong nasa ibang bansa sa nakalipas na 12 buwan? *(Bilugan ang angkop na kategorya).*

Magkano ang ginastos sa mga sumusunod? *(Sa piso; Itala ang 0 sa kategoryang hindi pinaglaanan ng "remittance")*

a. Pagkain		g. Appliances/ kasangkapan	
b. Utilities (e.g., kuryente, tubig, etc.)		h. Negosyo	
c. Edukasyon		i. Pambayad ng utang kaugnay ng pag-alis ng miyembrong migrant	
d. Kalusugan		j. Pambayad sa iba pang utang	
e. Ari-arian (e.g., lupa, bahay)		i. Ipon	
f. Sasakyan		j. Iba pa, itala _____	

(56)	Si __ ba ay nagpadala ng pera o anumang bagay para sa institusyon o proyekto sa inyong komunidad? *1 Oo 2 Hindi*				
(57)	Kung "Oo" sa (56)				
	Aling institustyon? *(Tingnan ang kodigo sa ibaba)*				

	Isulat ang pangalan ng lahat ng NAGBALIK *(kung umuwi sa nakalipas na 12 buwan)* at ABSENT na "migrant"	1	2	3	4
(58)	Sa nakalipas na 12 buwan, mayroon bang miyembro ang inyong sambayahan na nagpadala ng pera o bagay kay ___ habang siya ay nasa ibang bansa? *1 Oo 2 Hindi*				
(59)	Kung "Oo" sa (59)				
	(59.a) Magkano ang halaga ng pera at bagay na ipinadala kay ____? *(Sa piso)*				
	(59.b) Ano ang pangunahing paraan ng pagpapadala ng "remittance" ang ginamit para kay___?*(Tingnan ang kodigo)*				

D2. IBA PANG REMITTANCES *(ITANONG SA LAHAT NG SAMBAHAYAN)*(L-N-A)

(60) Sa nakalipas na 12 buwan, nakatanggap ba ang sambahayan ng pera o anumang bagay mula sa iba pang kamag-anak o kaibigang nasa ibang bansa? *1 Oo 2 Hindi* ☐

Itanong ang (61) – (69) kung "Oo" sa (60)

		1	2	3	4
(61)	Sinu-sino ang nagbigay ng pera o anumang bagay? *(Isulat ang pangalan)*				
(62)	Ano ang relasyon ni ___ sa puno ng sambahayan? *(Tingnan ang kodigo sa ibaba)*				
(63)	Saang lungsod at bansa naninirahan o naghahanapbuhay si ____?				
(64)	Para kanino ang ipinadalang "remittance" ni ___? *1 Para sa isa o ilang miyembro lamang (Isulat ang pangalan) 2 Para sa buong sambahayan*				
(65)	Sino ang madalas na tumatanggap o kumukuha ng "remittance"?				
(66)	Ano ang pangunahing paraan ng pagpapadala ng "remittance" ang ginamit ni ___?*(Tingnan ang kodigo)*				
(67)	Gaano kadalas ang pagpapadala ni ___ng "remittance"? *(Tingnan ang kodigo sa ibaba)*				
(68)	Magkano ang kabuuang "remittance" na ipinadala ni ___ sa nakalipas na 12 buwan? *(Sa piso)*				
	KABUUANG "REMITTANCE" MULA SA IBA PANG KAMAG-ANAK O KAIBIGAN NA NASA IBANG BANSA	P _____			

(52), (59.b) & (66) Paraan ng pagpapadala ng "remittance"
1 Money transfer agencies (e.g., western union)
2 Bangko
3 Koreo
4 Pinakidala sa kaibigan o kamag-anak
5 Dinala sa kanyang pag-uwi
6 Iba pa, itala

(53) & (67) Dalas ng pagpapadala ng "remittance"
1 Linggu-lingo
2 Buwan-buwan
3 Dalawang beses sa isang buwan
4 Isang beses sa 6 na buwan
5 Isang beses sa isang taon
6 Kung may espesyal na okasyon lang o emergency
7 Iba pa, itala

(57) Institusyong tumanggap
1 Paaralan
2 Pasilidad na pangkalusugan (e.g. ospital, klinik)
3 Religious organization
4 Civic organization
5 Iba pa, itala

(62) Relasyon sa puno ng sambahayan
1 Asawa
2 Anak
3 Manugang
4 Apo
5 Magulang
6 Iba pang kamag-anak, itala
7 Kaibigan
8 Iba pa, itala

(69) **Saan-saan ginastos ng sambahayan ang "remittance" na natanggap mula sa iba pang kamag-anak o kaibigan sa ibang bansa sa nakalipas na 12 buwan?** *(Bilugan ang angkop na kategorya).*

Magkano ang ginastos sa mga sumusunod? *(Sa piso; Itala ang 0 sa kategoryang hindi pinaglaanan ng "remittance")*

a. Pagkain		g. Appliances/ kasangkapan	
b. Utilities (e.g., kuryente, tubig, etc.)		h. Negosyo	
c. Edukasyon		i. Pambayad ng utang kaugnay ng pag-alis ng miyembrong migrant	
d. Kalusugan		j. Pambayad sa iba pang utang	
e. Ari-arian (e.g., lupa, bahay)		i. Ipon	
f. Sasakyan		j. Iba pa, itala _____ _____	

E. KALAGAYAN NG TIRAHAN *(ITANONG SA SAMBAHAYANG MAY NAGBALIK O ABSENT NA MIGRANT)* **(N-A)**

(70) **Bago ang unang pangingibang-bansa ng miyembro, ano ang katayuan ng inyong sambahayan sa pamamalagi sa inyong tinitirhan?** *(Tingnan ang kodigo sa ibaba)*

(71) **Bago ang unang pangingibang-bansa ng miyembro, ilang silid-tulugan mayroon ang inyong sambahayan?**

(72) **Sa kasalukuyan, ilang silid-tulugan mayroon ang inyong sambahayan?**

(73) **Bago ang unang pangingibang-bansa ng miyembro, sa anong uri ng materyales gawa ang bubong ng inyong bahay?** *(Tingnan ang kodigo sa ibaba)*

(74) **Bago ang unang pangingibang-bansa ng miyembro, sa anong uri ng materyales gawa ang dingding ng inyong bahay?** *(Tingnan ang kodigo sa ibaba)*

(75) **Bago ang unang pangingibang-bansa ng miyembro, sa anong uri ng materyales gawa ang sahig ng inyong bahay?** *(Tingnan ang kodigo sa ibaba)*

(76) **Sa kasalukuyan, sa anong uri ng materyales gawa ang sahig ng bahay?** *(Tingnan ang kodigo sa ibaba)*

(77) **Bago unang pangingibang-bansa ng miyembro, mayroon ba ang inyong sambahayan ng mga sumusunod?** *1 Oo 2 Hindi*

a. Kuryente		c. Tubig mula sa gripo sa loob ng bahay o bakuran	
b. Internet connection		d. Water-sealed flush to sewerage system/septic tank (sarili o kasalo ang ibang sambahayan)	

F. INVESTMENTS *(ITANONG SA SAMBAHAYANG MAY NAGBALIK O ABSENT NA MIGRANT)* **(N-A)**

(78) **Mayroon bang miyembro ang sambahayan na nagtayo o nagsustento ng negosyo habang miyembrong "migrant" ay nasa ibang bansa gamit ang "remittance" na natanggap o kaalamang natutunan sa ibang bansa?** *(Tingnan ang sagot sa (55) at (69))* *1 Oo 2 Hindi*

Kung "Oo" sa (78)

(79) Anong uri ng negosyo ang itinayo?	(80) Patuloy pa ba ang operasyon ng negosyo? *1 Oo 2 Hindi*	Kung "Oo" sa (80) (81) Ilan ang kasalukuyang empleyado o manggagwa ng negosyo?
1.		
2.		

(82) **Nakabili ba ng anumang malaking gamit o bagay ang inyong sambahayan mula nang nangibang-bansa ang inyong miyembro?** *1 Oo 2 Hindi*

Kung "Oo" sa (82)

(83) **Anu-anong mga gamit o bagay ang nabili?** *1 Oo 2 Hindi*

1 Appliances/Kasangkapan		4 Lupa	
2 Bahay/Pagpapaayos ng bahay		5 Holidays/ Bakasyon	
3 Sasakyan		6 Iba pa, itala _____	

(84) **Mayroon bang miyembro ang sambahayan na nakabalik sa pag-aaral dahil sa "remittance" na natatanggap ng inyong sambahayan?** *1 Oo 2 Hindi*

Kung "Oo" sa (84) (85) Sino ang nagbalik sa pag-aaral?

G. MGA PROGRAMA *(ITANONG SA SAMBAHAYANG MAY NAGBALIK O ABSENT NA MIGRANT)* **(N-A)**

(86) **Mayroon bang miyembro ang inyong sambahayan na nakatanggap ng mga sumusonod na serbisyo na layong tulungan ang OFWs at kanilang pamilya?** *1 Oo 2 Hindi*

1. Scholarship para sa OFW dependents
2. Loan assistance
3. Scholarship at incentives para sa OFWs/ Seafarers
4. Training on financial literacy
5. Business counseling/Livelihood assistance
6. Health assistance
7. Iba pa,itala _____

(70) Katayuan sa pamamalagi sa tirahan
1 Pag-aari ang bahay at lupa
2 Inuupahan ang bahay/kwarto at lupa
3 Pag-aari ang bahay ngunit inuupahan ang lupa
4 Pag-aari ang bahay,libreng upa sa lupa at may pahintulot ng may-ari
5 Pag-aari ang bahay, walang upa sa lupa ay walang pahintulot ng may-ari
6 Libreng paninirahan sa bahay at lupa na may pahintulot ng may-ari
7 Walang upa sa bahay at lupa at walang pahintulot ng may-ari
8 Naninirahan sa pampublikong lugar na mayroong upa
9 Naninirahan sa pampublikong lugar na walang upa
10 Iba pa, itala

(73) & (74) Materyales ng bubong at dingding
1 Strong materials (*for roof*: galvanized iron, aluminum, tile, concrete, brick, stone, asbestos; *for walls*: aluminum, tile, concrete, brick, stone, wood, plywood, asbestos)
2 Light materials (*for roof*: cogon, nipa, anahaw; *for walls:* bamboo, sawali,cogon, nipa,anahaw)
3 Salvaged/makeshift materials
4 Mixed but predominantly strong materials
5 Mixed but predominantly light materials
6 Mixed but predominantly salvaged materials
7 Not applicable

(75) & (76) Materyales ng sahig
1 Wall to wall carpet, marble, polished wood
2 Floor tile (clay, vinyl), brick or paving tile
3 Cement
4 Raw wood. boards
5 Dirt
6 Iba pa, itala

H. OPINYON

H1. OPINYON NG LAHAT NG SAMBAHAYAN *(ITANONG SA LAHAT NG SAMBAHAYAN)* **(L-N-A)**

(87) **Sabihin ang antas ng pag-sang-ayon o di pag-sang-ayon sa mga sumusunod na pangungusap:** *(Ipakita ang Showcard)*

1 Lubos na sumasang-ayon 4 Bahagyang di sumasang-ayon
2 Bahagyang sumasang-ayon 5 Lubos na di sumasang-ayon
3 Neutral 99 Hindi alam

a. Sa aking palagay, ang Pilipinas ay isang mabuting lugar para manirahan.	
b. Kung bibigyan ng pagkakataon, ako ay maninirahan sa ibang bansa.	
c. Ako ay nasisiyahan sa paraan ng pagpapatakbo sa Pilipinas.	
d. Ang mga Filipinong nanirahan sa ibang bansa at nagbalik sa Pilipinas ay mas nagpapahalaga sa pagkakapantay-pantay ng mga kababaihan at kalalakihan at gayundin ng lahat ng etnikong grupo.	
e. Ang mga importanteng pampublikong serbisyo (e.g., ospital, paaralan,etc.) ay nagkakaroon ng mababang kalidad dahil ang mga guro, nurse at doktor ay umaalis ng Pilipinas.	
f. Ang mga Filipinong naninirahan sa ibang bansa ay nagbibigay ng importanteng suporta sa komunidad (e.g., pagbibigay ng suporta sa mga paaralan at organisasyon)	
g. Ang mga Filipino ay nahihikayat na mangibang-bansa dahil nakikita nila ang ibang taong nangingibang-bansa.	
h. Dahil naniniwala ang mga tao na ang mga may pinag-aralan at kasanayan (skills) ang nakakapangibang-bansa, sila ay nahihikayat na mag-aral o magsanay.	
i. Ang mga Filipinong nagbalik mula sa ibang bansa ay nakakatulong sa Pilipinas sa pamamagitan ng pakikibahagi sa politika at sa mga isyung panlipunan.	
j. Ang mga Filipinong nasa ibang bansa ay mas nagpapadala ng "remittance" para sa pangagailangan ng pamilya kaysa sa pangagailangan ng komunidad.	
k. Ang pangingibang-bansa ng nanay/tatay o pareho ay may masamang epekto sa kapakanan ng mga anak.	
l. Kung ang asawang babae o lalaki ay mag-isang nangibang-bansa, ang relasyon ng pamilya ay madaling nasisira na nagdudulot ng mas maraming bilang ng hiwalayan sa mga mag-asawa.	
m. Ang mga Filipinong nanirahan sa ibang bansa ay mas nagpapahalaga sa kalikasan at kapaligiran sa kanilang pagbabalik.	

(88) **Sa kabuuan, ano sa palagay ninyo ang epekto ng pag-alis ng mga Filipino sa pamumuhay ng mga taong narito sa inyong komunidad?** *(Ipakita ang Showcard)* ☐

1 Lumala 3 Walang pagbabago 5 Bumuti
2 Bahagyang lumala 4 Bahagyang bumuti

Bakit ninyo nasabi iyon? _____

(89) **Ano sa palagay ninyo ang maaring gawin ng gobyerno (i.e., sa pamamagitan ng mga programa o serbisyo) para masiguro na magkakaroon ng mabuting epekto ang pangingibang-bansa sa pamumuhay ng mga taong narito sa inyong komunidad?**

_____

_____

_____

H2. OPINYON NG SAMBAHAYANG MAY NAGBALIK O ABSENT NA MIGRANT *(ITANONG SA SAMBAHAYANG MAY NAGBALIK O ABSENT NA MIGRANT)* **(N-A)**

(90) **Paano ninyo ikukumpara ang inyong kasalukuyang situwasyon sa situwasyon bago ang unang pangingibang-bansa ng miyembro?** *(Ipakita ang Showcard)* ☐

1 Lumala 3 Walang pagbabago 5 Bumuti
2 Bahagyang lumala 4 Bahagyang bumuti

(91) **Sa inyong opinyon, ano ang pinakamalaking pagbabago sa inyong pamumuhay mula nang nagkaroon kayo ng miyembrong nasa ibang ibang bansa?**

_____

_____

_____

(92) **Kung babalikan ang panahon, nanaisin ninyo pa rin bang mangibang-bansa ang inyong miyembro?** ☐

1 Oo 2 Hindi

Bakit ninyo nasabi iyon? _____

_____

_____

(93) **Itanong and (93) kung ang *nagbalik* na migrant ang nakapanayam (i.e., kung "Oo" sa Tanong (3))**

Sa kabuuan, masasabi mo bang ikaw ay nasiyahan sa pagtira o pagtatrabaho sa ibang bansa? *(Ipakita ang Showcard)* ☐

1 Lubos na di nasiyahan 4 Nasiyahan
2 Hindi nasiyahan 5 Lubos na nasiyahan
3 Walang epekto

Bakit ninyo nasabi iyon? _____

_____

_____

H3. OPINYON NG SAMBAHAYANG MAY ABSENT NA MIGRANT *(ITANONG SA SAMBAHAYANG MAY ABSENT NA MIGRANT)* **(A)**

(94) **Piliin muna ("randomly") kung Grupo A o Grupo B ang dapat itanong sa sambahayan**

GRUPO A: Ilan sa mga sumusunod na pangungusap ang masasabi mong totoo? *(Ipakita ang Showcard)* ☐

1. Mayroong miyembro ang sambahayan na planong magtayo ng bagong negosyo sa susunod na limang (5) taon.
2. Ang sitwasyong ng pamumuhay ng aming sambahayan ay lubhang bumuti sa nakalipas na limang (5) taon.
3. Ang corruption sa ating bansa ay hindi na gaanong problema kumpara noong nakalipas na sampung (10) taon.
4. Ang aming sambahayan ay may miyembrong naninirahan sa ibang bansa nang walang "legal residence permit".

GRUPO B: Ilan sa mga sumusunod na pangungusap ang masasabi mong totoo? *(Ipakita ang Showcard)* ☐

1. Mayroong miyembro ang sambahayan na planong magtayo ng bagong negosyo sa susunod na limang (5) taon.
2. Ang sitwasyong ng pamumuhay ng aming sambahayan ay lubhang bumuti sa nakalipas na limang (5) taon.
3. Ang corruption sa ating bansa ay hindi na gaanong problema kumpara noong nakalipas na sampung (10) taon.

Annex M. Rider Questionnaire on International Migration Version 2 (English)

Province: _____ Barangay: _____ Enumerator: _____ HH ID: _____
Mun/City: _____ Interview Date: _____ Respondent: _____

A. RETURN MIGRANTS *(ASK THIS SECTION TO ALL HOUSEHOLDS)*

		1	2	3
(1)	Are there any member of the household who ***previously*** worked/lived abroad? *1 Yes 2 No (Skip tp Section B)*			
(2)	Who are these return migrants? *(Write names)*			
(3)	Is __ the actual respondent of this interview? *1 Yes 2 No*			
(4)	When did __ first leave for abroad __? *(Month and Year)*			
(5)	How many times did ___ leave for abroad?			
(6)	If >1 in (5)			
	When did ___ last leave for abroad? *(Month and Year)*			
(7)	How long has ___ stayed abroad in total? *(in years and months)*			
(8)	When did ___ last return to the Philippines ? *(Month and Year)*			
(9)	In which city and country did __ work/ live?			
(10)	What was ___'s primary job abroad?			
(11)	In what type of industry did __ work before returning from abroad?			
(12)	What was the main reason for returning from abroad? *(See codes below)*			
(13)	Did ___ learn new skills/ideas abroad that have been helpful now that he/she has returned? *1 Yes 2 No*			
(14)	If "Yes" in (13)			
	What are those new skills or ideas? *(See codes below)*			
(15)	Did ___ start a business when he/she returned from abroad? *1 Yes 2 No*			
(16)	If "Yes" in (15)			
	(16.a) What type of business did ___ establish?			
	(16.b) Where is the business located?*(Brgy/Mun/Province)*			
(17)	Does ___ intend to go abroad again? *1 Yes 2 No*			
(18)	If "Yes" in (17)			
	When does ___ expect to leave for abroad again? *(Month & Year)*			

B. ABSENT MIGRANTS *(ASK THIS SECTION TO HOUSEHOLDS WITH A MIGRANT MEMBER OR IF THERE IS CODE "1" IN ANSWERS TO QUESTION (13) OF THE CBMS HPQ. IF NONE, SKIP TO SECTION C.)*

		1	2	3
(19)	Who are these absent migrants? *(Refer to Question (13) of CBMS HPQ; Write names)*			
(20)	In which city and country does____ work/live?			
(21)	What is ___'s primary job abroad? *(Refer to Question (32) of CBMS HPQ)*			
(22)	In what type of industry does __ work abroad? *(Refer to Question (33) of CBMS HPQ)*			
(23)	When did __ (first) leave for abroad? *(Month and Year)*			
(24)	How many times did __ leave for abroad?			
(25)	If >1 in (24)			
	When did ___ last leave for abroad? *(Month and Year)*			
(26)	How long has ___ stayed abroad in total? *(in Years and months)*			
(27)	What was ___'s main activity prior to (first) migration? *(See codes below)*			
(28)	If Code 2 or 3 in (27)			
	(28.a) What was ___ 's main occupation before leaving for abroad?			
	(28.b) In what type of industry did __ work before leaving for abroad?			
	(28.c) How much is ___'s monthly salary/wage before leaving for abroad? *(in Pesos)*			
(29)	How much is ___'s monthly salary/wage abroad? *(in Pesos)*			
(30)	How often does ___ usually communicate with any member of this household? *(See codes below)*			
(31)	When do you expect ___ to return home? *(Month and Year)*			

(12) Reasons for returning from abroad
1 Has earned and saved enough money
2 End of his/her contract
3 Has finished the course he/she took abroad
4 Has resigned from his/her job
5 The person he/she went to live in abroad also came home
6 Came home voluntarily because he/she was not legally allowed to stay in the country
7 Has been deported
8 To retire
9 To with his/her family in the Philippines
10 To start a new job or to set up a new business
11 Encouraged to return by government programs
12 To have a vacation
13 Others, specify

(14) Skills or ideas learnt
1 New language
2 Professional skills e.g., construction, social care)
3 Life skills (e.g., driving or cooking new dishes)
4 New social issues (e.g., importance of protecting the environment)
5 Others, specify

(27) Main activity
1 Studying/attending school
2 Working in a paid job
3 Running a business
4 Unemployed and looking for a job
5 Unemployed and not looking for a paid job
6 Doing unpaid work (at home or elsewhere)
7 Retired from work
8 Others, specify

(30) Frequency of communicating
1 Everyday
2 Every week
3 Once every two weeks
4 Once a month
5 Once every six months
6 Once a year
7 Only during special occasions/emergencies
8 Others, specify

	LIST THE NAMES OF ALL ABSENT MIGRANTS	1	2	3
(32)	Is ___ the head of this household before he/she first left for abroad? *1 Yes 2 No*			
(33)	If married ("2"), separated ("4") or live-in ("5") based on answers in Question (17) of CBMS HPQ			
	(33.a) Who is ____'s spouse/partner? *(Write the name)*			
	(33.b) Where does ___'s spouse/partner live? *1 In this household 2 In another household in the Philippines 3 Abroad- together with spouse 4 Abroad - not together with spouse*			
(34)	***Does ___ have a child/children?*** *1 Yes 2 No*			
(35)	If "Yes" in (34)			
	(35.a) Who are ___'s child/children? *(Write names)*			
	(35.b) Where do his/her children live? *1 In this household 2 In another household in the Philippines 3 With another member abroad 4 In other places, specify*			
(36)	If single ("1"), widow/widower ("3") o separated ("4") based on answers in Question (7) of CBMS HPQ			
	Did ___ have a spouse/partner before leaving for abroad? *1 Yes 2 No*			
(37)	In your opinion, how would you compare _____'s current living status abroad to his/her status while living in the Philippines? *(See codes below; Use Showcards)*			

C. MIGRATION NETWORKS *(ASK TO ALL HOUSEHOLDS WITH RETURN AND ABSENT MIGRANTS)*

	Write names of all "return" and "absent" migrants	1	2	3	4
(38)	Did ___ know somebody who is abroad before leaving the country? *1 Yes 2 No*				
(39)	Where did ____ obtain information about opportunities in the destination country? *(See codes below)*				
(40)	How was the initial migration financed? *(See codes below)*				
(41)	How much is the estimated cost involved in the initial migration? *(in Pesos)*				
(42)	Are there relatives/ friends who accompanied ___ during the first time he/she left for abroad? *1 Yes 2 No*				
(43)	Where did ___ first stay abroad during the first migration episode? *(See codes below)*				
(44)	Before ___ went abroad (the last time), did he/she has a job already arranged? *1 Yes 2 No*				
(45)	If "No" in (44)				
	How long did ___ wait before finding a job? *(No. of months)*				
(46)	While living abroad, did ____ belong to an association of Filipinos? *1 Yes 2 No*				

(47) Are there other household members who intend to leave for abroad? *1 Yes 2 No* ☐

(48) If "Yes" in (47)

(48.a) Who are the household members who intend to leave for abroad? *(Write names)* _____ _____ _____

(48.b) Where do they intend to go? *(Write city and country)* _____ _____ _____

(37) Opinion on current living status of migrant
1 Much worse
2 Slightly worse
3 No change
4 Slightly better
5 Much better

(39) Source of Information
1 Government Agency
2 Private employment agency
3 Relatives/Friends
4 Online advertisements by employer
5 Print advertisements by employer
6 Government of the country where he/she moved
7 Others, specify

(40) Financing of initial migration
1 Own savings
2 Borrowed money from friends/relatives
3 Borrowed money from banks
4 Pawned properties
5 Employer
6 Others, specify

(43) First stay abroad
1 Accommodation provided by the company
2 Employer's house
3 Relative's house
4 Friend's house
5 Apartment/room (own expense)
6 Others, specify

D. REMITTANCES

D1. REMITTANCES FROM MIGRANT MEMBERS *(ASK THIS SECTION IF THERE IS AN ABSENT MIGRANT OR A RETURN MIGRANT WHO RETURNED HOME WITHIN THE LAST 12 MONTHS)*

		1	2	3	4
	List the names of absent and return migrants *(if return migrant returned within the last 12 months)*				
(49)	Did ___ send remittances in the last 12 months? *1 Yes 2 No*				
(50)	Ask (50) – (59) if "Yes" in (50)				
	For whom did __ send the remittances? *1 For a specific member (Write their names) 2 For entire household*				
(51)	Who usually receives or claims the remittance?				
(52)	What is the main method used in sending remittances? *(See codes below)*				
(53)	What is the frequency of sending remittances? *(See codes below)*				
(54)	How much is the total amount of remittances __ sent in the last 12 months? *(In Pesos)*				
	TOTAL REMITTANCES FROM ALL MIGRANT MEMBERS	P _____			

(55) How did the household spend the total remittances received from migrant members in the last 12 months? *(Encircle the appropriate category the remittances was spent on)*

How much of the total remittances was spent on the following? *In pesos; Write 0 if none)*

a. Food		g. Appliances/ furniture	
b. Utilities (e.g., electricity, water, etc.)		h. Business	
c. Education		i. Repayment of loan used to finance migration	
d. Health		j. Repayment of other loans	
e. Properties (e.g., land, house)		i. Savings	
f. Vehicle/car		j. Others, specify _____	

(56)	Did ___ send money for institutions/projects in your community? *1 Yes 2 No*				
(57)	If "Yes" in (56)				
	Which institutions did ___ send money to? *(See codes below)*				

		1	2	3	4
	List the names of absent and return migrants *(if return migrant returned within the last 12 months)*				
(58)	During the past 12 months, did any of the household members sent money/goods to ___ while he/she was abroad? *1 Yes 2 No*				
(59)	If "Yes" in (59)				
	(59.a) How much money and goods has the household sent to ___ in the past 12 months? *(In Pesos)*				
	(59.b) What is the main method used in sending remittances? *(See codes below)*				

D2. OTHER REMITTANCES *(ASK THIS SECTION TO ALL HOUSEHOLDS)*

(60)	During the past 12 months, did the household receive remittances (in-cash or in-kind) from other relatives or friends who are abroad? *1 Yes 2 No*	

Ask (62) – (70) if "Yes" in (61)

		1	2	3	4
(61)	Who sent the remittances (in-cash or in-kind)? *(Write names)*				
(62)	How is ___ related to the head of the household? *(See codes below)*				
(63)	In which city and country does____ work/ live?				
(64)	For whom did __ send the remittances? *1 For a specific member (Write their names) 2 For entire household*				
(65)	Who usually receives of claims the remittance?				
(66)	What is the main method used in sending remittances? *(See codes below)*				
(67)	What is the frequency of sending remittances? *(See codes below)*				
(68)	What is the total amount of remittances __ sent in the last 12 months? *(In Pesos)*				
	TOTAL REMITTANCES FROM OTHER RELATIVES OR FRIENDS WHO ARE ABROAD	P _____			

(52), (59.b) & (66) Method for sending remittances
1 Money transfer agencies (e.g., western union)
2 Banks
3 By post
4 Through friend or relative
5 Brought back on a visit
6 Others, specify

(53) & (67) Frequency of sending remittances
1 Weekly
2 Monthly
3 Twice a month
4 Every 6 months
5 Once a year
6 Only on special occasions or emergencies
7 Others, specify

(57) Recipient institutions
1 School
2 Health facility
3 Religious organization
4 Others, specify

(62) Relationship to household head
1 Spouse
2 Son/Daughter
3 Son/Daughter-in-law
4 Grandchildren
5 Parents
6 Other relatives, specify
7 Friends
8 Others, specify

(69) **How did the household spend the total remittances received from other relatives/friends in the last 12 months?** *(Encircle the appropriate category the remittances was spent on)*

How much of the total remittances was spent on the following? *In pesos; Write 0 if none)*

a. Food		g. Appliances/ furniture	
b. Utilities (e.g., electricity, water, etc.)		h. Business	
c. Education		i. Repayment of loan used to finance migration	
d. Health		j. Repayment of other loans	
e. Properties (e.g., land, house)		i. Savings	
f. Vehicle/car		j. Others, specify	

E. HOUSING CONDITIONS *(ASK THIS SECTION IF THERE IS AN ABSENT MIGRANT OR A RETURN MIGRANT)*

(70) **Before the first migration episode of your migrant member, what was the tenure status of the housing unit and lot occupied by your household?** *(See codes below)*

(71) **Before the first migration episode of your migrant member, how many bedrooms did your housing unit have?**

(72) **At present, how many bedrooms does your housing unit have?**

(73) **Before the first migration episode of your migrant member, what type of construction materials was the roof of your house made of?** *(See codes below)*

(74) **Before the first migration episode of your migrant member, what type of construction materials were the walls of your house made of?** *(See codes below)*

(75) **Before the first migration episode of your migrant member, what type of construction materials were the floors of your house made of?** *(See codes below)*

(76) **At present, what type of construction materials are the floors of your house made of?** *(See codes below)*

(77) **Before the first migration episode of your migrant member, did your household have the following?** *1 Yes 2 No*

a. Electricity		c. Piped water into dwelling or piped water to yard/plot	
b. Internet connection		d. Water-sealed flush to sewerage system/septic tank (own use or shared with other households)	

F. INVESTMENTS *(ASK THIS SECTION IF THERE IS AN ABSENT MIGRANT OR A RETURN MIGRANT)*

(78) **Are there any member of your household who established or sustained a business since you had a migrant member using the remittances or knowledge/skills learned from abroad?** *(See answers in (55) at (69))* *1 Yes 2 No*

If "Yes" in (78)

(79) What specific type of business was established?	(80) Is it still in operation? *1 Yes 2 No*	If "Yes" in (80) (81) How many employees does the business have?
1.		
2.		

(82) **Did the household make any large purchases since a member left for abroad?** *1 Yes 2 No*

If "Yes" in (82)

(83) **Which items were purchased?** *1 Yes 2 No*

1 Appliances/Furniture		4 Land	
2 House/Repair of house		5 Holiday	
3 Sasakyan		6 Others, specify	

(84) **Is there any member of the household who returned to schooling because of the remittance sent by the member abroad?** *1 Yes 2 No*

If "Yes" in (84) (85) Who returned to schooling?

G. PROGRAMS *(ASK THIS SECTION IF THERE IS AN ABSENT MIGRANT OR A RETURN MIGRANT)*

(86) **Did any member of the household receive or avail of the services from the following programs targeting overseas Filipinos and their families?** *1 Yes 2 No*

1. Scholarship for OFW dependents
2. Loan assistance
3. Scholarship and incentives for OFWs/ Seafarers
4. Training on financial literacy
5. Business counseling/Livelihood assistance
6. Health assistance
7. Others, specify _____

(70) Tenure status of the housing unit
1 Owner, owner-like possession of house and lot
2 Rent house/room including lot
3 Own house, rent lot
4 Own house, rent-free lot with consent of owner
5 Own house, rent-free lot without consent of owner
6 Rent-free house and lot with consent f owner
7 Rent-free house and lot with consent f owner
8 Living in a public space with rent
9 Living in a public space without rent
10 Other tenure status, specify

(73) & (74) Construction materials for roof and walls
1 Strong materials (*for roof*: galvanized iron, aluminum, tile, concrete, brick, stone, asbestos; *for walls*: aluminum, tile, concrete, brick, stone, wood, plywood, asbestos)
2 Light materials (*for roof*: cogon, nipa, anahaw; *for walls:* bamboo, sawali,cogon, nipa,anahaw)
3 Salvaged/makeshift materials
4 Mixed but predominantly strong materials
5 Mixed but predominantly light materials
6 Mixed but predominantly salvaged materials
7 Not applicable

(75) & (76) Construction materials for floors
1 Wall to wall carpet, marble, polished wood
2 Floor tile (clay, vinyl), brick or paving tile
3 Cement
4 Raw wood, boards
5 Dirt
6 Others, specify

H. OPINION

H1. OPINION OF ALL HOUSEHOLD RESPONDENTS *(ASK TO ALL HOUSEHOLDS)*

(87) **Please say whether you agree or not in the following statements:**
(Use showcards)
1 Strongly agree *4 Somewhat disagree*
2 Somewhat agree *5 Strongly disagree*
3 Neither agree nor disagree *99 Don't know*

a. I think that the Philippines is a good place to live.	
b. If I had the choice I would live in another country.	
c. I am happy with the way the Philippines is run.	
d. Filipinos who lived abroad care more about gender and ethnic equality when they return.	
e. Important public services (e.g., hospitals, schools, etc.) are offering poor services because teachers, nurses and doctors are leaving the Philippines	
f. Filipinos living abroad provide important support to the community (e.g., by giving money to the school or to religious organizations).	
g. Filipinos are encouraged to leave for abroad because they see others migrating as well.	
h. Because people think that more skilled and educated people migrate, they are encouraged to study more.	
i. Filipinos who return from abroad help the country by getting more involved in politics and social issues.	
j. Filipino migrants are sending remittances more for family needs and less for community needs.	
k. When the mother/father or both lived abroad, family relationships are negatively affected and could have negative effects on the welfare of children.	
l. When the wife or the husband left for abroad, family relationships are negatively affected and could lead to more separations among couples.	
m. Filipinos who lived abroad care more about the environment when they return.	

(88) **Overall, how do you think leaving for abroad is affecting the lives of the people here in your community?** ☐
(Use showcards)
1 Much worse *3 No change* *5 Much better*
2 Slightly worse *4 Slightly better*
Why do you say so ?
_____
_____

(89) **What do you think the government can do (i.e., in terms of programs and services) to ensure that international migration will have a positive impact on the lives of the people living here in your community?**
_____
_____
_____

H2. OPINION OF HOUSEHOLDS WITH ABSENT OR RETUN MIGRANT *(ASK TO ALL HOUSEHOLDS WITH ABSENT OR RETURN MIGRANT)*

(90) **Compared to your household's situation prior to your member's first migration, how has your household's condition change?** ☐
(Use showcards)
1 Much worse *3 No change* *5 Much better*
2 Slightly worse *4 Slightly better*

(91) **In your opinion, what is the most important change that your household experienced since you had a migrant member?**
_____
_____
_____

(92) **If given an option, would you prefer your household member(s) not to leave the country and live abroad?** ☐
1 Yes 2 No
Why do you say so? _____
_____
_____

(93) **ASK (93) IF THE RESPONDENT IS A RETURN MIGRANT (i.e., if "Yes" in Q(3))**

Overall, how satisfied are you with your experience in living/working abroad? *(Use showcard)* ☐
1 Very dissatisfied *4 Satisfied*
1 Not satisfied *5 Very satisfied*
2 Neutral
Why do you say so? _____
_____
_____

H3. OPINION OF HOUSEHOLDS WITH AN ABSENT MIGRANT *(ASK TO ALL HOUSEHOLDS WITH AT LEAST ONE ABSENT MIGRANT)*

(94) **Randomly assign if Group A or Group B questions should be asked to the household respondent**

GROUP A: How many of the following statements do you regard as true? *(Use Showcard)* ☐

1. At least one member of my household plans on opening a new business in the next five (5) years.
2. The economic situation of my household has improved considerably over the past five (5) years.
3. Corruption in my country is a less serious problem than ten (10) years ago.
4. This household has a member currently residing abroad without a legal residence permit.

GROUP B: How many of the following statements do you regard as true? *(Use Showcard)* ☐

1. At least one member of my household plans on opening a new business in the next five (5) years.
2. The economic situation of my household has improved considerably over the past five (5) years.
3. Corruption in my country is a less serious problem than ten (10) years ago.

Annex N. Focus Group Discussion (FGD) Guide

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Province: _____ Municipality: _____ Barangay:_____ Date: _____

==========

REMINDER: Before the FGD sessions start, make sure that all participants have signed the attendance sheet and the participant's demographic form.

A. INTRODUCTION (15 minutes)

1. Welcome participants and introduce the facilitator and other participants who will serve as observers, note-taker or rapporteur. Explain the general purpose of the discussion and why there were chosen and invited to participate.

2. Outline the general ground rules and discussion guidelines.
   - The discussion should be informal, so there is no need for the participants to wait for the facilitator to call on them to respond. In fact, they should be encouraged to respond directly to the comments other people make. If they do not understand a question, encourage the participants to let the facilitator know. The facilitator is there to ask questions, listen, and make sure everyone has a chance to share.

   - If the group seems to be stuck on a topic, the participants may be interrupted and if some participants are not saying much, they may be called directly. If this is done, explain to them that they should not feel bad about it; it is just a way of making sure that everyone's perspective and opinion is heard and considered.

   - Highlight the importance of everyone speaking up, talking one at a time, and being prepared for the moderator to interrupt to assure that all the topics can be covered.

   - Explain that the discussion is confidential and that participants should respect each other's right to privacy by not discussing what was talked about with people outside of the focus group. Reiterate that all participants must agree to the rule of confidentiality.

   - Explain the presence and purpose of recording equipment. Obtain permission from the participants. Explain that the discussion will be recorded to ensure that we will not miss any of their comments. No one outside of the room will have access to these recordings and will be used only as reference when preparing our reports and analysis.

   - Explain how the information to be collected will be used. Inform the group that information discussed is going to be analyzed as a whole and that participants' names will not be used in any analysis of the discussion.

3. Before starting the discussion, begin by asking the participants to introduce themselves, their name, where they live and any relevant information that they want to share to the group.

B. QUESTIONS (60-90 minutes)

REMINDER: The questions listed here serve as reference guide so that certain elements that should be addressed are borne in mind. This list should not be used as a battery of questions to ask. Avoid initiating a question-answer dynamic.

Information about the community

1. How would you describe the overall situation in your community? What is the main source of income for the residents in the community?

2. What are the main motivations of the households to send a migrant member abroad?

3. Are there changes in the main source of income of residents in the past 15 years? What are the changes?

4. What do you know about the extent of international migration among the people from your community?

5. Are there any changes in the community to ensure that the needs of households with migrants/OFWS are met? (e.g., pay phone centers, telephone booths, internet, remittance centers, various kinds of stores, restaurants, etc.) What are those changes?

Migration and migration network

6. To the extent of your knowledge, why do you think people from your community migrate abroad? If given the opportunity, would you also prefer to leave from this community and work abroad? Why?

7. What do you think are the important barriers for international migration? Why do you say so?

8. What do you think is the most important factor that facilitated/will facilitate migration of your household member or of the people from your community? Why do you say so?

Migration and remittances and their impact on the community

9. Has the migration to a foreign country of a large number of people from this community changed the standard of living in this community? How? Do you think remittances have had an impact on the community's level of development (economic, social, and human)? Why do you say so?

10. Do you think there is a significant decrease in the number of poor households in the community because of international migration? Why do you think so?

11. What do you think is the specific impact of migration on the following in your community?
    a. Housing conditions
    b. Economic activities in your community
    c. Access to health services
    d. Access to education

12. Based on your own knowledge, what are the differences between households that receive money from abroad and those that do not, in terms of their living conditions?

13. Aside from the migrant's own households/families, who in the community has benefitted the most from the migration and/or from the remittances sent by migrants? Who in the community were negatively affected by migration?

14. Aside from remittances, what do you think are the other benefits of international migration? What do you think are the non-monetary benefits of international migration? What are the negative effects of migration?

Remittances and investment

15. How do households normally spend the remittances they received from their migrant member? How do they prioritize remittance spending?

16. To the best of your knowledge, how common is it in the community for the remittances to be used in productive investments such as business, livestock, farm, etc.? Based on your own knowledge, what investments or businesses which were initiated by migrants/return migrants are the most successful? Which types of investments fail?

17. When migrants return from abroad for a vacation (or to live in the community again), how do they spend the money they bring with them? What do they spend it on? Are there differences between men and women?

18. In your opinion, how should households spend their remittances?

Gender relations and structure of the household

19. In your opinion, does migration and particularly remittances benefit men or women more? How do men and women benefit?

20. Do you think that there are changes in how decisions are made in the households as a result of one/some of the household members migrating and sending remittances?

21. Have migration and/or remittances in some way affected relations between couples?

22. Are there changes in the behavior of men and women in the community that could be attributed to migration and/or remittances?

Migration and children left behind

23. Have migration and/or remittances in some way affected relations between parents and children?

24. In your opinion, what has been the most significant impact of international migration on children left behind? Is there an impact on their health and education? If yes, what is the specific impact?

25. Do you think there is a difference in the impact on children if the mother or if the father is abroad? Or both parents are abroad? Why do you say so?

Organizations/institutions

26. What types (religious, cultural, sports, recreational, labor, cooperatives, political committees, etc.) of organizations are there in the community? Did the organizations and institutions in the community take any type of action to address the consequences of migration or to harness their advantages? Which institutions/organizations and what types of action were taken?

27. Are you aware of any organization/association of Filipinos abroad? If yes, do you know of any activities/projects in your community which were supported by any of these organization/association of Filipinos abroad?

Suggestions/Comments from the participants

28. To the extent of your knowledge, are there any government programs in your community that benefit households or families with migrant? If yes, what are these programs and the services they provide?

29. In your opinion, what should the government do (i.e., in terms of programs and services) to ensure that international migration will have a positive impact on the lives of the people living here in your community? What do you think are the important needs of your community that will help improve the quality of life of both migrant and non-migrant households?

Ranking of the Opinion Questions in the Questionnaire : The FGD participants as a group will be asked to rank the opinion questions in section H1 of the rider questionnaire capturing the different aspects of the potential impact of migration, in general. This will allow further discussions among the FGD participants as the different migration issues are raised while deciding on the ranking.

Concluding questions

30. Do you think international migration is necessary in order to improve the lives of the people in your community? Why do you say so?

31. If given an option, would you prefer your household member(s) not to leave the country and work abroad? Why do you say so?

C. CLOSING (5 minutes)

ADDITIONAL REMARKS:

Annex O. Pictures of typical houses in Barangay Saguing, Mabini, Batangas

Panel 1. Common structures of houses owned by OFW households

Panel 2. Houses owned by a non-OFW household (left) and an OFW household (right)

Annex P. Exploring the counterfactual income approach (Heckman two-step estimation) to analyze the impact of international migration using the CBMS data in Barangay Saguing and Barangay Villa Angeles

In line with the theoretical justifications discussed in section 3.5, the counterfactual income approach can also be implemented in a smaller dataset, particularly using the data collected for Barangay Saguing and Barangay Villa Angeles. As migrant households cannot be treated as a random selection, the Heckman estimation framework (1978, 1979) can be used to address the selection bias. The variables which are likely to affect migration (and also income) include some demographic characteristics, education and employment characteristics of household members, as well as some geographical factors. At the same time, migration network is likely to affect the probability of migrating but not directly affecting household's per capita income and hence, may be considered an appropriate exclusion restriction.

Two different models were estimated using the migration network variable in the exclusion restriction as defined earlier in section 5.6.2. In particular, *mignetwork3* and *mignetwork4 were* used in estimating the counterfactual (log) per capita income of migrant households. The variable *mignetwork3* refers to the "share of migrant households in the *purok"* interacted with the "number of adult members 20 years old and above per household". On the other hand, the variable *mignetwork4* refers to the "share of migrants in each *purok* who relied on migration network during their first migration" interacted with the "number of adult members 20 years old and above per household". With the signs of the coefficients which are consistent for both models, the migration network in the selection equation appears to be negatively related to the likelihood of being a non-migrant household (Table P.1). This means that migration network significantly decreases the probability of being a non-migrant household. Corollary, migration network increases the likelihood of sending a migrant member abroad. Another more important result that needs to be highlighted, however, is the significance of lambda (λ) which justifies the need to employ the Heckman estimation framework in the estimation. At the same time, the high *rho* for both models indicates the high correlation between the errors in the selection and income equations. This suggests that the unobserved factors that make sending a migrant member abroad more likely (e.g., ability of members) tend to be highly associated with higher income. Furthermore, the Wald test also reveals that the correlation is highly significant with Prob> Chi^2 equal to 0.000.

Table P.1. Estimating the counterfactual income based on the Heckman framework

Variables	Model 1 Exclusion restriction: *mignetwork3*		Model 1 Exclusion restriction: *mignetwork4*	
	Coeff.	**Std. Error**	**Coeff.**	**Std. Error**
Dependent variable: Log of per capita income				
Demography				
Household size	-0.223***	0.031	-0.227***	0.033
Dependency ratio	-0.065	0.077	-0.064	0.081
Employment				
No. of adult members with job	0.255	0.078	0.237***	0.086
Share of female working member (%)	-0.153	0.143	-0.170	0.151
Education				
Ave. years of schooling of adult members	0.044***	0.033	0.041	0.036
Location				
Living in urban area	-0.915**	0.426	-0.888**	0.448
Interaction variable				
Living in urban area x average years of schooling of	0.109***	0.039	0.106***	0.041
lambda (λ)	0.737**	0.365	0.853**	0.430
Constant	10.260***	0.325	10.281***	0.344
Dependent variable: HH without migrant (Nonmigrant HH=1; Migrant HH=0)				
Demography				
Household size	0.079	0.053	0.053	0.050
Dependency ratio	-0.149	0.115	-0.136	0.116
Employment				
No. of adult members with job	-0.181**	0.083	-0.209***	0.081
Share of female working member (%)	-0.275	0.177	-0.298*	0.177
Education				
Ave. years of schooling of adult members	-0.074*	0.041	-0.082**	0.041
Location				
Living in urban area	0.461	0.673	0.196	0.674
Interaction variable				
Living in urban area x average years of schooling of	-0.038	0.060	-0.030	0.060
Migration network [1/]	-0.562***	0.171	-1.375***	0.468
Constant	1.884***	0.487	2.065***	0.489
No. of observations	446		446	
Wald Chi^2	121.84		112.73	
Prob > Chi^2	0.000		0.000	
rho (ρ)	0.879		0.956	
sigma (σ)	0.838		0.891	

Note: Household size includes OFW; *** Significant at 1%; ** Significant at 5% ; * Significant at 10%

[1/] See section 5.6.2 for a detailed description of the two migration network variables.

Source: Author's estimation using the CBMS Census data in Barangay Saguing, Mabini, Batangas (2013) and Barangay Villa Angeles, Orion, Bataan (2015)

Predicting the counterfactual income of migrant household (if migration did not happen) using the model above confirms the positive impact of international migration on the communities in terms of reduction in poverty incidence, poverty gap and poverty severity (Table P.2). Results show that if migration of OFWs did not happen, poverty incidence in Barangay Saguing and Barangay Villa Angeles should have been 16.5 percentage points higher and 2.9 percentage points higher, respectively. Note that Barangay Saguing, which is a rural barangay, exhibited larger reduction in poverty incidence. While poverty gap and poverty severity should have been higher in Barangay Saguing in the absence of migration, Barangay Villa Angeles recorded an increase in the gap and severity of poverty. The increase in the severity of poverty in Barangay Villa Angeles by 0.8 percentage points implies an increase in inequality among the poor households and worsening of the conditions of the households in the barangay, in general, especially the poor.

Table P.2. Impact on different poverty measures based on the counterfactual income approach: Barangay Saguing and Barangay Villa Angeles

	Barangay Saguing			Barangay Villa Angeles		
	(A) Obs.	(B) Counter-factual	(C) Diff. (A)-(B)	(A) Obs.	(B) Counter-factual	(C) Diff. (A)-(B)
Gini Coefficient	47.1	40.4	6.7	46.6	44.4	2.3
Poverty Incidence	20.2	36.7	-16.5	12.2	15.1	-2.9
Poverty Gap	5.4	10.2	-4.8	5.0	4.6	0.4
Severity of Poverty	2.1	4.2	-2.1	3.1	2.3	0.8

Note: Obs= Observed; Counterfactual= Counterfactual estimate; Diff.= Difference between Observed and Counterfactual estimates. All figures are in percent.

Source: Author's estimation using the CBMS Census data in Barangay Saguing, Mabini, Batangas (2013) and Barangay Villa Angeles, Orion, Bataan (2015)

Moreover, there appears to be an increase in inequality for both sites. This is consistent with many of the earlier studies in the Philippines (e.g., (Murata, 2011; Benedictis, Calfat, Rivas, & Salvador, 2008; Semyonov & Gorodzeisky, 2008; Ravanilla & Robleza, 2005; Rodriguez E. , 1998) which highlighted the worsening inequality conditions because of international migration. In fact, the Gini coefficient for Barangay Saguing has increased by 6.7 percentage points from 40.4 percent during the counterfactual scenario to 47.1 percent in the observed scenario. An almost similar pattern is observed in Barangay Villa Angeles but with an increase in the Gini coefficient that is lower compared to Barangay Saguing. The worsening inequality implies that the increase in income may be larger for the richer households than for the poorer households. Richer households have received larger amounts of remittances leading to a more skewed income distribution across households.