

Supporting women's empowerment by changing intra-household decision-making: A mixed-methods analysis of a field experiment in rural south-west Tanzania

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Abstract

Motivation: In rural sub-Saharan Africa, patriarchal social norms and customs often lead to unequal resource access, decision-making power, and intra-household power relations between women and men co-heads of smallholder farm households. Household methodologies are gender-transformative approaches that aim to achieve gender equality and empower women by improving intra-household gender relations. Evidence of the impact of such approaches on women's empowerment is still scarce.

Purpose: We assess the effects of a programme that introduces participatory intra-household decision-making to challenge gender relations within households on women's empowerment. The programme was delivered to monogamous couples who head smallholder coffee-farming households in rural south-west Tanzania.

Methods and approach: We combine (quasi-)experimental quantitative and qualitative methods to assess the programme's impact on women's empowerment and how that impact fits with women's valued domains of empowerment and individual pathways to empowerment.

Findings: Awareness-raising couple seminars, the programme's least intensive intervention, increased women's access to livestock. Intensive coaching in participatory decision-making increased women's control over household coffee income—a priority for women. Couple seminars increased women's highly valued involvement in strategic farm decisions—intensive coaching increased it further. Access to personal income, however, valued by women for independent decision-making for their households' wellbeing, did not change.

Policy implications: Gender-transformative approaches that challenge domestic gender relations can increase women's access to household income and resources, and increase their participation in farming decisions. Such approaches need to be complemented by interventions to increase women's human capital, knowledge of enterprises, and personal resources. Catering for women's diverse pathways towards

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empowerment may increase their effectiveness. Challenging deep gender norms requires long-term engagement and trust between change agents and communities.

KEYWORDS

agricultural households, field experiment, intra-household decision-making, mixed methods, Tanzania, women's empowerment

1 | INTRODUCTION

Gender equality and women's empowerment are high on the development agenda, both for their intrinsic and instrumental value. A focus on households is highly relevant when addressing gender equality and women's empowerment. Households reflect not only gender and social norms, they are also a space where such norms are reinforced. This happens through the division of labour or distribution of resources and through dominant perceptions of men and women (Doss & Quisumbing, 2020; Gammage et al., 2016). Addressing women's empowerment within the household is particularly relevant in rural societies in sub-Saharan Africa, specifically within the dyad of women and men co-heads of households. In such societies, intra-household power relations between women and men co-heads are often unbalanced due to patriarchal norms and customs internalized by both women and men.

There is substantial evidence of intra-household inequalities regarding income, health, labour division, and resource allocation, mostly to the disadvantage of women (Deere & Doss, 2006; Doss, 2013; Hanmer & Klugman, 2016). Emerging evidence shows that reducing intra-household inequality and empowerment gaps between women and men creates positive outcomes for women, children and households (Farnworth et al., 2018; Heckert et al., 2019; Kerr et al., 2007, 2016; Lecoutere & Wuyts, 2021; Malapit et al., 2019; Quisumbing et al., 2021).

Empowerment is defined as a process by which people gain the ability to set meaningful goals towards increasing their agency (Cattaneo & Chapman, 2010, p. 647); make strategic life choices with significant consequences for one's life (Kabeer, 1999); act on these goals and choices (Alsop et al., 2006, p. 10); and reflect on the impact of their actions (Cattaneo & Chapman, 2010, p. 647). Empowerment depends on the ability to imagine alternatives (Kabeer, 1999, 2005; Malhotra et al., 2002). It hinges on three inter-related dimensions: resources, agency, and achievements (Kabeer, 1999, 2005). Resources enable decision-making. Agency can take the form of decision-making, negotiating, manipulating, or resistance. Women's *sense of agency* is the most subjective aspect of agency and encompasses the meaning, motivation, and value that women bring to their actions. Achievements can be defined as the extent to which valued actions and ways of being are realized.

Critics argue that discourse and practice about women's empowerment have shifted away from promoting critical consciousness and challenging social norms and power dynamics towards enhancing women's control over resources, assets or services (Cornwall, 2016). It is often overlooked that an individual's capacity for empowerment is partly shaped by her relation to others, as well as by norms and perceptions about how she should relate to others (Galiè & Farnworth, 2019). Interventions and policy measures that solely target women risk reinforcing social norms and practices that restrict women's agency. Interventions and policy measures that focus on household bargaining between women and men risk overlooking opportunities that derive from greater co-operation within households (Lecoutere & Van Campenhout, 2022) as well as the importance of joint decision-making (Doss & Quisumbing, 2020; Sell & Minot, 2018).

Gender-transformative behavioural change methods, such as household methodologies, address some of these challenges. Household methodologies typically aim to facilitate more co-operative and gender-equitable

decision-making to contribute to more efficient and more equitable household outcomes (FAO et al., 2020; Farnworth et al., 2018). Promoting more inclusive decision-making is one way to transform power relations between women and men co-heads of households (Farnworth et al., 2018; Hillenbrand et al., 2015) and, as such, contribute to women's empowerment (Ambler et al., 2021; Anderson et al., 2017). Household methodologies often involve activities that call social norms into question (FAO et al., 2020). In some cases, the wider community is involved in such activities.

Robust evidence of the effects of household methodologies and other strategies aiming to change intra-household power relations is still scarce. A programme aimed at improving nutrition and stimulating dialogue on gender roles in households and agriculture increased women's empowerment among participating smallholder households in rural northern Malawi. The programme was also associated with new concepts of masculinity to encourage men's involvement in childcare, cooking, and domestic work (Kerr et al., 2007, 2016). In Uganda, a programme similar to the one studied here introduced participatory intra-household decision-making strategies to monogamous couples heading coffee-farming households. This increased women's involvement in domains they judged important, including farm and household decisions and access to household coffee income (Lecoutere & Wuyts, 2021).

Other programmes that address gender relations in households using participatory action learning include the Gender Action Learning System (GALS), Nurturing Connections, and Journeys of Transformation, among others. They have been mostly implemented among rural sub-Saharan African multi-person smallholder households. Such programmes have been found to raise men's and women's awareness of how gender inequality and strict gender roles negatively affect the wellbeing and resilience of their household. They are also associated with men accepting more gender-equal intra-household resource access, decision-making, and labour division (Farnworth et al., 2013; Mayoux, 2012; Wong et al., 2019).

Microfinance and cash transfers have been used as a way of changing intra-household gender relations regarding resource access. Evidence of their impact on women's empowerment is mixed (Banerjee et al., 2015a; Bonilla et al., 2017; de Brauw et al., 2014; Handa et al., 2009; Montgomery & Weiss, 2011; Yoong et al., 2012).¹

With this study, we contribute to the literature with evidence of the impact of a household methodology on women's empowerment at home. We assess the impact on different domains of women's empowerment of a programme that introduced participatory intra-household decision-making to monogamous couples heading smallholder coffee-farming households in rural south-west Tanzania. Participatory decision-making implies that spouses consult with each other when deciding on important household and farm matters. We test the hypotheses that introducing this type of decision-making:

1. enhances women's access to household resources and contributes to a more gender-equitable distribution of household commons;
2. strengthens women's voice and agency in household and farm matters; and
3. achieves results that women value, such as greater household welfare.

We use quantitative experimental methods to assess the impact of intensive coaching in participatory intra-household decision-making. We use quasi-experimental methods to assess the impact of a less intensive awareness-raising activity on participatory intra-household decision-making. We combine quantitative with qualitative methods to bring in women's perspectives on how the changes caused by the programme fit into aspects of empowerment and pathways towards empowerment they value. By doing so, we embrace more subjective dimensions of empowerment such as women's sense of agency.

¹Most of this evidence comes from multi-person rural smallholder households in low-income countries.

2 | CONTEXT AND INTERVENTION

2.1 | Context

Accounting for 27% of the national gross domestic product (GDP) of Tanzania, agriculture contributes more to GDP than any other sector (National Bureau of Statistics, 2021). Smallholder (household) farming is the dominant farming system, covering about 90% of cultivated land and contributing over 75% of agricultural outputs (FAO, n.d.).² In 2015, three-quarters of smallholder farming households in Tanzania were co-headed by married or co-habiting people, and a quarter were headed by a divorced, separated, widowed, or single (never married) person, often a woman (Anderson et al., 2016). Polygyny is practised in about 25% of households in rural Tanzania, including the study area in south-west Tanzania (Lawson et al., 2015).

Gender inequalities can be seen in property rights and asset ownership, education, livelihood options, healthy nutrition, and intra-household decision-making and labour division in Tanzania (especially relating to care) (Peterman, 2011; Levtoev et al., 2019; Quisumbing et al., 2021; Schindwein et al., 2020).

Studies in rural communities across Tanzania, of diverse ethnic and religious affiliations, show a widespread acceptance of gender norms that men should be the head and breadwinners of the household. Conversely, gender norms prescribe that women should be caregivers and responsible for domestic work (Badstue et al., 2021; Börjesson, 2005; Dillip et al., 2018; Feinstein et al., 2010).³ Gender norms and roles have hindered women's access to resources, their ability to earn an independent income, and their ability to move autonomously, as these qualities are considered masculine (Badstue et al., 2021; Börjesson, 2005). In lower-income households, however, it is more accepted that women can or should earn an income to sustain the family (Badstue et al., 2021).

Gender norms influence intra-household decision-making. Men believe that they need more control than women over decisions essential for their households' livelihoods (Levtoev et al., 2019; Palermo et al., 2020). In dairy livestock-keeping households in central and north-east Tanzania, for instance, having significant decision-making power is considered incompatible with being a good wife (Galiè & Farnworth, 2019). In central Tanzania, men associate decision making with masculinity and, in some cases, use violence to assert their power to decide and to force women to submit (Bonatti et al., 2019).

Prevailing gender norms also shape customary law regarding access to resources and land, the nuances of which may differ by ethnic or religious group. Although formal rights have been strengthened, *de facto* women's rights to acquire or inherit land and property or keep these after divorce or widowhood remain weak and insecure in Tanzania, particularly in rural areas where customary law prevails (Badstue et al., 2021; Lecoutere, 2016; Peterman, 2011). For instance, according to customary law, a woman's access to and benefits from land (especially clan land) depend on her relationship to a male heir (Dancer, 2017; United Republic of Tanzania, 2002). The Marriage Act sets out that, upon divorce, a woman retains rights to any property she brought into the marriage.

²In the Tanzanian census of agriculture, a household is defined as a socioeconomic unit that can consist of one (one person household) or more people (multi-person household). A multi-person household is a group of two or more people who share communal living and catering arrangements and expenses. These households typically include a husband, wife, and children.

An agricultural household is a household where one or more people are holder(s) and, in peasant farming, the household and holding typically concur (National Bureau of Statistics, 2011).

Smallholder households rely mainly on agriculture for their livelihood and have a maximum five hectares of land, or fewer than 50 cattle, 100 small livestock or 1,000 chickens (Anderson et al., 2016).

Some smallholder household farms focus on producing for subsistence; others focus as much if not more on producing for sale (over 50% marketed); others focus on off-farm activities (less than 25% of income derived from farming). The prevalence of the first type is declining and smallholder farms are becoming more commercially and/or more off-farm oriented (Wineman et al., 2020).

³Gender inequality is rationalized in various ways. Gender roles and responsibilities in households are maintained by social pressure and ostracism (Dillip et al., 2018; Feinstein et al., 2010).

In practice, what constitutes such property remains ambiguous (Peterman, 2011). Rising land values have led to an increase in evictions of divorced and widowed women (Lecoutere, 2016).

The custom of exchanging bride wealth to the bride's parents is still widely practised (Corno & Voena, 2016; MoHCDGEC, 2017), including in southern Tanzania (Maganga, 2002). Bride wealth payments reduce women's bargaining power by deterring women from ending their marriage. Such payments also increase the likelihood of early marriage of women when used for consumption smoothing during income shocks (Corno & Voena, 2016). Another custom that can undermine women's bargaining power includes polygyny (Lawson et al., 2015), with the threat that the husband will take a second wife (Cudeville et al., 2017).

2.2 | The intervention

We studied smallholder coffee-farming households headed by monogamous couples in the Mbozi and Mbeya Rural Districts, south-west Tanzania. On their farms, they grow food crops, primarily for their own consumption, and coffee for sale.

The households studied are members of 95 different producer organizations (POs) linked to the Hanns R. Neumann Stiftung (HRNS). HRNS is a German non-profit foundation that has been working with coffee-farming households in the area for over a decade. HRNS organizes farmer field schools, training in sustainable agronomic intensification and post-harvest practices, and joint marketing of coffee. In selected areas, HRNS implemented the Gender Household Approach (GHA) documented in FAO et al. (2020). We focus on the GHA in this study.⁴

With the GHA, HRNS aims to promote farm and coffee production as a family business where all household members contribute and benefit equally. This is expected to improve the livelihoods and the wellbeing of the family. Coffee farms are also expected to become more efficient, produce higher quality coffee and be more resilient to climate change when household members plan and work more co-operatively and intra-household gender inequalities are reduced (HRNS, 2016). A key feature of the GHA is the introduction of participatory intra-household decision-making.

The GHA is not only grounded contextually; its impact pathways also align with conceptual frameworks for women's empowerment (among others, Kabeer, 1999, 2005) and for collective action to manage commons applicable to agricultural households (Doss & Meinzen-Dick, 2015).

First, we hypothesize that participatory intra-household decision-making will contribute to women's empowerment by reducing information asymmetry and strengthening mutual commitment between spouses. Both increase the likelihood of co-operative and fair behaviour by spouses and reduce the likelihood of opportunistic

⁴The development of the Gender Household Approach (GHA) was informed by a gender survey conducted in Uganda in 2010 by HRNS and by HRNS's extended field experience in the region. HRNS realized that few married women in coffee-farming households participated in the agronomic and marketing training programmes. Married women did not strongly participate in decision-making about production of coffee or use of coffee income in their households, despite providing significant labour contributions to production (Terrillon & Joynson-Hicks, 2013). There was also evidence of limited co-operation between household members, side-selling of coffee by one of the spouses and, in some cases, limited motivation by the spouses to invest in productive and climate resilient coffee farms.

In response, HRNS set out a gender strategy in its Ugandan branch, which included awareness-building about gender issues at institutional and community levels. The GHA was designed as the project-level gender strategy. Fortunata Paska, a Ugandan gender and social development expert with extensive experience working with rural communities in East Africa and with roots in women's rights and human rights work, was one of the key designers. The feedback from the gender officers—with a background in family counselling and originating from and living in the respective project areas—who implemented the (pilot) GHA activities in the field further shaped the GHA to be effective and fit for the diversities, challenges and sensitivities in the local communities. Some elements of Gender Action Learning System (GALS), such as goal setting, are likely to have been an inspiration for the GHA.

HRNS first implemented the GHA in Uganda and later in other countries, including Tanzania. A gender analysis preceded the implementation of the GHA in south-west Tanzania. The implementation of the GHA was led by a Western gender and agricultural development expert, and closely guided by the gender resource personnel from the Ugandan HRNS branch. The Tanzanian gender officers contributed contextual knowledge of local intra-household gender issues.

behaviour, such as shirking on labour or excessively spending household income (Figure 1). More co-operative decision-making is associated with improved efficiency and sustainability of household farming, which is expected to benefit household welfare.

Second, women's voice in intra-household rule- and decision-making tends to be limited relative to men's in settings where patriarchal norms and customs dominate. We expect that women will gain a stronger voice as a direct consequence of more participatory decision-making in the household. A stronger voice can, in turn, help women shape fairer allocation rules. It can help women negotiate more equal allocation of the work burden between themselves and their husbands, and a fairer way of sharing the benefits derived from household farming.

Third, we expect that, with a stronger voice and influence, women's sense of agency will increase, along with achievements that are meaningful to women, such as enhanced household welfare.

The GHA is implemented as follows. Before activities with couples are conducted, HRNS mobilizes and raises awareness among local community and leaders of POs.

The GHA starts with couple seminars as an initial half-day awareness-raising activity. These seminars are organized for groups of couples from coffee-farming households who are members of a PO. During the seminar, the HRNS gender officer guides couples through a self-assessment of their division of roles, responsibilities, and household resources with the help of participatory tools such as gender-specific activity profiles and control-over-resources matrices. A group discussion increases the awareness of gender imbalances and the lack of co-operation between themselves and their spouses. This is expected to motivate couples to change by, for example, collaborating more and sharing resources and household farm income more equally.

Next, selected couples pursue the intensive coaching package that introduces participatory intra-household decision-making. First, in a one-day seminar for small groups, the HRNS gender officer coaches couples on how to make their decision-making more participatory, how to set a common goal for the household, and how to share household resources and responsibilities in more (gender) equal ways. Each couple lists their anticipated income, necessary expenditures for farm and household, and planned incremental investments to reach their common goals in a household farm plan and budget. The household farm plan and budget are essential communication tools for couples.

After that, the HRNS gender officer conducts a home visit to each couple to continue the coaching and to follow up on the household farm plan and budget. This typically takes a few hours. A subsequent half-day leadership training for women strengthens their leadership skills in groups and in the household. In a final half-day workshop for small groups, couples share their experiences and evaluate their progress and the coaching programme.

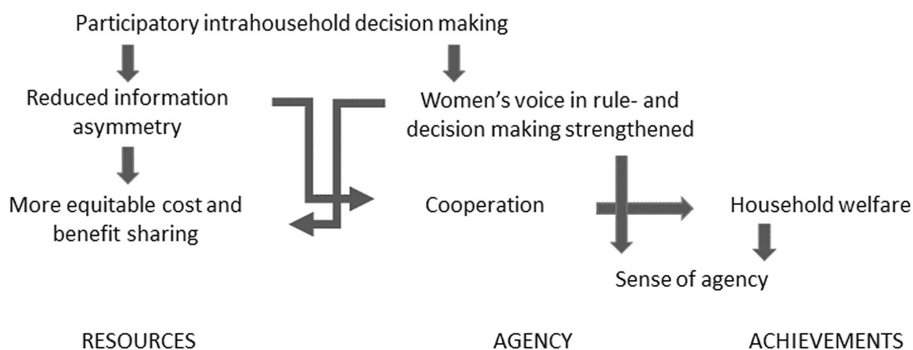


FIGURE 1 Hypothesized pathways of change by which participatory intra-household decision-making affects different dimensions of women's empowerment.

TABLE 1 Sample sizes.

| | Sample size |
|--|-------------|
| Treatment: Intensively coached group (T) | 147 |
| Control groups: | |
| • Group who received a couple seminar with potential spillovers (CA) | 143 |
| • Group who received a couple seminar not exposed to spillovers (CB) | 53 |
| • Control group without Gender Household Approach exposure (CC) | 56 |
| All | 399 |

3 | METHODS

3.1 | Quantitative methods for assessment of impact

3.1.1 | Identification strategy

The couples self-selected into the awareness-raising couple seminars that precede the intensive coaching package.

From the couples who participated in couple seminars, we randomly assigned couples to be encouraged to take up the intensive coaching package and couples not to be encouraged.^{5,6} We label those that were encouraged the *intensively coached group (T)*. Those who were not encouraged represented a control group (sample sizes in Table 1).^{7,8}

In one sub-group of the control group, couples could have experienced spillovers from interacting with intensively coached couples from the same PO (CA). In another sub-group of the control group, couples were not exposed to spillovers as we delayed the intensive coaching in the POs until after endline data collection to prevent interaction with intensively coached couples (CB).

To assess the impact of couple seminars, we identified another control group without Gender Household Approach (GHA) exposure (CC). This control group was composed of randomly selected couples in POs across Mbozi and Mbeya rural districts where HRNS did not implement its GHA.⁹ We can safely assume that these households are not fundamentally different, nor are they likely to live in other circumstances, but do live far enough away to avoid spillovers from any GHA activity.

Relying on the randomized encouragement design, we assessed the impact of the intensive coaching package versus a couple seminar by comparing the *intensively coached couples (T)* with each of the control groups: couples who received a couple seminar with potential spillovers (CA) and couples who received a couple seminar but were not exposed to spillovers (CB).¹⁰

⁵The encouragement itself consisted of a personalized phone call and printed invitation for the first activity, accompanied by a folder with a notebook and two pens, and a second chance to participate if the couple missed an activity.

⁶We randomized disregarding monogamous or polygynous relationships, oversampling by 25%, the expected proportion of polygynous households in the study area. For this study, we excluded couples in polygynous relationships from the analysis.

⁷In the *intensively coached group (T)*, 10 couples did not respond to encouragement and hence did not attend the intensive coaching. Twelve couples in the *control group who received a couple seminar with potential spillovers (CA)* attended the intensive coaching despite not being encouraged.

⁸There was random attrition between baseline and endline of three couples due to no consent, and of four couples due to divorce, death of one of the spouses, or relocation.

⁹For this study, we only retain couples in monogamous relationships in the *control group without GHA exposure (CC)*.

¹⁰Random encouragement achieved balance on most baseline characteristics across the *intensively coached group (T)* and the *group who received a couple seminar with potential spillovers (CA)*, as well as across the *intensively coached group (T)* and the *group who received a couple seminar but were not exposed to spillovers (CB)*. We provide balance tests in Table B in Online Supplementary Materials (OSM).

As the actual treatment status depends on couples' decisions to comply with the encouragement (which is therefore endogenous and can induce selection bias), we used the (imposed) randomized encouragement status to predict the actual treatment status—in other words, we used randomized encouragement status as an exogenous instrumental variable (IV).¹¹ We estimated IV regressions using the two-step generalized method of moments to compare outcomes between T and CA and between T and CB.

We also applied propensity score matching (PSM) to control for household characteristics that are enabling for women's empowerment, such as a small age difference between spouses, women's access to their own resources, or an educated husband (Lecoutere & Wuyts, 2021), and for any remaining (observable) baseline imbalance.^{12,13}

We assessed the *impact of couple seminars* by comparing each of the groups who attended *a couple seminar*—those *with potential spillovers (CA)* and those *without exposure to spillovers (CB)*—with the control group of couples *without Gender Household Approach (GHA) exposure (CC)*.¹⁴ Since couple seminars were not randomized, we relied on a quasi-experimental impact assessment method. We used regression analysis combined with PSM to correct for potential selection bias and to control for household characteristics enabling for women's empowerment.¹⁵

The estimated treatment effects on women's empowerment are externally valid for monogamous couples heading smallholder coffee-farming households in rural south-west Tanzania who belong to POs like those connected to HRNS and who would self-select into couple seminars. Furthermore, since these have been estimated using the randomized encouragement as an instrument, the treatment effects of the intensive coaching are only externally valid for couples who would enrol in treatment because they are encouraged to and for couples who would not enrol in treatment if not encouraged to.¹⁶

3.1.2 | Data and indicators

The implementation of the Gender Household Approach (GHA) as a field experiment started in December 2016. We collected baseline data in December 2016 and endline data from March to May 2018. We conducted baseline and endline interviews in approximately the same order with on average one year between interviews. We conducted individual surveys with each of the spouses in private. An overview of the key characteristics of the women and their households in our study population can be found in the Online Supplementary Materials (OSM).

We define women's empowerment as enhanced individual and joint decision-making and resource access (Johnson et al., 2016; Malapit et al., 2019). This aligns with women's own perspectives on empowerment (see *below*) and fits evaluating methodologies that address gender relations within households. We looked at women's access to resources and decision-making power—relative to their husbands'—to capture women's empowerment within monogamous couples.

We based the outcome indicators on the responses of the women to the survey questions. Where possible, we also defined indicators of the same outcomes based on agreement in the spouses' responses or averages of

¹¹The randomized encouragement status is a strong instrument for the actual treatment status. This is evident from the first stage regression results in Table D in OSM.

¹²We used inverse probability of treatment weighting for propensity score matching (PSM). Table C in OSM lists covariates included in PSM; Table B in OSM reports balance after PSM.

¹³The research design, allowing for imperfect compliance with the encouragement, reduces part of the risk related to unobserved heterogeneity in uptake. The matching procedure (based on observable characteristics) can be assumed to partly absorb selection bias due to unobservables. However, we cannot entirely exclude the chance that unobserved non-randomly distributed heterogeneity in people's perception of and responses to treatment are a source of selection bias (Barrett & Carter, 2010). However, such challenges, that can arise when randomized control trials are conducted with people who are agents, are not unique to our study.

¹⁴In this case, we excluded couples in CA who did not comply with their non-encouraged status.

Balance is also achieved on most baseline characteristics across CA and CC and across CB and CC (Table B OSM).

¹⁵Table C in OSM lists covariates included in PSM; Table B in OSM reports balance after PSM.

¹⁶Using the randomized encouragement as an instrument implies estimating local average treatment effects which are only externally valid for "compliers."

amounts reported by spouses. As such, we account for gender differences in perception and reporting of men's and women's individual and joint decision-making in individual surveys (Acosta et al., 2020; Ambler et al., 2021).¹⁷

Our first indicator for **women's access to household resources** is the share of household tropical livestock units (TLU) personally or jointly owned by the wife.¹⁸ Our second indicator takes the value 1 if the wife earned any personal income from off-farm activities in the three months prior to endline data collection. Our third indicator is the share of total household coffee income in which the wife was involved, personally or jointly, in sales and collecting money.

We used the ratio of total reported household coffee income by wife versus husband as an indicator of **transparency about coffee income** between spouses. In this context, wives tend to be ill-informed about and underestimate the total household coffee income. We assumed greater transparency if wife and husband report similar amounts.

Spousal differences in investments in household commons through **labour and time-use** is measured by the difference in proportion of work-time that wife and husband allocate to domestic and care tasks.¹⁹

Our first indicator of **women's agency** captures women's involvement in strategic farm decisions, measured as the proportion of four decisions in which the wife was involved—alone, jointly with her husband or with another member of the household.²⁰ Our second indicator similarly captures women's involvement in strategic household decisions.

Finally, we capture **household welfare** as achievements through women's assessment of whether the household improved its economic wellbeing and/or food security as compared to the previous year.

We adjusted p-values for multiple hypotheses testing, applying the method of Sankoh et al. (1997) as we test impact on families of outcomes.²¹

3.2 | Qualitative methods

With original qualitative data, we present the perspectives of women on aspects of empowerment they value and prioritize and their processes of empowerment. We conducted interviews with 24 women from our study population between 4 and 12 July, 2018.²² To ensure variation, we purposively sampled women with high and low aggregate empowerment scores from the *intensively coached group (T)* and the control groups of *couples who received a couple seminar with potential spillovers (CA)* and *couples without GHA exposure (CC)*.²³

¹⁷Table E in OSM presents descriptive statistics of outcome indicators in (unmatched) randomly assigned groups.

¹⁸TLU is based on number of cattle and small livestock, such as goats, sheep or pigs, excluding poultry. In the survey, we asked both spouses separately about the total number of cattle, resp. small livestock, owned by the household to deal with the complexities of livestock asset ownership in domestic units (Brockington et al., 2021). Subsequently, we asked each spouse what number out of the total number of household cattle/small livestock they owned personally. Personal ownership was defined as the ability for a person to sell without consulting anyone else and/or the fact that they acquired the (small) livestock with their own money. For the number of cattle/small livestock jointly owned by women, we deducted their husbands' reported personally owned cattle/small livestock from the number owned by the household. (While not common in the study context, if household members other than the husband are the personal owner of household livestock, an overestimation of women's joint ownership is possible.) We then calculated the share of TLU personally and jointly owned by the wife with regard to total household TLU as an indicator.

¹⁹Work-time is the sum of time allocated to different productive, care, and domestic activities.

²⁰The four strategic farm decisions are about major expenditures, investments, adoption of agronomic practices for coffee, and expenditures for agricultural inputs and labour in the three months prior to endline.

The four household-related expenditure decisions are about expenditures for school fees and children's necessities, for medical needs, for social events, and about sending remittances.

If no expenditure was made, we consider women involved in deciding if they feel they could personally make such a decision to a moderate or great extent.

²¹When adjusting p-values of estimates, we accounted for testing seven hypotheses while correcting for correlation between outcomes in the family for which hypotheses are not tested (Sankoh et al., 1997). We accounted for testing five hypotheses when adjusting p-values for indicators based on spouses' agreement or averages. Correlation coefficients are included in Table F in OSM.

²²Table A in OSM presents key characteristics of the women respondents.

²³The aggregate empowerment score is the unweighted average evolution from baseline to endline in quantitative measures of women's empowerment.

In semi-structured interviews, we used scoring exercises to capture women's perspectives on the ways and the extent to which they could exercise their voice in strategic decisions, and access and control resources in their households. We measured *voice* by a participant's perceived weight in the final decision. We enquired about changes over time and how women compare their voice to that of other women in their community using the same scoring exercises. We captured what women imagine as valued alternatives by asking for their ideal score. We used open-ended questions to understand the reasoning behind their scores.

At the end of the qualitative inquiry, we felt we had reached saturation as our story line was established and sufficient to support the propositions based on theory about women's empowerment. We achieved data saturation as little new information was gained beyond the 20th interview. To reduce the risks of confirmation bias, the researcher, who neither carried out the randomized control trial nor collected quantitative data, conducted the qualitative data collection. We reduced the risk of participants feeling pressured to give socially conforming responses by stating that our inquiries were independent of HRNS.

We were aware of the risks of bringing our own values and perspectives as researchers in development studies from a non-sub-Saharan African background into the assessment. To preserve objectivity and avoid inference of potential preconceived ideas during data collection, we first documented facts about recent events in women's lives during the interviews, followed by women's own perceptions and interpretations. We tried to avoid influencing participants' responses. To reduce the risk of subjectivity in the analysis and to uncover deeper meaning, each of the researchers first conducted the qualitative data analysis separately. We then combined our insights and reviewed the interpretation together. We also intensively consulted with and asked for feedback from the Tanzanian HRNS gender officers and the Tanzanian and Ugandan GHA coordinators prior, during, and after the interventions and study.

3.3 | Mixed-methods analysis

We adopted a mixed-methods approach with a sequential explanatory design to analyse the impact of introducing participatory decision-making on women's empowerment (Ivankova et al., 2006). This approach aligns with treating women's empowerment as subjective (Kabeer, 1999, 2005).

Our mixed-methods approach led with an analysis of the qualitative data to understand women's sense of agency and the aspects that women value and prioritize in empowerment (Section 4.1). Next, we identified patterns of pathways of empowerment by screening women's stories of their experiences of decision-making power and access to resources (Section 4.2). Subsequently, we quantitatively assessed the impact of the programme, the results of which are reported in Section 4.3. We also reflect on how the observed effects align with the meaning and value that women assign to different dimensions and also with women's pathways of empowerment; bringing together the quantitative and qualitative analyses. As such, we capture impact on the more subjective aspects of empowerment.

4 | RESULTS

4.1 | Women's perspective on empowerment

Qualitative data collected by scoring reveal that most women in our study population highly value having a significant voice in most types of decisions and resources (Figure 2). There was less consensus among women on the importance of sharing domestic work.

Importance of weight in decisions in different categories

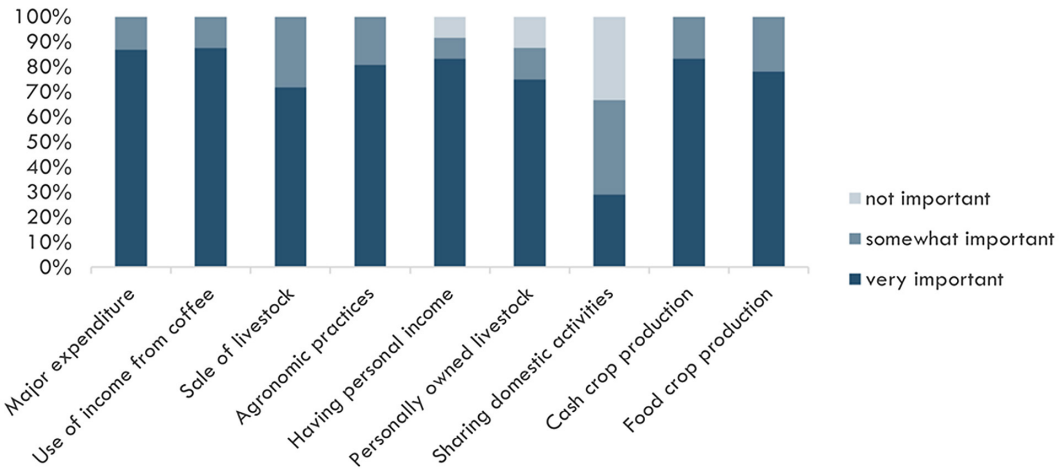


FIGURE 2 Percentage of women assigning high, some, or no importance to having significant weight in decisions in different categories (N=24).

Women assigned high importance to exercising their voice in important decisions, particularly about major expenditures and the use of coffee income (the main source of household income) for the sake of their households' wellbeing: "I see the benefit and high level of wellbeing when we decide together...some decisions made by my husband are not good" (T6_Itum).

Women value a voice in the use of coffee income together with their husbands. Some women fear that their husbands will "buy things that are not important for the family" or "waste money on nonsense or get another wife" (CA7_Itum).

One third of women feel they deserve to have a say in the use of coffee income: "We provide [labour] equally on the coffee farm. But when it comes to money, the husband decides. That is unfair. I want to have a voice on how the money should be used" (CA22_Uten).

Most women express a strong wish for personal income. They consider personal income crucial for making decisions independently from their husbands, to "cover minor expenses" and to be "independent from one's husband" (CA18_Isut); some women "don't feel good asking [their] husband for everything" (CA3_Isa). Women want to "take care of minor things in the family" (CA5_Itum) or "help my son and my grandchildren" (CA8_Itum). Additionally, for some women "it is very important to have personal income to take care of my family and sometimes help my husband in his difficult times"; this makes women feel "valued by [their] husband" (T6_Itum).

Domestic work appeared mainly as women's responsibility: "he [husband] doesn't do anything. Very few times, when I get sick, he helps with [collecting] firewood" (CC14_Rua). Some 70% of women feel bad when their husbands engage in housework, "it's not what husband is supposed to do" (CA5_Itum). Judgment by community members was also a barrier to sharing domestic work: "the community will laugh at us" (CC11_Iten); "they think I am controlling my husband" (T1_Isa); "other men and women think I am a witch" (CC14_Rua).

4.2 | Women's perspective on their process of empowerment

An initial observation of analysing women's perspectives on their empowerment process was that women's experiences are diverse.²⁴ Despite that diversity, 80% of women refer to a patriarchal mentality as a key challenge to enhanced decision-making power in their households: "The biggest challenge [...] is the social norm" (T2_Isa); "[the] mentality of men [that men are superior to women]. Men don't want women to have more voice because they are afraid that women will control the family" (CA4_Itum).

Even in households where women describe a more co-operative relationship with their husbands and report considerable voice over many decisions, women stated: "I want my husband to consider my voice. But my husband is the head of the family, so I prefer him to have more weight [in major decisions] than I do" (T1_Isa); "I am a wife, [my] husband is still a husband. I should not have the same power as him [in agricultural decisions]" (T2_Isa).

Overcoming challenges of a restrictive patriarchal mentality seems largely outside women's control: [one must be] "simply lucky" (T1_Isa; CC11_Itum). Two women, whose husbands have an education level beyond primary school, explained: "I feel lucky [...] he [husband] grew up in an educated environment and is flexible" (T1_Isa); "My husband is a priest and he grew up in a church family" (CC16_Rua). Another woman said, "My father-in-law is on my side and keeps advising my husband" (CA22_Uten).

Some women gave examples of external influences that made their husbands more accepting of their empowerment: through the church, the HRNS couple seminars, and intensive coaching, or because the husband divorced his second wife.

Following Lecoutere and Wuyts (2021), we label intra-household barriers to women's empowerment formed by patriarchal norms and customs a "*wall of patriarchy*." How strong a role patriarchal norms and customs play varies by household. More than 40% of women said that their husbands do not rigidly abide by prevailing patriarchal norms and customs. They can follow a pathway of empowerment where they can gain resource access and decision-making power labelled "*breaking through the wall of patriarchy*" (Lecoutere & Wuyts, 2021).

Some women explained that they had voice in some domains "since we got married" (CA5_Itum). An older woman felt she gained voice over the course of her marriage as she and her husband came to "understand and trust each other" (CA8_Itum). A young woman believed she "became braver" since the start of her marriage (CC13_Itum).

About 20% of women described a pathway of empowerment by enhancing their human capital and knowledge. They explained that lack of knowledge about coffee production is a significant constraint on their involvement in coffee-farming decisions. Men tend to depict women as people who "[do] not know anything about coffee" (CC14_Rua) and "cannot raise any good ideas about coffee" (CC12_Itum).

Those on an empowerment pathway which we label "*challenging the wall of patriarchy with knowledge*" explain that, because they "have knowledge about coffee-farming" (T6_Itum), have "experience in taking care of cattle and

²⁴Some degree of ethnic diversity is likely in our study population. Relatively large proportions of people in Mbozi District belonging to the main ethnic groups, Nyiha and Nyamwanga, and in Mbeya Rural District to Safwa, Malila, Sangu and Nyakyusa.

There are also increasing numbers of pastoral ethnic groups including Masai and Sukuma in Mbeya Rural District (United Republic of Tanzania, 1997). Gender norms and customs within Masai and Sukuma households tend to differ from other ethnic groups (Lawrence, 2009; United Republic of Tanzania, 1997). However, these pastoral ethnic groups are not likely to be involved in coffee farming, hence not likely to be included in our study population.

Excluding families in polygynous relationships, which is correlated with a Muslim religious affiliation, is likely to have reduced some of the religious diversity in our study population.

The socio-cultural beliefs, practices and norms governing gender and intra-household relations are likely to slightly differ by ethnic group or religious affiliation. These could be underlying reasons for some of the heterogeneity in experiences in (and effects on) women's empowerment in our study population. One study respondent referred to the limited voice of women among the Nyiha, for instance, and the Sangu are known to practice "widow inheritance," whereby a widowed woman is required to marry a male relative of her deceased husband (Msuya, 2017). A detailed analysis of such heterogeneity against ethnic or religious nuances, however, falls outside of the scope of this study.

small livestock since [living] at [their] mother's house" (CC13_Itum), or are "good at planning" (T19_Isut), their "husband[s] always listen to [their] advice" (T6_Itum).²⁵

Half of the women on this pathway see a positive relationship between their knowledge-based involvement in farm production decisions and their decision-making power, especially regarding the use of coffee income.

Women believed that participating in HRNS training on coffee-farming had been helpful: "since I went to agriculture seminars [...] my husband appreciates my advice" (CA7_Itum); "now, he [husband] asks me what we should do, when we should use fertilizer" (CA4_Itum); women feel "more confident" (CA7_Itum; CC14_Rua).

About 40% of women cannot count on the co-operation and goodwill of their husbands to effectively involve them in decision-making about household and farm affairs as they adhere to prevailing patriarchal norms and customs. These women are on a pathway of empowerment labelled "*circumventing the wall of patriarchy*" (Lecoutere & Wuyts, 2021).

On this pathway, women's involvement in decision-making can be:

non-existent: "My husband decides everything. [He] does not listen to me at all" (CC9_Itum);

passive: "My husband informed me and I accepted" (CA23_Uten);

or **minimal:** "Decisions are made by my husband in the end, but we discuss, and he gets me involved" (T24_Uten).

The husband's reliability is an issue in some households: "Sometimes when I am not around, my husband takes money and calls me to inform [me], but I don't believe it is the exact amount he used" (CA18_Isut); or, in the rare cases that the wife is informed by her husband about the coffee income they have earned, she does "not believe it is the exact amount" (CC22_Uten).

There is a relatively large age gap between most of these women and their husbands, which, according to the women, makes it more difficult to exercise their voice with their husbands. About half of them describe a difficult relationship with their husbands: "Previously, we discussed and decided together. Since [my] husband brought the other wife, the situation is worse. He does not listen to me" (CC15_Rua); and "I don't see any possibility [of regaining participation in decisions and income use], unless my husband divorces the other wife, goes to church again [and] stops drinking" (CC9_Itum).

One woman attributed the difficult relationship with her husband to ethnic customs and norms:

Other men have badly influenced my husband. Other families [in this community] belong to the Nyiha tribe. In this tribe, women have no voice. All were born and raised here and did not have cultural exchanges with other regions. My husband did not grow up here. So, at the beginning [of our marriage] the situation was good. But since he started [interacting] with other men in this area, he changed.

(CC17_Rua)

Some women on this pathway tried to challenge their lack of voice: "I reported his behaviour [of making major expenditure decisions without consulting me] to my father-in-law [...] and my husband changed" (CA22_Uten); and also, "I was so upset that I wanted to break up and started processing documents [for divorce...] My husband heard [what I said to] people there and changed [a little]" (CC10_Itum).

Some women, however, are not aware of ways to gain empowerment and cannot imagine strategies to negotiate greater voice and co-operation in their households: "[Change] is impossible [...] It is how he is on this issue. He will decide" (CA23_Uten).

Interestingly, personal income had various functions for women, depending on the pathway of empowerment. On the pathway of breaking through the wall of patriarchy, only half of the women have a source of personal income: "It is not important because we are doing everything together" (T20_Isut).

²⁵One of these women (T6_Itum) has attained higher secondary education and is therefore relatively highly educated.

In the pathway of *challenging the wall of patriarchy with knowledge*, all but one of the women have personal income. Strikingly, all women on the pathway of *circumventing the wall of patriarchy* have some source of personal income: "It is very important because I can't depend on my husband" (CC9_Iten); and "My husband can go anywhere" (CC10_Iten).

On this pathway, personal resources seem important for a degree of independence to manage risk.

4.3 | The impact of participatory intra-household decision-making on women's empowerment

Here, we report results of quantitatively assessing the impact of the interventions introducing participatory intra-household decision-making on women's empowerment. Furthermore, we reflect on how the observed effects align with women's valued dimensions of and pathways of empowerment, captured using qualitative methods.

4.3.1 | Women's access to household resources, transparency over income, time allocation

First, the results in [Table 2](#) show that the intensive coaching package did not have any statistically significant effects on women's access to household livestock as compared to couple seminars with potential spillovers (*T* vs *CA*) or without potential spillovers (*T* vs *CB*) (columns 1 and 2, rows A and B).

Couple seminars, however, significantly increased access to household livestock. As compared to no exposure to the GHA, couple seminars with potential spillovers increased access by 15 percentage points (*CA* vs. *CC*; column 3 row B); couple seminars without spillovers by approximately 20 percentage points (*CB* vs *CC*; Column 4 Row A).²⁶ These changes respond to the desire women expressed to have a significant voice in matters related to household livestock.

Second, intensive coaching significantly increased women's access to household coffee income compared to couple seminars without spillovers (*T* vs. *CB*; column 2 row C and D).²⁷ The proportion of household coffee income in which women were involved in sales increased by 35 percentage points. The transparency about coffee income between spouses improved significantly as well (*T* vs *CB*; Column 2 row E).

Couple seminars with spillovers also had a positive effect on women's access to household coffee income when compared to no GHA exposure (*CA* vs *CC*; column 3 Row D).

Both the increased transparency and enhanced access to household coffee income address women's desire to have more control over coffee income and participate in coffee-related decisions. This is important for women, as coffee is the main source of household income and not all women fully trust their husbands to manage this income in the best interests of the household. These changes can help women on pathways of *breaking through the wall of patriarchy* or *challenging the wall of patriarchy with knowledge* in which women have—or have acquired—opportunities to access key household resources.

Third, there are indications that the difference in work-time wife and husband spent on domestic work reduced as a result of couple seminars (with and without spillovers) as compared to no GHA exposure (*CA* vs *CC* and

²⁶As a reference, in the group without Gender Household Approach (GHA) exposure, women's share of ownership was 34.0% (OSM Table E).

²⁷As a reference, the proportion of household coffee income in which women were involved in sales was 55.1% in the control group who received couple seminars without spillovers (OSM Table E).

TABLE 2 Estimates of average treatment effects (β_x) on women's access to assets and income and on work-time allocation^a

| | | | (1) | (2) | (3) | (4) |
|-----|--|-----------|-------------|-------------|--------------|--------------|
| | | | T versus CA | T versus CB | CA versus CC | CB versus CC |
| (A) | Women's share in household tropical livestock units (TLU) | β_x | -0.033 | -0.141 | 0.125 | 0.198* |
| | (Indicator based on women's answers) | SE | 0.063 | 0.122 | 0.053 | 0.081 |
| | | p adj | 0.999 | 0.837 | 0.123 | 0.097 |
| | | N | 232 | 152 | 153 | 84 |
| (B) | Women's share in household TLU | β_x | -0.035 | 0.112 | 0.150*** | 0.049 |
| | (Indicator based on averages reported by wife and husband) | SE | 0.035 | 0.069 | 0.039 | 0.061 |
| | | p adj | 0.829 | 0.325 | 0.000 | 0.872 |
| | | N | 240 | 157 | 158 | 86 |
| (C) | Share of household coffee income with wife involved in sales | β_x | 0.021 | 0.351** | 0.13 | -0.048 |
| | (Indicator based on women's answers) | SE | 0.060 | 0.124 | 0.079 | 0.105 |
| | | p adj | 1.000 | 0.034 | 0.55 | 0.999 |
| | | N | 238 | 171 | 154 | 96 |
| (D) | Share of household coffee income with wife involved in sales | β_x | -0.03 | 0.410*** | 0.149*** | -0.128 |
| | (Indicator based on averages reported by wife and husband) | SE | 0.029 | 0.119 | 0.053 | 0.079 |
| | | p adj | 0.838 | 0.005 | 0.026 | 0.423 |
| | | N | 234 | 167 | 153 | 94 |
| (E) | Ratio of total household coffee income reported by wife versus husband | β_x | -0.23 | 0.344*** | 0.345 | -0.191 |
| | | SE | 0.179 | 0.087 | 0.225 | 0.147 |
| | | p adj | 0.826 | 0.000 | 0.642 | 0.786 |
| | | N | 230 | 163 | 148 | 89 |
| (F) | Difference in proportion of work-time allocated to domestic work between wife and husband | β_x | -0.031 | -0.001 | -0.09 | -0.108 |
| | | SE | 0.033 | 0.042 | 0.039 | 0.046 |
| | | p adj | 0.974 | 1.000 | 0.123 | 0.105 |
| | | N | 288 | 199 | 185 | 108 |

(Continues)

TABLE 2 (Continued)

| | | | (1) | (2) | (3) | (4) |
|-----|--|-----------|----------------|----------------|-----------------|-----------------|
| | | | T versus CA | T versus CB | CA versus CC | CB versus CC |
| (G) | Access to personal income | β_x | 0.009 | -0.086 | -0.122 | 0.05 |
| | (Dummy indicator based on women's answers) | SE | 0.036 | 0.068 | 0.061 | 0.089 |
| | | p adj | 1.000 | 0.766 | 0.262 | 0.995 |
| | | N | 288 | 200 | 185 | 109 |

T=Intensive coaching package, CA=Couple seminar with potential spillovers, CB=Couple seminar without spillovers, CC=Without exposure to the Gender Household Approach.

Note. Estimates of local average treatment effects (LATE) (β_x) with robust standard errors (SE) are based on the second stage of IV regression using the two-step generalized method of moments and PSM for scenarios T vs CA and T vs CB (columns 1 and 2). Estimates of the average treatment effects (ATE) (β_x) with robust SE are based on ordinary least squares (OLS) regression and PSM for scenarios CA vs. CC and CB vs. CC (columns 3 and 4).

p adj=p-value adjusted for multiple hypotheses testing; *** significance at 99%, ** 95%, * 90% based on p adj.

^aSee Table H OSM for full results including the constant and test statistics.

CB vs CC; columns 3 and 4 Row F) (Note that estimates are only significant at 12% and 11%, respectively).²⁸ However, women perceived sharing domestic work to be less essential than their empowerment in other domains.

Fourth, neither the intensive coaching nor couple seminars increased women's access to personal off-farm income (columns 1–4 row G). However, for women, access to personal income is important for independent decision-making or, when on a pathway of *circumventing the wall of patriarchy*, for managing the risk that they may not be able to rely on their husband to prioritize the wellbeing of the household.

In sum, apart from the results regarding personal income, the above results support the hypotheses that introducing participatory intra-household decision-making contributes to more gender-equal access to household resources and domestic and care labour division to the benefit of women.

Awareness-raising couple seminars have proved sufficient to enhance women's access to household livestock and a fairer domestic division of labour. However, increasing women's access to household coffee income required intensive coaching or couple seminars combined with spillovers from intensive coaching. This suggests that gender roles and norms that assign control of cash crop income and the responsibility to provide for the household to men need greater engagement to change.

The positive effects of intensive coaching and couple seminars with potential spillovers on women's access to household coffee income are comparable. This suggests that couple seminars combined with spillovers resulting from the interaction with intensively coached couples may have had similar positive effects on these outcomes to those of the intensive coaching alone.²⁹

4.3.2 | Women's involvement in strategic decision-making

First, intensive coaching significantly increased women's participation in strategic farm decisions—by 18 percentage points as compared to couple seminars without spillovers (Table 3: T vs CB; column 2 rows A and B). Couple

²⁸Without GHA exposure, wives allocate 36.5% more of their work-time to domestic work than husbands do (OSM Table E). Couple seminars reduce this by about 10 percentage points.

²⁹A formal estimation of spillovers is included in Table G in OSM.

TABLE 3 Estimates of average treatment effects (β_x) on women's involvement in strategic farm and household decisions and on improved household welfare^a

| | | | (1) | (2) | (3) | (4) |
|------------|--|-----------|-------------|-------------|--------------|--------------|
| | | | T versus CA | T versus CB | CA versus CC | CB versus CC |
| (A) | Proportion of farm decisions in which wife was involved | β_x | -0.011 | 0.184*** | 0.145*** | -0.063 |
| | (Indicator based on women's answers) | SE | 0.023 | 0.053 | 0.042 | 0.058 |
| | | p adj | 1.000 | 0.007 | 0.008 | 0.889 |
| | | N | 288 | 200 | 185 | 109 |
| (B) | Proportion of farm decisions in which wife was involved | β_x | -0.017 | 0.223*** | 0.156*** | -0.095 |
| | (Indicator based on agreement in wife's and husband's answers) | SE | 0.033 | 0.046 | 0.044 | 0.064 |
| | | p adj | 0.994 | 0.000 | 0.000 | 0.545 |
| | | N | 288 | 200 | 185 | 109 |
| (C) | Proportion of household decisions in which wife was involved | β_x | -0.014 | 0.039 | 0.03 | -0.08 |
| | (Indicator based on women's answers) | SE | 0.031 | 0.056 | 0.039 | 0.067 |
| | | p adj | 1.000 | 0.990 | 0.984 | 0.812 |
| | | N | 288 | 200 | 185 | 109 |
| (D) | Proportion of household decisions in which wife was involved | β_x | -0.023 | 0.07 | 0.031 | -0.102 |
| | (Indicator based on agreement in wife's and husband's answers) | SE | 0.039 | 0.059 | 0.042 | 0.07 |
| | | p adj | 0.985 | 0.672 | 0.926 | 0.522 |
| | | N | 288 | 200 | 185 | 109 |
| (E) | Household welfare improved over the year | β_x | -0.001 | 0.101 | 0.016 | -0.010 |
| | (Dummy indicator based on women's answers) | SE | 0.065 | 0.080 | 0.074 | 0.094 |
| | | p adj | 1.000 | 0.816 | 1.000 | 1.000 |
| | | N | 288 | 199 | 185 | 108 |
| (F) | Household welfare improved over the year | β_x | -0.011 | 0.070 | -0.031 | -0.073 |
| | (Dummy indicator based on agreement in wife's and husband's answers) | SE | 0.055 | 0.068 | 0.069 | 0.088 |
| | | p adj | 0.999 | 0.710 | 0.975 | 0.873 |
| | | N | 287 | 198 | 185 | 107 |

Note. The estimations of LATE (β_x) with robust SE are based on the second stage of IV regression using the two-step generalized method of moments and PSM for scenarios T vs CA and T vs CB (columns 1 and 2). Estimates of ATE (β_x) with robust SE use OLS regression and PSM for scenarios CA vs CC and CB vs CC (columns 3 and 4).

T=Intensive coaching package, CA=Couple seminar with potential spillovers, CB=Couple seminar without spillovers, CC=Without exposure to the Gender Household Approach.

p adj=p-value adjusted for multiple hypotheses testing; *** significance at 99%, ** 95%, * 90% based on p adj.

^aSee Table I OSM for full results including the constant and test statistics.

seminars with potential spillovers increased this by 15 percentage points compared to no GHA exposure (CA vs. CC; column 3 rows A and B).³⁰

As was the case for access to household coffee income, the positive effects of intensive coaching and couple seminars with potential spillovers on women's participation in strategic farm decisions are comparable, suggesting couple seminars with spillovers may be as effective as intensive coaching for these outcomes.

These results support the hypothesis that participatory intra-household decision-making strengthens women's voice and agency. These effects of the GHA align with women's highly valued involvement in farm decision-making. The positive changes are likely to support women on pathways towards *breaking through the wall of patriarchy and challenging the wall of patriarchy with knowledge*.

Second, the results provide no evidence that intensive coaching or couple seminars affected women's involvement in strategic household decisions (columns 1–4, rows C and D). Possibly, the lack of impact in this domain is explained by the fact that women already had a strong voice in strategic household decisions and there was little room for improvement.

4.3.3 | Household welfare

Neither the intensive coaching nor couple seminars had significant effects on the likelihood that household well-being and/or food security improved over the course of a year (Table 3, columns 1–4, rows E and F).

The hypothesis that participatory intra-household decision-making contributes to women households' welfare, as a valued achievement, is not supported by the evidence.

4.4 | Comparing the impact of participatory intra-household decision-making in rural south-west Tanzania and rural central Uganda

The same participatory intra-household decision-making programme was implemented in rural central Uganda and evaluated by Lecoutere and Wuyts (2021).

The prevailing institutions, norms, culture, and human behaviour in rural south-west Tanzania and rural central Uganda, and the history of women's rights and political participation in the two countries, are similar. There are also slight differences.³¹ These differences can restrict or enable women's empowerment and may explain some of the differences in the observed treatment effects on women's empowerment in the two localities. A comparison of the effects in rural south-west Tanzania and rural central Uganda can provide insights into contextual influence.³²

³⁰Women's involvement in strategic farm decisions stood at 71.7% in the control group that received couple seminars without spillovers (CB). It was 78.6% in the control group without GHA exposure (CC) (OSM Table E).

³¹Donno and Kreft (2019) argue that, both in Uganda and Tanzania, co-optation of women by the (authoritarian) party-based regimes, as well as the influence of women activist groups, have enabled the advancement of women's (formal) rights and women's participation in politics, including through early adoption of gender quota. Nevertheless, there are slight differences between Tanzania and Uganda in their histories of women's rights and women's political participation.

In Tanzania, women participated in the struggle for independence. Soon after independence, women's groups tended to be organized under the wing of the ruling party. Later, more autonomous women's groups tended to be hindered when seen as too political. Equality was important in the post-independence Ujamaa project. Yet women's roles and rights remained ambiguous. This is reflected in the current situation regarding women's rights in Tanzania, discussed in Section 2.1. (Donno & Kreft, 2019; Badstue et al., 2021).

In Uganda, gender roles were challenged by the active participation of women in the civil war preceding the rule of the current regime. It also enabled relatively autonomous women's movements to participate and lobby for women's rights rooted in gender equality. The latter is reflected in the constitution. However, the current regime focuses more strongly on women's political participation than on women's rights (Donno & Kreft, 2019; Wyrod, 2008).

³²However, a formal comparative analysis of the impact falls outside of the scope of this article.

In both Tanzania and Uganda, intensive coaching increased women's access to coffee income.³³ In Tanzania, women became involved in coffee sales of nearly all household coffee income. Women's access to coffee income remained much lower in Uganda. Intensive coaching also improved transparency between spouses about coffee income in Tanzania, but not in Uganda.

In both cases, couple seminars increased women's involvement in strategic farm decisions. In Tanzania, this increased further with intensive coaching. However, the percentage of strategic farm decisions in which women became involved after treatment remained low in Uganda.

The interventions did not change women's access to personal off-farm income in either Tanzania or Uganda.

The impact on other outcomes differed by country. Women's access to household livestock increased through couple seminars in Tanzania, where it was originally relatively low, but did not change in Uganda. The perceived wellbeing of the household and women's involvement in strategic household decisions were not affected in Tanzania, yet these increased through couple seminars in Uganda, where there was more scope for improvement.

The comparison suggests that, in both contexts, women's access to and information about coffee income require the deep engagement offered by intensive coaching or exposure to spillovers from intensive coaching to see significant effects. The larger gains in Tanzania suggest that norms and customs around control over household coffee income and farm decision-making are easier to relax in Tanzania than in Uganda. While both Ugandan and Tanzanian women consider personal income important for their empowerment and independence, the rural setting in both contexts may have limited women's ability to earn off-farm income.

5 | DISCUSSION AND CONCLUSION

This study builds upon the idea that more participatory decision-making between women and men co-heads can transform power relations between spouses, thereby empowering women.

The study's contributions to the literature are threefold. First, the study addresses an evidence gap on the potential of programmes that (1) facilitate women's empowerment by challenging power relations within households (Cornwall, 2016; Farnworth et al., 2013; Wong et al., 2019); (2) acknowledge the relationships between joint decision-making by spouses, intra-household co-operation, and women's empowerment (Doss & Quisumbing, 2020); and (3) recognize that empowerment is relational and its parameters depend on the interaction between women and their spouses, as well as norms around such interactions (Galiè & Farnworth, 2019).

Second, the study contributes evidence, based on quantitative experimental and quasi-experimental methods, of the effects of introducing participatory intra-household decision-making on different domains of women's empowerment.

Third, the study captures how the impact of participatory decision-making addresses more subjective, psychological aspects of women's empowerment by using a mixed-methods design to include women's perspectives and lived experiences.

We found that the Gender Household Approach (GHA)—a gender-transformative household method using participatory intra-household decision-making in smallholder coffee-farming households in south-west Tanzania—was effective in increasing women's access to household livestock and household coffee income, as well as in improving transparency between spouses about coffee income (*access to resources*). It also increased women's involvement in strategic farm decision-making (*agency*).

Intensive coaching in participatory decision-making, and attending an awareness-raising couple seminar combined with spillovers resulting from interacting with intensively coached couples, appear similarly effective at increasing women's access to household coffee income and farm decision-making.

³³In Tanzania there was also an effect from couple seminars with potential spillovers.

Women's increased agency and access to household income and resources align with their valued priorities, thereby improving their sense of agency. These impacts may aid women on pathways of empowerment where they have opportunities of *breaking through the wall of patriarchy*, formed by patriarchal norms and customs, or *challenging it because of their knowledge* about farming.

The GHA did not change perceived household welfare, despite being a key goal and a valued achievement for women. It did not change women's access to personal off-farm income either, despite women highly valuing personal income to make independent decisions on expenditures that benefit the household and, in some cases, to manage the risk that their husband should fail to prioritize the wellbeing of the household. Personal income is particularly valued by women on a pathway of empowerment where they have to *circumvent the wall of patriarchy* because their husbands hold on to patriarchal norms and customs, limiting their opportunities to exercise voice and agency in their households.

What do these results imply for policy-makers? We believe that gender-transformative household methodologies such as the GHA are worth replicating and rolling out because they can increase women's voice in farm decision-making and increase their access to household income and resources in rural societies where patriarchal norms and customs prevail.

With greater knowledge of farming practices, women have more leverage in decision-making and can challenge gender roles in their households. Gender-transformative household methodologies need to be complemented by increasing women's access to information and training. This can be done by explicitly inviting both women and men to agronomic and other training, organizing training at a time and place convenient for women, and adapting the content to suit women's needs and preferences.

Gender-transformative household methods such as the GHA should be combined with strategies to increase women's personal income and assets, since the GHA makes little difference to these. Increasing women's personal resources can further strengthen women's bargaining power (Cornwall, 2016; Farnworth et al., 2013; Wong et al., 2019), and also address women's wish for greater independence in their use of income and consumption.

Jealousy and criticism from other women in the community hindered women who were empowered from sharing their experiences and finding mutual support. This impeded collective agency among women, which has been shown to be of value for women's empowerment (Agarwal, 1997; Kabeer, 2011). The GHA may benefit from being complemented by activities to encourage attitudes more supportive of women's voice and agency among men and women in the wider community. The community dialogues and drama skits that HRNS organizes (but which were not part of this study) can facilitate more supportive attitudes in the community. Working with women and men role models willing to challenge norms and promote change, and with influential institutions, such as the church or non-governmental organizations, are other ways to influence prevailing community gender norms (Boyer et al., 2022; Casey et al., 2018).

Women need help to deal with possible resistance or backlash from their husbands—as well as criticism from the wider community—because they are swimming against the tide. Women's leadership training in the GHA could be expanded to help women understand resistance and backlash and prepare them to deal with them (see, for example, Prevention Collaborative, n.d.).

Women are on different pathways towards empowerment. Gender-transformative methods may prove more effective if adapted to the needs of women on different pathways. If cost-effective, a Graduation Programme combining careful targeting of subgroups with complementary sequenced interventions adapted to diverse needs of these subgroups may be useful (Banerjee et al., 2015b).

Finally, social and gender norms are persistent and deeply ingrained, yet malleable (Doss, 2021). The time demands of the GHA—about two days intensive coaching plus half-day couple seminars—seem modest compared to other household methods that engage with couples for four to 12 days (FAO et al., 2020).³⁴ That said, the imple-

³⁴The other household methodologies we use for comparison purposes include the Gender Action Learning System (GALS), Gender Model Family, Journeys of Transformation, Household Mentoring, and Community Conversations (FAO et al., 2020).

menting organization, HRNS, had established trust with the coffee-farming communities through its long-term engagement. Experiences with gender-transformative approaches and household methods seeking to challenge gender norms and domestic gender relations suggest that a long-term, intensive engagement with households and communities by a trusted institution is essential for their success (FAO et al., 2020).

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DATA AVAILABILITY STATEMENT

The quantitative questionnaires, dataset, Stata code, and qualitative interview guide and transcripts are accessible at <https://doi.org/10.17632/hmh94r2smc.1>.

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SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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