

This item is the archived peer-reviewed author-version of:

Household gender roles and slow-onset environmental change in Morocco : a barrier or driver to develop migration aspirations?

Reference:

Ou-Salah Loubna, Van Praag Lore, Verschraegen Gert.- Household gender roles and slow-onset environmental change in Morocco : a barrier or driver to develop migration aspirations?
The journal of development studies - ISSN 1743-9140 - 60:2(2024), p. 309-323
Full text (Publisher's DOI): <https://doi.org/10.1080/00220388.2023.2279486>
To cite this reference: <https://hdl.handle.net/10067/2009000151162165141>

Household gender roles and slow-onset environmental change in Morocco: A barrier or driver to develop migration aspirations?

1. Abstract

We study how slow-onset environmental changes impact the adaptive capacity of rural women living in the Souss-Massa region of Morocco. Given the immobility of many women in rural regions, we especially focus upon the internal migration aspirations of rural woman. In this way our study aims to shed light on the interrelationships between environmental change, gender relations and social and migration aspirations in a gradually environmentally degrading region. Based on Carling's aspiration/ability model, we analyse how slow-onset environmental changes influence the internal migration aspirations and trajectories of rural women, taking into account important background factors such as household characteristics, land heritage systems and migration networks. Our study is based on 38 interviews with inhabitants of the Souss-Massa region of Morocco that (used to) work in the agricultural sector, of which 15 interviews were conducted with rural women. Our findings show the ambiguous role of slow-onset environmental changes in the development of migration aspirations of rural women in a Moroccan rural context and underscores that environmental changes should be taken into account in migration decision making processes, both for internal and international migration.

2. Introduction

Slow-onset environmental changes have been identified as a major contributing factor in the migration of people (Black et al., 2011), but there is a lack of research that investigates how these changes affect the migration aspirations of men and women differently (exceptions: Gioli & Milan, 2018; Hunter & David, 2009). This study aims to address this gap by examining how slow-onset environmental changes impact the lives of men and women differently, and how this relates to the development of migration aspirations. The study is important, first, because it focuses on the impact of slow-onset changes, which have been largely underestimated in academic research (McLeman & Gemenne, 2018). Second, it highlights the importance of gender which plays a critical role in understanding the consequences of slow-onset environmental changes, particularly in terms of how gendered cultural expectations, policies and institutions intersect to shape migration decision-making processes (Baada & Najjar, 2020; Gioli & Milan, 2018). Third, by focusing on migration aspirations of rural women in the Souss-Massa region of Morocco and how they relate to slow-onset environmental changes, this study provides valuable insights into the role of environmental changes in decision-making processes, both for internal and international migration. By examining the interplay between gender, slow-onset environmental change and migration aspirations we aim to advance understanding of the complexities of migration decision-making in the context of environmental change.

Slow-onset environmental changes and the development of migration aspirations

Environmental change – including climate change – affects society by exacerbating existing problems and inequalities. Various studies have already shown how in arid regions in the Middle East and North Africa (MENA), climate change effects (such as reduced precipitation, decreasing soil fertility, and droughts) increase migration aspirations and decisions, especially in rural areas (Abdelali-Martini et al., 2003; Afifi & Jäger, 2010; Baada & Najjar, 2020; Kristensen & Birch-Thomsen, 2013). Particularly, environmental factors influence migration trajectories as a 'threat multiplier', meaning they put pressure on other factors that give rise to migration (e.g. economic downturns, political crises). As people become more inclined to adapt to environmental changes or seek alternative livelihoods, other migration motives, such as economic and political factors, can come to the fore (Black et al., 2011). However, several authors highlight the importance of the interconnectedness of gender, climate change, rainfed and irrigated agriculture, agricultural intensification and sociocultural norms (Abdelali-Martini et al. 2003; Caretta and Börjeson 2015; Najjar et al. 2017). The impacts of climate change are felt at different levels in drylands, with smallholders being among the most affected.

Carling's aspiration/ability model (2002) can provide a tool for understanding the relationship between environmental migration aspirations and trajectories. In this model, migration 'aspiration' is defined as the belief that migration is preferable to non-migration, while 'ability' is the component that represents whether prospective migrants can turn their migration aspirations into actual migration. Therefore, this model proposes to not only evaluate the degree and complexity of realized mobility, but also include the prevalence of involuntary immobility. Using the aspiration/ability approach here is interesting for four main reasons: it allows us (1) to explore women's role within the household, considering the persistent challenges within the domestic sphere; (2) to study the factors and reasons behind 'immobility' and thus why people stay; (3) yet, while the aspiration/ability model was developed to better understand international migration (Carling, 2002), we argue that it can also be employed to analyse internal migration aspirations and (im)mobility; (4) while the aspiration/ability model (Carling, 2002, 2014; Carling & Collins, 2018; Timmerman et al., 2014) barely considers environmental factors and perceived climate change, this article employs the model to specifically study slow on-set environmental change, considering discourses on environmental change, individual factors and transnational networks (De Longueville et al., 2020).

Having discussed the intricate relationship between slow-onset environmental changes and migration aspirations, we now delve into the specific vulnerabilities faced by rural Amazigh women in Morocco. While environmental factors have been shown to amplify migration aspirations, it is essential to recognize the multi-layered challenges experienced by Amazigh women within the household and society.

The vulnerable position of rural Amazigh women in Morocco

Rural Amazigh women in Morocco face a complex interplay of factors, such as encompassing gender norms, socioeconomic limitations, educational disparities, and the unequal distribution of land ownership. Rural women contribute nearly two-thirds of female labour at the national level of Morocco. However, their labour remains largely unrecognized and unpaid (Chauffour, 2017). Nearly 80 per cent of active rural women in Morocco fall within category of 'family help', as rural areas often suffer from a severe shortage of decent work. This classification arises due to the prevalent lack of suitable employment opportunities in rural regions. Consequently, these women are involved either in assisting male relatives on their farms or participating in endeavors like carpet weaving, arts, and crafts (Skalli, 2001). Additionally, many female rural workers are exposed to poor working conditions, including a lack of social protection and lower wages, compared to their urban counterparts. And as we aim to show below, these complex and intersecting vulnerabilities also interact with the broader context of environmental changes and migration dynamics.

This research focuses on the Souss-Massa region, which is part of the Amazigh-speaking population in Morocco. As our analysis is mainly concerned with the situation of rural Amazigh women from the perspective of both men and women, we would like to first elaborate on the difference between Amazigh women in urban areas and those in rural areas (Laghssais & Comins-Mingol, 2021). Most Amazigh women live in rural areas or in other isolated areas such as mountains, and are therefore more likely to be excluded from some public services. Rural illiteracy, for instance, is very high among both older and younger generations of women, due to difficult access to schools for girls in rural areas. Schools become inaccessible due to poorly maintained roads and infrastructure or bad weather conditions in the mountains (Berriane, 2016). In contrast, Amazigh women living in urban areas have easier access to education and other public services and more easily master Moroccan Arabic (Darija) as a second language, the language predominantly used in administration (Guerch, 2015; Laghssais & Comins-Mingol, 2021). Amazigh women in rural areas therefore suffer from a 'double marginalisation' as many of their rights are denied to them and they cannot claim them because all administrative procedures are in French, Spanish or Arabic (Ennaji, 2014; Laghssais & Comins-Mingol, 2021; Sadiqi, 2016).

In addition to language and geography hindering education for rural Amazigh women in Morocco, the patriarchal system has a particularly pernicious impact on educational opportunities, with a large number of girls in rural Morocco not attending school (Laghssais et.al., 2021). Moreover, when parents can barely meet their family's basic needs, their children's education comes second. For rural Amazigh women, a challenging socio-economic situation interacts with patriarchy, and many families indeed consider education for women less important than education for men (Berriane, 2015; Ennaji, 2014; Laghssais & Comins-Mingol, 2021). Traditional gender expectations persist in rural Moroccan households, where men are commonly viewed as the primary earners while women are tasked with

household duties. Women's responsibilities mainly revolve around family caregiving, household chores, and occasionally agricultural labor. These roles frequently hinder their opportunities for education and economic prospects beyond the home environment. These dynamics are shaped by women's interactions with men and other women of varying generations within the household, influencing their authority in decision-making and freedom of movement (Ou-Salah et al., forthcoming). Women often require approval from male family members to participate in external activities or travel. Older generations typically uphold more conservative beliefs about women's mobility and employment, which further hampers women's ambitions. The decision for rural women to migrate is often tied to their marital status. Various studies show that a majority of migrant women are unmarried, suggesting that marriage negatively affects women's considerations about migrating (Nong Zhu, 2005; Song et al., 2009). Essentially, the choice of unmarried rural women to migrate is seen as a personal decision, while that of married women is typically regarded as a family choice (Song et al., 2009).

Given the extensive agricultural production in Morocco, and the increasing desertification and droughts due to climate change, people's adaptive capacities are largely related to land ownership and the sales, mortgages or products of land (Adger et al., 2018). However, land inheritance and ownership is very gender-unequal in Morocco. The Moroccan inheritance law goes back to the period when Morocco became a French Protectorate in 1912. The decree of 1919 transferred overall responsibility for communal land from the indigenous authorities to the state. This facilitated its appropriation by the French colonists and its incorporation into capitalist and patriarchal modes of production (El Khalaoui, 2022). The independent state retained the same structures established by the French colonial regime to control land transactions and kept inheritance law regulated by the *Mudawwana*, Morocco's Family Code. The state established committees of male representatives who spoke on behalf of their rural communities and installed a tutelary council within the Ministry of Interior to centralize decision-making, oversee transactions, handle disputes and distribute compensations (Salime, 2016). Yet, while Moroccan inheritance law remains very gender-unequal and women's land ownership is still very low, this does not reflect the importance of their labor and knowledge in agriculture. Women's labor represents 51% of agricultural production in Morocco (Salime, 2016).

We have emphasized the many and intersecting vulnerabilities in the lives of Amazigh women, yet it is also important to recognise and pay attention to the agency of these women. Portraying them as victims would not do justice to the strength and drive of Amazigh women, who rely on mutual solidarity to build a different future for themselves and their communities (Laghssais & Comins-Mingol, 2021), as demonstrated by the *Sulaliyyates* movement. This movement is led by rural women who advocating land rights for women as a precondition for economic liberalization, development and political representation (El Khalaoui, 2022). The *Sulaliyyates* criticize the entrenched corruption structures associated with the process of land liberalization, the sexism embedded in daily dealings with state

bureaucrats overseeing land transactions, and the legacy of colonial legal regime that place indigenous men at the center of these transactions and exclude women (Salime, 2016). While land rights were eventually given to them via a series of ministerial circulars that were issued by the ministry of the interior between 2009 and 2012, progress on implementation is stalling (Berriane et al., 2015). Gender, generational, socioeconomic and sociocultural factors can determine migration-related feminization of agriculture in drylands (Bossenbroek, 2016).

Research suggests that increasing out-migration of men in agricultural dryland areas causes women to perform more agricultural labour than they used to. With men migrating out of these areas, women often take on labour-intensive activities, such as planting, cultivating, harvesting, and tending to crops and livestock to continue agricultural production (Baada and Najjar, 2020; De Brauw et al., 2008). Women in dry farming areas have more limited employment opportunities outside agriculture than men. According to the 'Femme Marocain en Chiffres' report by the 'haut-commissariat au plan' (HCP, 2020), 22.8% of rural women are active in the labor market compared to 71% of men. Here 45% of the active rural women are part of the 45 plus age group, 2% are part of the 35-44 age group, 19% are part of the 25-34 age group and 11% are part of the 15-24 age group. In addition, it is also interesting for this study that of rural women in Morocco who live alone 8% are divorced women, 74% are widowed, 9% are married and 8% are single. Furthermore, several studies show how female farmers, participate less in local institutions, have limited access to credit and land rights and are excluded from agricultural extension services and training programmes tailored to the needs of male farmers (Abdelali-Martini et al., 2003; Caretta & Börjeson, 2015; Najjar et al., 2018).

3. Method

Study setting

The rural population in Morocco numbers 13 million people, representing 45% of the country's inhabitants, whereas 20% is made up of the female population (Trading Economics, 2020). In the context of Morocco, projections indicate that by 2050, the country will witness an increase in slow-onset environmental changes. These changes involve a warming and drying climate, coupled with an expected decrease in precipitation of approximately 10.6% and an increase in temperature by +1.2°C. The implications of these shifts are significant, particularly for farmers in developing nations who tend to bear the brunt of such changes (Mohammadi & Khanian, 2021). The ramifications extend across various aspects of their lives. Over recent decades, the agricultural systems within the Souss-Massa region have undergone substantial transformations driven by environmental variability, shifts in the social and environmental landscape, and government policies (Bouchaou et al., 2011).

Morocco has undergone a trajectory of agricultural development that prominently features female labor (Bossenbroek et al., 2015; Thérroux-Séguin, 2016). As a prominent player on the global stage and a

leading nation in the North African region, Morocco's influence in international economic and foreign policy spheres has surged in recent years. This study centers its focus on the Souss-Massa region within Morocco, conducting interviews in locales, including Houara, Tiznit, Belfaa, Tamraght, Tagadirt, Tikouine, Taliouine, Taroudant, and Imouzer. The significance of the Souss-Massa region stems from its contributions to Morocco's economy through marine resources, tourism, and agriculture. Despite the presence of the Atlantic coast and high mountains, this southern Moroccan region grapples with an arid climate due to the Azores Anticyclone (Abahous et al., 2018).

Research sample

During the period of October and November 2021, qualitative semi-structured interviews were conducted with inhabitants of the Souss-Massa region in Morocco who depend on the agricultural sector for their livelihood (either on a self-employed basis or as employees at larger farms). We focused on communities that rely heavily on agricultural activities, as they are more sensitive to water scarcity and suffer more from drought than other communities. In this context, migration is often seen as a potential adaptation strategy to deal with environmental changes (Smit & Wandel, 2006; Gemenne & Blocher, 2017). Respondents were selected through purposeful, snowball sampling starting from small farmers, through associations focusing on sustainability and development, such as Dar Si Hmad and 'Migrations & Development' in Southwest Morocco and the Moroccan Atlas and Anti-Atlas. To avoid a sample bias because of this selection criteria, more perspectives were included by reaching out to farmers in the surrounding neighborhoods. This resulted in a diverse, gender-balanced sample consisting of 38 interviews of participants 1) living in the Souss-Massa region of Morocco; 2) dependent on the agricultural sector for their livelihood (in the present/past); 3) older than 18 years old. The rural women in the Souss-Massa region are mostly uneducated and in some cases illiterate, so during the fieldwork, many refused to participate as they did not feel entitled to be interviewed. To ensure that respondents did not feel intimidated, the first author clearly, yet in a simple manner, briefed them on the objectives of this research, and invested time to develop a trusting relationship, by asking for a tour of their fields, cooking and eating together. The interviews were conducted in Berber, Arabic and French. An interpreter facilitated interviews if the women spoke only Berber, which could have case slight translation biases.

<< insert table 1 here >>

Data collection and analysis

Qualitative research methods enabled us to study the long and fragmentary nature of the development of migration aspirations (Findlay & Li, 1997). We made use of biographical-narrative interviews to generate a spontaneous autobiographical narrative (Apitzsch & Siouti, 2007). During the data collection, participants were asked about their perceptions of environmental changes in their surroundings and how

these had evolved over time, their knowledge of environmental changes and migration dynamics. All participants were asked about migration aspirations and reasons/preferences to stay. All interviews were transcribed and translated from the respective language into English and coded and analyzed in Nvivo. All names were replaced by pseudonyms to guarantee anonymity.

4. Results

Vulnerability of rural women

Land in Morocco is mainly used for agricultural and livestock activities, which are more vulnerable to the effects of increased precipitation and drought due to environmental change. When focusing on women active in *unpaid family work*, various modern and traditional adaptation strategies are used to cope with environmental changes (Authors blinded for review et al., 2021). Denton (2002) states that women play an important role in helping their families adapt to environmental threats. For example, Hafida, a 43-year-old woman, states that women take drought into account in their household tasks:

Yes, and we as women really have a very important role in the family's livelihood. For example, we try to make ends meet with what we have. I really try to use as little water as possible when cooking, for example, and to be very frugal with our resources but still live as well as possible (Hafida, 43 years old, Taroudant).

Thus, rural women search for adaptation strategies that are within their ability, and achievable given the means available to them to cope with the consequences of environmental change on their livelihoods. This can be important, because if women can access the knowledge and tools to combat environmental change, they can contribute to the resilience of entire communities. Yet, some women state that they do not always get the chance to inform themselves about environmental changes. For example, Warda, a 28-year-old woman from Belfaa, states that there are some associations for rural women in the region around Belfaa, but that women do not always get permission from their husbands to join them.

Female farmers' husbands often won't allow them to communicate with committees from foreign associations which have an interest in the area. Many would have been able to provide comprehensive information on environmental change, I think. The association also helps women in the area create financial resources, share knowledge and create job opportunities. That is not always well received by men (Warda, 28-year-old, Belfaa).

This is confirmed by Mbarek, a 55-year-old man from Tamait, who argues that female associations are more likely to be an excuse for women to get out of the house:

To get help from the government it is actually also always expected that you then start an association with some farmers, but that is not so easy - there is a lot of administration involved which is difficult if you are not educated. Therefore, for most rural women, it is completely

impossible to understand those businesses. If there are associations for woman here, it is more an excuse for women to get together with their friends than to learn something serious, so it is just a waste of time.

Unequal power relations between women and men can lead to differential access to environmental resources and opportunities for income diversification (Denton, 2020), which can reduce the ability of individuals and communities to respond to their socio-economic position (Leichenko & O'Brien, 2008; McGrew et al., 2007). In addition, unpredictable weather conditions result in smaller areas being cultivated, which makes *women workers' wages* more essential as they are relied upon by households to make ends meet and provide for their livelihood. To build a future for themselves and their communities. Amazigh women, in addition to their daily tasks, have started working in large fruit and vegetable farms, employing a large female population. Unsurprisingly, rural women, are generally over-represented in relatively lower paid and time-intensive jobs, such as fruit, vegetable and cotton harvesting, product drying, and rice transplanting (Abdelali-Martini et al., 2003). Fedoua, a 45-year-old woman from Houara, explains how for several years now, the region has been affected by extreme rainfall after long periods of drought, which has a major impact on farming activities and their household income. Fedoua her husband is a small farmer who depends on growing crops for sustenance and sales. Since most participants still work with outdated techniques and perceive these slow-onset environmental changes as 'just nature', most of them look for ways that seem realistic to deal with the changing environment in order to make more money again. In particular, her husband made the decision for her to look for additional income.

I think it is not really possible for us to find a solution to deal with these changes, it is just nature. I think it's going to stay this way and we're never going to find the right information. My husband decided that it would be better for me to work at the strawberry farm like other women in our village, to still be able to support our family.

Our findings show that when environmental changes are seen by the participants as part of nature and belonging to a natural cycle, responses are also more in line with these thoughts. More specifically, they will focus to a lesser extent on combating these changes but more on changing their way of living in the changing environment. When doing so, people's responses are very much dependent on their resources and ability to deal with the consequences of environmental changes. This seems to influence their preventive and reactive behaviour towards such environmental changes, which have different consequences for men and women. Nevertheless, the traditional image of women as housewives who take care of their household and raise the children, and men as the main providers for their family, remains prevalent in rural areas. This image is further reinforced by the fact that a large proportion of employers hire female employees without employment contracts (Bossenbroek & Ftouhi, 2021), which leaves them vulnerable to exploitation.

Most attempts to address the consequences of environmental change in order to secure their livelihood are at the individual or household level and within their own capability. Therefore, larger-scale projects that benefit the entire community and could prevent environmental changes from happening or tackle the long-term effects of environmental change are much more difficult to obtain (Authors blinded for review, 2020). For example, Yosra explains that she did not have any support from family members to deal with the failed harvest. This caused her husband to focus more on livestock, and Yosra helped him with selling milk, meat, and eggs during the poor harvests:

My brother has helped with my husband's medical expenses. But apart from that, we don't really get any support. He sees my husband more as the one responsible for my family because he helps my brother in Agadir but not really me. I think that is a pity but I have already resigned myself to that (Yosra, 35 years old, Taroudant). This is in line with the study of Nassif (2008) that shows how women's involvement has become even more crucial due to changing livestock management practices driven by climatic conditions. As livestock intensification and diversification continue, women are increasingly engaged in activities such as small-scale lamb fattening and tending to improved dairy cattle breeds.

Furthermore, this shows how next to unequal gender relations and the difficulties women already face with inheritance rights, remittances sent by family members can cause women to become even more dependent on their husbands. Our findings show that family members offer support mainly to male family members because of the lingering image of men as the main breadwinners (Bossenbroek, 2016). Consequently, far less help is given to female family members who are living with male relatives, because the 'man in the household' is considered to take care of them.

The quote illustrates the importance of the availability of migrant networks and the support from these networks impacts the opportunities to deal with the consequences of environmental change through remittances and/or specialized knowledge and expertise (e.g. Authors blinded for review, 2020; De Haas, 2006; Gemenne and Blocher, 2017). Family members who receive remittances and support from family (migrant) members then become increasingly prosperous, compared to those who do not receive help. In the next section, we explore how this influence of environmental changes on gender relations plays into the development of migration aspirations.

The development of migration aspirations

Salma, a 25-year-old woman from Taliouine, explains how the development of migration aspirations, especially rural to urban, is a different process for women and men:

It's still a bit difficult for a woman [in comparison to men] to migrate alone out of the blue. Then you would really have to migrate to someone already, especially not without a plan with a lot of risks. They would never allow that.

Therefore, still only a small but significant group of women sees migration as a means to escape an environment where they have few rights (Montanari and Bergh, 2019; Authors blinded for review, 2021). The quote from Bilal, a 51-year-old man from Skoura, illustrates the difficulties preventing women from making their own (migration) decisions:

In this day and age, you also see women migrating or living alone and studying, it's not so surprising anymore. But within our region, you see less of that because we are really a flatland community, those are more like the city girls. In our region, men are still very protective of their daughters and I think that in itself is not a bad thing. I am glad that my daughters are all married and have their own household, as a father it feels like you have done your job well (Bilal, 51-year-old man, Skoura).

Rural women seem to be much more tied to family relations in their traditional role as subordinate to their husbands, or as daughters dependent on their parents (Brandt, 1995; Bossenbroek, 2016). This makes them less likely to develop independent migratory aspirations because they feel dependent on their family and are not given the opportunity to freely decide on migrant decisions. This shows how remittances can reinforce (existing) inequalities between men and women (see also Authors blinded for review, 2021; 2022). Thus, the ability to migrate is limited by the barriers that women experience in their relationships with male relatives. Yosra, for example, can only imagine migrating if she became a widow:

I think it would be best in Marrakech or in Agadir, so that we don't have to go too far and that we know the area at least a little bit. I know there are some big companies there where we could work. But I don't know how we should start. I do have a brother who lives in Agadir and I think he would take us in if I became a widow. (Yosra, Taroudant).

For most of these rural women, their goal is not self-fulfillment, but to earn money for their family. If they perceive their current financial situation as sufficient or more than sufficient, the need they feel to move abroad or elsewhere in Morocco seems to be lower. Our findings show that when women lack decision-making power and depend on male family members for major life choices, including mobility, they may feel constrained in pursuing their own aspirations. This dependency limits their ability to express their desires for mobility and make decisions that align with their personal goals.

The lack of social security and opportunities in Morocco also plays a role in women's limited ability to make their own decisions or have the means to migrate and their exposure to opportunities outside the household is limited. This can reduce the awareness about possibilities for mobility, education, or employment, resulting in limited aspirations. Due to limited social protection, individuals and families use a variety of strategies (for example, securing inheritances in advance) to make a living and protect themselves or their spouses and children when confronted with environmental change and uncertain

weather patterns. For instance, Salma, a 25-year-old woman, explains how her father sold all his land since he is now elderly and wants to make sure that part of his property goes to his daughters. Particularly, he fears that the weather conditions, which have been more difficult to predict in the last few years, would make his male relatives unwilling to invest in agricultural activities, leaving his wife and children without an income. Zucchini and various squash varieties were frequently cultivated on their parents' land, playing a significant role in their overall vegetable production and serving as the primary income source for their family.

My father had decided to sell it because it became too expensive for him because of drought and costs of water. So he sold it also because he felt like he was too old and then he could leave the money. But if he had sons he would have kept it [...] As he himself thinks that it is too big a risk to invest in new techniques and agricultural activities, they would think the same. Then they would sell it and divide it among themselves and we would hardly get anything and on top of that we would not be able to support ourselves anymore so I am very grateful to my father for that decision even though I also found it sad for him.

Interestingly, this father did not see any alternative options to secure his family's livelihood and/or have a male heir. The examination of gender and women's empowerment within the context of migration studies provides valuable insights into the intricate dynamics that shape women's aspirations, decisions, and opportunities. As highlighted by Lenoël (2017), the importance of marital status, kin relationships, economic activities, and life cycle stages cannot be understated as determinants of these aspirations. This global reflection underscores the need to explore how these multifaceted factors intersect and contribute to shaping women's migration aspirations. In Morocco, a country grappling with challenges, such as restricted land ownership and a lack of comprehensive social security, the volatility and uncertainty of current circumstances have arguably increased migration aspirations. However, amidst these challenges, a striking observation emerges from our study respondents—primarily women who are not dependent on male relations. This finding resonates with the broader reflection on the significance of marital status and kin relationships, indicating that women who are less tied to traditional gender roles and expectations tend to manifest migration aspirations. The intersection of economic prospects becomes particularly noticeable in this context. The unavailability of property ownership, which can potentially offer a pathway to economic security, emerges as a critical factor influencing migration aspirations. Paradoxically, having fewer physical resources can catalyze the development of migration aspirations, as it liberates individuals from certain constraints and expectations associated with traditional gender dependencies. This holistic perspective underscores the significance of addressing not only the economic dimensions but also the sociocultural norms and relationships that shape women's aspirations and opportunities in the realm of migration. Additionally, the increasing awareness and consequences of environmental change seem to result in varying gender dynamics, especially for rural women, depending on socio-demographics (e.g. marital status, age, etc.). As there is

a tendency to restore existing gender dependencies and relations, environmental change seems to encourage particular groups of women to migrate, mainly internally, or to develop migration aspirations. For example, Agida, a 67-year-old woman from Tagadirt, states that as a widow without property, migration was the best option for her. In her youth, alongside her parents and later with her spouse, she engaged in the cultivation and husbandry of livestock, encompassing cattle, goats, and sheep. Additionally, she partook in the vending of various homemade dairy commodities, including butter and milk, through direct street-level sales. Therefore, she migrated to another city in Morocco to live with her son. This narrative highlights that migration is often multi-causal and cannot be reduced to the effects of just one form of change, such as environmental change (Black et al., 2011; Castles et al., 2013).

Agida's migration can also be seen as a way to restore her position in society and again become more dependent on a male breadwinner/relative. While migration – especially for women – is often seen as an emancipatory act (Timmerman et al., 2018), this is not always the case, as shown by Agida's situation. By contrast, the inability to own properties or land, together with limited social protection, seems to cause rural women to develop migratory aspirations in order to support themselves. This is done, for example, by looking for a job with an employer in cities or by reuniting with children or family members who have already migrated. Again, this process seems to be reinforced by environmental changes, making it more difficult to carry out agricultural activities in the rural region where they live. The case of Warda, a 28-year-old woman from Belfaa, shows how weather changes and limited working opportunities for women in Belfaa and its surroundings result in more people encouraging their daughters to migrate and look for a job in the city:

If you don't have property it is very difficult to survive from the agricultural sector now. Everything has become more expensive. Women used to help each other and now you can't count on each other either and you have to hire workers. Water used to be plentiful and now you have to pay for it and there is also competition from large companies. That is why I just went to live with my son and his wife in Essaouira where he works for a fishing company (Agida).

For women in rural areas who have spent their entire lives performing agricultural tasks and have often not been able to attend school, environmental change has major consequences, that add to and interact with other vulnerabilities in their lives, making them even more vulnerable but also more mobile. Comparing the situation of rural women with that of the male respondents in our sample, we see that men who own a property – especially the elderly – develop fewer migration aspirations and do not even seem to consider migrating by stating “*I am certainly not going to migrate (...) . I am with my herd all day and in the evening I come home to my family that is the best life for me.*” (Hassan, Tamait, 58 years old). Other participants acknowledged environmental changes, but prefer combatting it than fleeing, by saying “*I will always find ways to survive here until I die, I don't even want to think about anything else*” as is the case of Abdelkarim (54 years old, Houara) who realizing the impact of environmental

change: “ *the heat for example, has really damaged the pumpkins, olive trees, corn, and almost everything else, (...) it’s very rare when you get good produce anymore, so now we mainly focus on raising the animals*”.

Compared to men who own small to medium sized farms in the agricultural sector, many women expressed that they do not have much to leave behind. Hence, work-related migration to the city is seen as a solution (see also Van Wey, 2005). Yet, while this may cause women to develop migration aspirations, it does not always mean that they will be able to take actual migration steps. Zahra, a 42-year-old woman from Tamait, says that after her divorce she wanted to migrate to Agadir [big city] because she no longer had to take care of anyone. This motivation is mainly mentioned by single or young females, given that women in households have to look for additional income in paid employment due to the increase in seasonal work due to drought. As a single woman, Zahra aspired to migrate, but she was limited due to lack of networks, information and resources. Because of this, she decided to work in a strawberry farm and move in with her brother in the same village who is a small farmer employing a diversified livelihood strategy to support his family. His main activities include cultivating citrus fruits and engaging in animal husbandry. However, she states that “*I also help him with their income, because as a shepherd, he could hardly make ends meet. Now I will not be able to leave soon because they have also become dependent on my share, but I still have that wish.*”

This case demonstrates that the availability of local and transnational migrant networks affects migration aspirations and the ability to deal with environmental impacts through remittances and/or specialized knowledge, expertise, and political power (Carling and Hoelscher 2013; Obokata and Veronis 2018).

5. Discussion

Due to the gradual nature of slow-onset environmental changes, the impact on migration trajectories is mainly felt through the interaction with other factors that drive migration, such as economic, social and political factors (Tacoli, 2009; Black et al., 2011). In this paper, we were interested in the relationship between slow-onset environmental changes, the position of rural women in the family, and the development of migration aspirations. Firstly, the focus on slow-environmental changes was deliberately chosen since the effects of slow environmental changes on mobility outcomes are often underestimated, although large geographical areas are faced with such changes (IPCC, 2022). Secondly, we focused on migration aspirations in order to better study the gradual evolution of migration decision-making processes, to assess the role that environmental changes play in them, and to understand the (structural) barriers that prevent people from actually realizing or developing their migration aspirations.

By examining the migration aspirations of people who depend on agricultural activities for their livelihood, we also gain more insight into the role that environmental changes play in this decision-making process (Authors blinded for review et al., 2021).

First, our findings show that in most cases slow-onset environmental changes impacted women's vulnerabilities in an adverse way. Women who are dependent on male relatives are those who have to look for ways to generate additional income in paid employment, while men continue to implement the remaining opportunities on their own land. Particularly, more and more rural women share the responsibility of being the main breadwinners with other family members, which means that migration is not a realistic aspiration. In addition, both employers of large farms and small farmers prefer to hire women, rather than men, in lower paid and time-intensive jobs. Hence, as women already face various difficulties linked to unequal inheritance rights, they become even more dependent on their husbands when confronted by slow-environmental changes, as they play an important role in helping their families adapt to environmental threats (Denton, 2002). Particularly, our findings show how in situations where women work in exploitative conditions and contribute to the household income with low wages, several factors might explain why their dependency on husbands could increase instead of leading to more decision-making power. These factors include existing power dynamics, control over earnings, limited income, social norms, lack of resources, the double burden of work and caregiving and isolation.

Second, when confronted with slow-onset environmental change, women who are not dependent on men or responsible for household members attempt to address the consequences of environmental change in order to secure their livelihood. This makes internal migration more appealing as an adaptation strategy. Therefore, we see that particularly widows, single or young females develop migration aspirations, as they often do not feel they have much to leave behind. Therefore, it can also be a solution for them to migrate to the city to work when they lose land and property. International migration, however, was discussed to a much lesser extent as this seems out of the realm of possibilities for rural women in Morocco (due to gendered social roles, restrictive immigration policies, lack of financial capacity or and international networks). In addition, owning less property tended to encourage women to migrate, especially when not hindered by male relatives or household members. Importantly, however, while this point refers to the development of migratory aspirations, these women are not always able to actually migrate and can be stuck in immobility (Zickgraf, 2018). Here we also see that the availability of migrant networks can increase gender inequalities and affect the ability to actually migrate, as women can expect less support from such networks than men.

This paper demonstrates that the development of internal migration aspirations as a result of environmental changes is depends on the position women occupy within a family. Widows, single and younger females, who in most cases do not own property and are also in a better position to make individual decisions, are more likely to develop migration aspirations. In these cases, the belief that

migration is preferable to non-migration is prevalent. Whether prospective migrants can turn their migration aspirations into actual migration is depending on the 'ability' to actually take this step (Carling, 2002). Because most of our women respondents lack the resources and migration network they perceive international migration as highly unlikely and only engage in internal migration. Particularly, when women are affected by environmental changes, making it more difficult to carry out agricultural activities in the rural region where they live, they are more prone to look for a job with an employer in cities or to join children or family members who have already migrated to other cities. On the other hand, we also see how the increased vulnerability to environmental changes of married women in households, who are more depending on a male household head, will cause people to look for other adaptation strategies (such as generating extra income by paid employment). This may put women in even more vulnerable positions (e.g. poor working conditions, a combination of long hours and housework, etc.). In this case, the focus is mainly on other adaptation strategies, and migration aspirations are developed to a lesser extent. In conclusion, slow-onset environmental changes play an important but ambiguous role in the development of migration aspirations and/or the migration decision-making of rural women in Souss-Mass Morocco.

Some limitations of our study should be noted. Using a biographical approach enabled us to map previously hidden values on gender relations and environmental factors, thus contributing to a deeper understanding of internal mobility. Nonetheless, the level of biographical detail during data collection could be limited by problems of recall (Rosenthal, 2004). Particularly, current perceptions of environmental change can give a biased view of previous values and interpretations of individuals' experiences. Furthermore, due to the diverse age range included in the sample, more in-depth research on the importance of age and life course needs to be done (Blinded for review).

References

- Abahous, H., Ronchail, J., Sifeddine, A., Kenny, L., & Bouchaou, L. (2018). Trend and change point analyses of annual precipitation in the Souss-Massa Region in Morocco during 1932–2010. *Theoretical applied climatology*, 134(3), 1153-1163.
- Abdelali-Martini, M., Goldey, P., Jones, G., & Bailey, E. (2003). Towards a feminization of agricultural labour in northwest Syria. *The Journal of Peasant Studies*, 30(2), 71-94.
- Adger, W. N., de Campos, R. S., & Mortreux, C. (2018). Mobility, displacement and migration, and their interactions with vulnerability and adaptation to environmental risks. In *Routledge Handbook of Environmental Displacement and Migration* (pp. 29-41): Routledge.
- Afifi, T., & Jäger, J. (2010). *Environment, forced migration and social vulnerability*: Springer.
- Apitzsch, U., & Siouti, I. (2007). Biographical analysis as an interdisciplinary research perspective in the field of migration studies. *Research Integration*.
- Baada, J. N., & Najjar, D. (2020). A review of the effects of migration on the feminization of agrarian dryland economies. *Agric. Gend. Food Secur*, 5, 1-12.
- Baccar, M., Bouaziz, A., Dugué, P., & Le Gal, P. Y. (2017). Shared environment, diversity of pathways: dynamics of family farming in the Saïs Plain (Morocco). *Regional environmental change*, 17, 739-751.
- Berriane, Y. (2015). Inclure les «n'ayants pas droit»: Terres collectives et inégalités de genre au Maroc. *L'année du Maghreb*(13), 61-78.

- Berriane, Y. (2016). Bridging social divides: leadership and the making of an alliance for women's land-use rights in Morocco. *Review of African Political Economy*, 43(149), 350-364.
- Black, R., Bennett, S. R., Thomas, S. M., & Beddington, J. R. (2011). Climate change: Migration as adaptation. *Nature*, 478(7370), 447.
- Bossenbroek, L. (2016). *Behind the veil of agricultural modernization: gendered dynamics of rural change in the Saïss, Morocco*. Wageningen University and Research,
- Bossenbroek, L., & Ftouhi, H. (2021). The plight of female agricultural wagedworkers in Morocco during the COVID-19 pandemic. *Cahiers Agricultures*, 30, 40.
- Bossenbroek, L., Van der Ploeg, J. D., & Zwarteveen, M. (2015). Broken dreams? Youth experiences of agrarian change in Morocco's Saïss region. *Cahiers Agricultures*, 24(6), 342-348.
- Bouchaou, L., Tagma, T., Boutaleb, S., Hssaisoune, M., & El Morjani, Z. E. A. (2011). Climate change and its impacts on groundwater resources in Morocco: the case of the Souss-Massa basin. *Climate change effects on groundwater resources: a global synthesis of findings recommendations*, 129.
- Brandth, B. (1995). Rural masculinity in transition: gender images in tractor advertisements. *Journal of rural studies*, 11(2), 123-133.
- Caretta, M. A., & Börjeson, L. (2015). Local gender contract and adaptive capacity in smallholder irrigation farming: a case study from the Kenyan drylands. *Gender, Place and Culture*, 22(5), 644-661.
- Carling, J. (2002). Migration in the age of involuntary immobility: theoretical reflections and Cape Verdean experiences. *Journal of ethnic and migration studies*, 28(1), 5-42.
- Carling, J. (2014). The role of aspirations in migration. *Determinants of International Migration*, International Migration Institute, University of Oxford, Oxford, 2325.
- Carling, J., & Hoelscher, K. (2013). The capacity and desire to remit: Comparing local and transnational influences. *Journal of Ethnic Migration Studies* 39(6), 939-958.
- Carling, J., & Schewel, K. (2018). Revisiting aspiration and ability in international migration. *Journal of Ethnic Migration Studies* 44(6), 945-963.
- Chauffour, J.-P. (2017). *Morocco 2040: emerging by investing in intangible capital*: World Bank Publications.
- De Haas, H., & Plug, R. (2006). Cherishing the goose with the golden eggs: Trends in migrant remittances from Europe to Morocco 1970–2004. *International migration review*, 40(3), 603-634.
- De Longueville, F., Ozer, P., Gemenne, F., Henry, S., Mertz, O., & Nielsen, J. Ø. (2020). Comparing climate change perceptions and meteorological data in rural West Africa to improve the understanding of household decisions to migrate. *Climatic Change*, 1-19.
- Denton, F. J. G., & Development. (2002). Climate change vulnerability, impacts, and adaptation: Why does gender matter? , 10(2), 10-20.
- De Brauw, A., Li, Q., Liu, C., Rozelle, S., & Zhang, L. (2008). Feminization of agriculture in China? Myths surrounding women's participation in farming. *The China Quarterly*, 194, 327-348.
- El Kahlaoui, S. (2022). Claiming their right to possess: the Guich Oudaya tribe's resistance to land grabbing. *The Journal of North African Studies*, 1-21.
- Ennaji, M. (2014). Moroccan Migration History: Origins and Causes. In *Muslim Moroccan Migrants in Europe* (pp. 17-34): Springer.
- Findlay, A., & Li, F. (1997). An auto-biographical approach to understanding migration: the case of Hong Kong emigrants. *Area*, 29(1), 34-44.
- Gemenne, F., & Blocher, J. (2017). How can migration serve adaptation to climate change? Challenges to fleshing out a policy ideal. *The Geographical Journal*, 183(4), 336-347.
- Gioli, G., & Milan, A. (2018). Gender, migration and (global) environmental change. In *Routledge Handbook of Environmental Displacement and Migration* (Vol. 135, pp. 135-150): ROUTLEDGE in association with GSE Research.
- Guerch, K. (2015). *Moroccan rural Amazigh women: The oppressed of the oppressed*. Paper presented at the 1 st International Conference on Translation, Ideology and Gender.

- HCP (2020). 'Haut-Commissariat au Plan' : Femme-marocaine-en-chiffres. Retrieved from: https://www.hcp.ma/downloads/Femme-marocaine-en-chiffres_t18705.html
- Hunter, L. M., & David, E. (2009). *Climate change and migration: Considering the gender dimensions*: University of Colorado, Institute of Behavioral Science Boulder.
- IPCC (2022). *Climate change 2022: Impacts, Adaptation and Vulnerability*: IPCC.
- Kristensen, S., & Birch-Thomsen, T. (2013). Should I stay or should I go? Rural youth employment in Uganda and Zambia. *International Development Planning Review*, 35(2), 175-202.
- Laghssais, B., & Comins-Mingol, I. (2021). Beyond vulnerability and adversities: Amazigh women's agency and empowerment in Morocco. *The Journal of North African Studies*, 1-21.
- Leichenko, R., & O'Brien, K. (2008). *Environmental change and globalization: double exposures*: Oxford University Press.
- Lenoël, A. (2017). The "three ages" of left-behind Moroccan wives: Status, decision-making power, and access to resources. *Population, space and place*, 23(8), e2077.
- McGrew, A. G., McGrew, A., & Poku, N. K. (2007). *Globalization, development and human security*: Polity.
- McLeman, R., & Gemenne, F. (2018). *Routledge Handbook of Environmental Displacement and Migration*: Routledge.
- McLeman, R., Schade, J., & Faist, T. (2016). *Environmental migration and social inequality*: Springer.
- Mohammadi, S., & Khanian, M. (2021). Staying in Crisis: Choice or Coercion a Review of the Reasons of Rural-to-Urban Migrations Due to Environmental Changes in Iranian Villages. *Space and Culture*, 12063312211018396.
- Montanari, B., & Bergh, S. I. (2019). A gendered analysis of the income generating activities under the Green Morocco Plan: Who profits? *Human Ecology*, 47(3), 409-417.
- Najjar, D., Baruah, B., Aw-Hassan, A., Bentaibi, A., & Kassie, G. T. J. D. i. P. (2018). Women, work, and wage equity in agricultural labour in Saiss, Morocco. 28(4), 525-540.
- Nassif F. 2008. "The Gender-Livestock-Climate Change Connections: Local Experiences and Lessons Learned from Morocco." In *Livestock and Global Climate Change — International Conference Proceedings*, 17–20 May 2008, Hammamet, Tunisia, edited by Rowlinson P., Steele M., Nezfaoui A., 154–58. Cambridge, UK: Cambridge University Press. (available online)
- O'Hara, P. (1998). *Partners in Production?: Women, Farm, and Family in Ireland*: Berghahn Books.
- Ou-Salah, L., Van Praag, L., & Verschraegen, G. (2022). The role of environmental factors and other migration drivers from the perspective of Moroccan and Congolese migrants in Belgium. *Comparative Migration Studies*, 10(1), 1–17. doi:10.1186/s40878-022-00307-y
- Ou-Salah, L., Van Praag, L., & Verschraegen, G. (2023a). Feminisation of agriculture and the role of environmental changes: 'It's already a tough job and it's getting tougher due to weather changes'. *The Geography Journal*, 00, 1–13. doi:10.1111/geoj.12542
- Ou-Salah, L., Van Praag, L., & Verschraegen, G. (2023b). You Can't Even Predict the Rain Anymore": A Case Study on the Importance of Environmental Factors in the Migration Biographies of Moroccan Immigrants in Belgium. *Nature and Culture*, 18(2), 202–226 doi:10.3167/nc.2023.180204
- Sadiqi, F. (2016). Emerging Amazigh Feminist Nongovernmental Organizations. *Journal of Middle East Women's Studies*, 12(1), 122-125.
- Salime, Z. (2016). Women and the right to land in Morocco: The Sulaliyyates Movement. *Women Gender in Middle East Politics*, 35.
- Skalli, L. (2001). Women and poverty in Morocco: The many faces of social exclusion. *Feminist review*, 69(1), 73-89.
- Smit, B., & Wandel, J. (2006). Adaptation, adaptive capacity and vulnerability. *Global Environmental Change*, 16(3), 282-292.
- Tacoli, C. (2009). Crisis or adaptation? Migration and climate change in a context of high mobility. *Environment and urbanization*, 21(2), 513-525.
- The World Bank. (2020). Labor Force Participation Rate, Morocco. <https://data.worldbank.org/indicator/SL.TLF.CACT.MA.NE.ZS?locations=MA> Trading

- Economics." <https://tradingeconomics.com/morocco/population-female-percent-of-total-wb-data.html>
- Théroux-Séguin, J. (2016). Intersectional analysis of women workers in the strawberry sector of Morocco. *Women in Agriculture Worldwide: Key issues practical approaches*
- Timmerman, C., Hemmerechts, K., & Marie-Lou De Clerck, H. (2014). The relevance of a "culture of migration" in understanding migration aspirations in contemporary Turkey. *Turkish Studies, 15*(3), 496-518.
- VanWey, L. K. (2005). Land ownership as a determinant of international and internal migration in Mexico and internal migration in Thailand. *International migration review, 39*(1), 141-172.
- Veronis, L., Boyd, B., & Obokata, R. M., Brittany. (2018). Environmental change and international migration: A review. In *Routledge Handbook of Environmental Displacement and Migration* (pp. 42-70): Routledge.
- Wodon, Q., Liverani, A., Joseph, G., & Bougnoux, N. (2014). Climate change and migration: evidence from the Middle East and North Africa: The World Bank.
- Zickgraf, C. (2018). Immobility. In *Routledge Handbook of Environmental Displacement and Migration* (pp. 71-84): Routledge.
- Zhu, Nong. 2005. Labor Mobility and "Sannong" Issues in China. Wuhan: Wuhan University Press