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Women's Individual and Joint Property Ownership

Effects on Household Decisionmaking

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ABSTRACT

Increasingly, women's property rights are seen as important for both equity and efficiency reasons. While there has been debate in the literature about women are better off with individual rights in contrast to rights jointly with their husband, little empirical work has analyzed this question. In this paper, the relationship of women's individual and joint property ownership and the level of women's input into household decisionmaking is explored with data from India, Mali, Malawi, and Tanzania. In the three African countries, women with individual landownership have greater input into household decisionmaking than women whose landownership is joint; both have more input than women who are not landowners. The relationship with other household decisions is more mixed, as is the relationship between housing and input into household decisionmaking. No similar relationship is found in Orissa, India.

Keywords: property rights, land, housing, women, decisionmaking

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1. INTRODUCTION

Researchers and policymakers increasingly recognize the important links that exist between women's property rights, household decisionmaking, and women's empowerment. Indeed, increasing a woman's property rights provides a path to increasing household efficiency and individual equity—if you increase a woman's property rights, you increase her bargaining power within the household, which can boost the productivity of that household and will also increase the woman's overall empowerment.

In this paper, we examine the relationship between household decisionmaking and property rights. By *property rights*, we are referring specifically to the ownership of productive assets. Productive assets are key indicators of a household's well-being since they can generate income and can also be used as collateral to access credit. Asset ownership also affects a household's ability to cope with and respond to shocks since they can allow households to diversify their income and ease liquidity constraints. More important, asset ownership by women influences women's relative bargaining power within their households and contributes to the well-being of their children and of the women themselves.¹ Acknowledging the fact that most assets are owned by individuals rather than by households, in this paper we separate individual and joint ownership to demonstrate the dynamic patterns of asset ownership within the household. While the relationship between women's ownership of assets and women's bargaining power has been analyzed, the literature has not discussed whether women's role in decisionmaking depends on whether they own property individually or jointly.

Using data collected through the CARE Pathways project in India, Malawi, Mali, and Tanzania, this paper analyzes the relationships between women's ownership of two key assets, housing and agricultural land, and their input into decisionmaking on agricultural production decisions and on nonagricultural decisions.

This paper contributes to the literature in three dimensions. First, we consider women's property rights to both housing and agricultural land. Second, we analyze whether individual and joint property rights have different impacts. Finally, we consider whether women's property rights affect decisionmaking both in the agricultural arena and in broader areas of household decisionmaking.

¹ See Doss (2013) for a discussion of women's bargaining power.

2. WOMEN'S PROPERTY RIGHTS AND HOUSEHOLD DECISIONMAKING

A substantive literature on women's property rights has emerged during the past two decades. Much of the early work asserted the importance of women's property rights and explored the many ways in which property rights were gendered and the ways in which various policies limited women's property rights (both intentionally and not). While this work continues, an additional strand of the literature focuses on demonstrating the relationships between women's property rights and other outcomes related to household well-being and economic growth.

Property rights are often used as a proxy for women's bargaining power in economic models of household decisionmaking and resource allocation (see Doss 2013). Using Sen's (1981) entitlement approach, Agarwal (1997) argues that the most important endowments for rural people are arable land and labor. With these, household members bargain over consumption, production, labor, asset ownership, children's outcomes (such as their health and education), decisionmaking on expenditure and savings, and women's overall well-being. This framework has been used empirically in a number of studies that indicate women's property rights are correlated with increased bargaining power. For example, Doss (2006) finds that rural women's ownership of farmland is correlated with higher budget shares on food and lower budget shares on housing and household goods and utilities across two time periods in Ghana. Quisumbing and Maluccio (2003) find that the assets that women bring to marriage in Ethiopia are positively related to food expenditures and the assets that men bring to marriage are positively related to education expenditures.

Bargaining power is related to the concept of empowerment. *Empowerment* is defined as "the process by which the powerless gain greater control over the circumstances of their lives" (Sen and Batliwala 2000). Kishor (2000) argues that for a better understanding of the empowerment process, indicators need to capture the *evidence*, *sources*, and *setting* for empowerment. Measures of evidence include women's participation in decisionmaking or measures that reflect women's rejection of gender-based subordination (Kishor and Subaiya 2008). Indicators such as women's education or age are only proxies for empowerment (Jejeebhoy 2000); more direct measures of empowerment must incorporate these patterns of participation in household decisionmaking (Kishor and Subaiya 2005). Measures of sources include women's access to and control over resources, including land and housing. And measures of setting include cultural aspects, such as living arrangements (Kishor and Subaiya 2008). Thus, decisionmaking within a household may be considered an outcome of household bargaining and can serve as important evidence of women's empowerment. Yet decisionmaking itself cannot be a single indicator of empowerment—it is complicated by the fact that some characteristics affect women who make decisions alone while these same characteristics do not have a significant impact on those who make decisions jointly (Kishor and Subaiya 2008).

Factors that are conventionally correlated with women's decisionmaking for agricultural households include women's age, type of family (extended or nuclear), number of children, education attainment, and household wealth. A report analyzing women's decisionmaking and empowerment using a number of Demographic and Health Surveys also includes as control variables the following: employment for cash, regular media exposure, age at first marriage, spousal age difference, co-residence of husband, and residence in an urban area (Kishor and Subaiya 2008).

For decisionmaking on agricultural issues, studies have found that a range of individual and household characteristics also influence women's participation. In a study on the determinants of women's contributions to farming decisions in cocoa-based agroforestry households in Nigeria, Enete and Amusa (2010) argue that the number of years of farming experience, women's financial contribution to farming activities, number of hours spent on the farm, and farm size are associated with women's participation in decisionmaking. Gasson and Winter (1992) argue that engaging in nonfarm activities is associated with the level of women's input in decisionmaking in farm households in the UK. When only the husband has a nonfarm job, it only marginally affects the wife's role in farm business, but when they both have a nonfarm job, she will be consulted more often. The authors argue that this may be due to the fact that couples in which the man and the woman are both engaged in nonfarm activities are likely to come from backgrounds with less traditional attitudes. Through an empirical study in Kenya, Kiriti,

Tisdell, and Roy (2001) found that the two factors most associated with household decisionmaking were the wife's age and her control over cash. Chen, Bhagowalia, and Shively (2011) study gender bias in input choices in agriculture and find that the proportion of boys in the household in India is positively correlated with increased fertilizer or irrigation use.

A few studies have analyzed the relationships between property rights (particularly ownership of productive assets or real estate) and women's decisionmaking. Empirical findings on the relationship between socioeconomic factors, asset ownership, and decisionmaking in South Africa and Uganda (Jacobs et al. 2011; Kes, Jacobs, and Namy 2011) indicate that having one's name on landownership documentation is positively correlated with decisionmaking over land and housing. They do not distinguish between individual and joint ownership in their regression analysis. In a study on women's property, mobility, and decisionmaking in rural Karnataka, India (Swaminathan, Lahoti, and J.Y. 2012), owning either land or housing is positively associated with the ability of women to travel to the market, a health center, and other places outside the community and is also positively associated with women's decisionmaking on employment and health. The authors consider women's ownership of either land or a house and the share of the gross value of the house and land owned by women as measures of women's property ownership, but they do not account for differences between individual and joint ownership.

Three papers using data from the Gender Asset Gap Project examine the role of both joint and individual asset ownership in household decisionmaking. Egalitarian decisions are defined as those in which husbands' and wives' responses about who contributes to decisionmaking (1) show a similar pattern (symmetry), (2) are confirmed by the other's response (agreement), and (3) reflect mutual consultation (Deere and Twyman 2012; Oduro, Boakyee-Yiadom, and Baah-Boateng 2012; Swaminathan, J.Y., and Lahoti 2012). These three papers find mixed results regarding whether the form of asset ownership (wife individually owns, husband individually owns, wife and husband jointly own, neither owns) has a significant effect on egalitarian decisionmaking; the papers on Ecuador (Deere and Twyman 2012) and Ghana (Oduro, Boakyee-Yiadom, and Baah-Boateng 2012) further highlight that the distribution of wealth between wife and husband may be an important factor in determining egalitarian decisionmaking.

Research is only beginning to consider the causal impact of women's property rights on empowerment. While there is good reason to expect that increasing women's property rights increases both their bargaining power and their empowerment, relatively little work has been able to rigorously demonstrate the causal relationship empirically, in part because there are few experiments (either natural or randomly controlled) that allocate land or housing to women and examine the effects.

One way to examine the causal links between property rights and empowerment is to take advantage of changes in marital property or inheritance laws. For example, Combs's analysis of the 1870 British Married Women's Property Act argues that after women gained the right to own and control some forms of property, married women were able to negotiate a larger share of household property (Combs 2006). Changes in the Hindu Succession Act in India resulted in a greater number of daughters inheriting land and also an increase in girls' education (Deininger, Goyal, and Nagarajan 2013).²

Yet almost none of these studies distinguish between women's individual and joint property rights. But there are reasons to expect that individual property rights might have different impacts than joint property rights. Agarwal (2003) argues that individual titles are more desirable due to their flexibility. Joint ownership of land may constrain women who wish to express their priorities on land use and limit women's use of alternative farming arrangements. Moreover, joint titles may restrain women's control over their produce or their rights to their shares when there is marital conflict.

While this may be true, Jackson (2003) argues that it is important to consider women's land rights in the context of their households and communities. Breaking the social norms by obtaining individual property rights may have high social costs, which may outweigh the benefits of individual ownership, and thus joint property rights may be preferable. Kevane and Gray (1999), in an analysis of southwestern Burkina Faso, encourage us to consider the gendered nature of property rights in the broader context of gendered social norms and institutions.

² Although this paper does discuss joint property, it is referring to property owned jointly by the extended family rather than jointly by the husband and wife.

One empirical study that considers both joint and individual ownership examines the effects of shocks on asset ownership (Quisumbing, Kumar, and Behrman 2011). The authors find that commonly experienced shocks—such as natural disasters, illness, or death of household members—affect assets differently depending on whether they are owned individually or jointly and by whom. For example, a flood or cyclone negatively decreases the area of land owned by husbands but not that owned jointly or by wives in Bangladesh. Covariate shocks are more likely to negatively affect assets owned by husbands in Bangladesh but not those of wives in Uganda.

Thus, there is a gap in the literature regarding how individual and joint ownership of property differentially affects women's role in household decisionmaking. Data from the CARE Pathways project provide key insights into these relationships.

3. PATHWAYS PROGRAM

The data used in this analysis were collected as part of the baseline data for CARE's Pathways program. This program seeks to increase poor women farmers' productivity and empowerment in more equitable agriculture systems, at scale. It is directly working with 52,000 poor women smallholder farmers and others in their households and communities in six countries. The analysis here will focus on data collected in four of the countries: India, Tanzania, Mali, and Malawi.

Data were collected from the regions or areas in these countries where the program is implemented. These areas were generally selected based on their suitability for production of project-selected crops and livestock, presence of other CARE programs, and potential for impact on agriculture, value chain, and gender-related interventions. In India, data were collected in the two districts in Orissa—Kalahandi and Kandhamal—where the project is implemented. The villages are representative of the diversity among scheduled castes and tribes that are a focus of CARE programs in India. In Malawi, data were collected from the project districts of Kasungu and Dowa, while in Mali data were collected from the Segou and Mopti regions. In Tanzania, the research was carried out in the Masasi and Nachingwea districts of the Mtwara and Lindi regions in the south.

The CARE Pathways program was started in September 2011 by working with existing groups of smallholder farmers in the selected districts. The program used a mixed-methods approach, employing both quantitative and qualitative research. Data were collected between July 2012 and November 2012. At the time of data collection, the program had identified existing groups for program implementation. While some activities had been initiated—such as project inception workshops and characterization of the groups—implementation of specific activities with these groups had not started at the time of data collection. The quantitative surveys were *beneficiary based* in that the samples were drawn randomly from sample frames composed of all households, with a female member in a group selected for program implementation. The selection process was conducted in two stages. Villages or clusters were first randomly selected from the overall operational area using probability proportionate to size based on female membership in collectives. In the second stage of sampling, households with female members in a group were randomly selected from each sampled village. The sample sizes varied by country; each was determined to provide statistically representative results for household-level and individual-level indicators at the project level. The number of households sampled ranged from 763 in Malawi to 923 in India.

In each country, the sample of communities for qualitative study was a subset of the quantitative sample, maximizing diversity along relevant criteria. The qualitative research used a diverse combination of participatory methods and tools, including focus group discussions, key informant/stakeholder interviews, seasonal calendars, 24-hour time allocation analyses, and Venn diagrams. The qualitative results provide insights to better understand and interpret the quantitative indicators. These results also offer complementary information about norms that affect women's property access and ownership, decisionmaking influence, and power relationships, particularly as these factors relate to poor women's ability to actively engage in and have control over agricultural production and marketing activities.

4. HOUSEHOLD DECISIONMAKING AND WOMEN'S PROPERTY RIGHTS

We consider decisions around seven household activities. These activities are (1) growing crops primarily for household food consumption, (2) cash crop farming (crops that are grown primarily for sale in market), (3) taking products to market, (4) purchasing inputs for agricultural production, (5) minor household expenditures, (6) children's education, and (7) major household expenditures. The first four are agricultural decisions, and the final three are household decisions.

The primary female decisionmaker in the household was asked how much input she has in making decisions about each activity; her response is coded as 0 if she has no input, 1 if she has input into some decisions, 2 if she has input into most decisions, and 3 if she has input into all decisions. This approach contrasts with many surveys that ask about household decisionmaking by asking the respondent to identify the primary decisionmaker, often allowing for both individual and joint decisions. The potential problem with the standard approach is that it assumes that the best outcome—in the sense that the woman is more empowered—is that she makes the decision alone. Yet a decision that is reached by consensus with a spouse—with each partner's having substantial input—may be the preferred outcome for many women. Thus, we argue that women's having more input into decisions is a better indicator of their empowerment than whether women make the decision alone or jointly.

Table 4.1 presents the summaries of women's responses regarding their input into a variety of household decisions. The mean level of input of each of the seven household decisions that we consider ranges from 1.81 to 2.12 in India, 2.04 to 2.32 in Malawi, 0.64 to 1.22 in Mali, and 1.93 to 2.27 in Tanzania. For India and Malawi, women have greater input into nonagricultural decisions than agricultural decisions; there is no similar pattern in Mali and Tanzania. For each decision, only those who report making such a decision are included in that sample.

Mali is an outlier in several respects. The average level of input in Mali is statistically significantly lower than levels in India, Malawi, and Tanzania for all seven decisions. In the other three countries, the highest average input is on decisions on minor household expenditures, whereas in Mali it is on decisions about cash crop farming. In all three African countries, women's input into major household expenditures was among the lowest, especially in Mali, where the average was 0.64 (indicating input somewhere between “no decisions” and “some decisions”).

For asset ownership, we consider two productive resources: land and house. For each asset, the primary female decisionmaker was asked, “Who would you say owns most of the [item]?” These are the same questions that are included in the Women's Empowerment in Agriculture Index to measure empowerment in the resources domain (Alkire et al. 2012). We consider individual and joint ownership separately. A woman is considered the individual owner if she responds that she is the person who owns most of the land/house. She is considered a joint owner if she responds that the owner of most of the land is self and partner/spouse jointly, self and other household member(s), self and other outside people, or self, partner/spouse, and other outside people. The reference group includes women who do not own most of the item, whether individually or jointly. Note that this measure does not capture whether women own *any* land or housing. A woman who owns a small plot of land individually may still respond that her husband owns most of the land.

As indicated in Table 4.2, the patterns of land and housing ownership for women vary widely across the four countries. The proportion of women who do not report that most of the land belongs to them, either individually or jointly, is statistically significantly higher in Mali compared to the other three countries; in Mali, 83 percent of the women surveyed do not report being the owner of most land, whereas the comparable numbers are 64 percent in India, 32 percent in Malawi, and 18 percent in Tanzania. Likewise, there is a statistically significantly higher proportion of women who are not owners of a house in Mali compared to the other three countries. In Mali, 90 percent of the women surveyed do not have house ownership in any form, whereas the comparable numbers are 65 percent in India, 22 percent in Malawi, and 18 percent in Tanzania. The proportion of women with land and house ownership is the highest in Tanzania, but only landownership is statistically significantly different from ownership in the other three countries. For house ownership, the percentage of women with any form of ownership in Tanzania is not statistically different from that in Malawi.

Table 4.1 Women's input into household decisions

Variable	Summary Statistics														
	India			Malawi			Mali			Tanzania			All		
	N	M	SD	N	M	SD	N	M	SD	N	M	SD	N	M	SD
Household food consumption	783	1.91	0.83	669	2.11	0.91	600	0.79	0.95	778	2.17	0.80	2,830	1.79	1.02
Cash crop farming	446	1.88	0.88	536	2.04	0.92	402	1.22	1.01	673	2.13	0.81	2,057	1.88	0.95
Marketing of agricultural products	434	1.82	0.88	560	2.06	0.95	409	1.16	0.98	682	2.01	0.88	2,085	1.82	0.98
Agricultural input	563	1.81	0.93	648	2.09	0.94	501	0.77	0.89	636	2.06	0.87	2,348	1.74	1.04
Minor household expenditures	855	2.12	0.74	668	2.32	0.79	608	1.08	0.90	775	2.27	0.75	2,906	1.99	0.92
Children's education	663	2.01	0.80	564	2.13	0.89	545	0.98	0.93	609	2.09	0.83	2,381	1.82	0.98
Major household expenditures	778	1.92	0.87	250	2.12	0.91	367	0.64	0.82	417	1.93	0.93	1,812	1.69	1.03

Source: Author's calculations, CARE Pathways baseline data (2012).

Note: N = number M = mean, SD = standard deviation. Input was ranked from 0 for *no input* to 3 for *input into all decisions*.

Table 4.2 Women's land and housing ownership and characteristics of respondents, summary statistics

Variable	India		Malawi		Mali		Tanzania		All	
	M	SD	M	SD	M	SD	M	SD	M	SD
Own land individually	0.10	0.30	0.28	0.45	0.10	0.30	0.39	0.49	0.23	0.42
Own land jointly	0.26	0.44	0.41	0.49	0.07	0.26	0.43	0.49	0.30	0.46
No land owned	0.64	0.48	0.32	0.47	0.83	0.38	0.18	0.39	0.47	0.50
Own house individually	0.11	0.31	0.21	0.41	0.07	0.25	0.38	0.49	0.20	0.40
Own house jointly	0.24	0.43	0.57	0.50	0.03	0.17	0.44	0.50	0.34	0.47
No house owned	0.65	0.48	0.22	0.41	0.90	0.30	0.18	0.38	0.46	0.50
Age	41.49	11.80	38.86	13.72	43.72	13.47	44.10	12.66	42.05	12.99
Female head dummy	0.19	0.40	0.26	0.44	0.10	0.30	0.33	0.47	0.23	0.42
Married dummy	0.88	0.32	0.81	0.39	0.90	0.30	0.67	0.47	0.81	0.39
Polygamous marriage dummy	0.05	0.21	0.10	0.31	0.49	0.50	0.15	0.36	0.18	0.38
Adult in household dummy	0.15	0.36	0.04	0.19	0.19	0.39	0.08	0.28	0.11	0.32
Number of children	2.27	1.70	3.58	2.00	3.87	2.90	2.46	1.72	2.96	2.19
No education	0.73	0.44	0.15	0.36	0.69	0.46	0.23	0.42	0.46	0.50
Some primary education	0.18	0.39	0.70	0.46	0.11	0.31	0.76	0.43	0.44	0.50
Some high school	0.08	0.27	0.15	0.36	0.06	0.23	0.01	0.09	0.07	0.26
Completed high school	0.00	0.06	0.00	0.05	0.14	0.35	0.00	0.00	0.03	0.17
Contributed to most group decisions	0.38	0.49	0.57	0.50	0.38	0.48	0.53	0.50	0.46	0.50
Number of Observations	866		674		611		784		2,935	

Source: CARE Pathways baseline data, 2012.

Note: M = mean, SD = standard deviation.

It is more common for women to be joint owners than individual owners of the house and land in all of the countries except Mali. Yet there are many fewer female-headed households in Mali and India. In Tanzania, 33 percent of women surveyed live in female-headed households. Most women in all four countries are married. The percentage of female respondents in polygynous marriages ranges from 5 to 15 percent in India, Malawi, and Tanzania but is 49 percent in Mali.

Because having another adult in the household may affect the patterns of decisionmaking, we include a measure of whether the parent or grandparent of the household head is resident. This ranges from a low of 4 percent in Malawi to 19 percent in Mali. The average number of children dependent on the female respondent is highest in Mali, with 3.9, and lowest in India, with 2.3.

The proportion of women with no education is lowest in Malawi, with 15 percent, and highest in India, with 73 percent (which is only marginally higher than the 69 percent in Mali). In addition, we include a variable to control for women's participation in groups. We create a binary variable to indicate whether the respondent contributes to most or all of the decisions in at least one group. The groups include village savings and loan associations, self-help groups, producer groups, forest users groups, water users groups, watershed committees, and farmers' clubs. The proportion of women who contribute to most group decisions is highest in Malawi, with 57 percent, and Tanzania, with 53 percent. Both of these averages, though, are much higher than the 38 percent in India and Mali.

The qualitative findings suggest a greater degree of gender disparity in control over household resources than is indicated by the quantitative data. For example, in Tanzania, although the quantitative findings suggest that women have input into most decisions, the focus groups revealed that both men and women generally view men as ultimate decisionmakers about all household expenditures. These two findings are not necessarily contradictory but provide insights into the process of household decisionmaking. Although the qualitative findings provide information about who makes the final decision within the household, quantitative data provide an insight to the degree of input a woman has throughout the decisionmaking process. There is likely to be wide variation among women regarding how much of their input might be considered a *joint* decision and the degree to which their input influences the final outcome. The qualitative findings provide relevant information that helps us better understand the results obtained from the quantitative data on the relationship between asset ownership and input into decisionmaking.

The following sections give brief explanations about land acquisition and decisionmaking patterns in India, Malawi, Mali, and Tanzania. The qualitative findings suggest that property is acquired through different means in the four countries, yet in all four countries, property ownership is associated with increased income, which in turn contributes to increased decisionmaking power within the household.

India

In India, as noted above, women have low levels of landownership, and more of the land is owned jointly than individually by women. While the marital property rights regime is one of separation of property—where marriage does not automatically confer rights to the spouse's property or create joint property within marriage—the rules regarding women's landownership have nominally changed during the past five years. Women's names are now supposed to be included on revenue land deeds and forest land deeds. However, in practice there has been little actual change in gendered ownership and control patterns. While the Forest Rights Act emphasizes joint title deeds, generally (unless the household is headed by a widow) the male household head is recorded as the rights holder, and the wife's name is listed as a dependent member. Thus, the male head of household is recognized as the landowner who gets to make decisions.

In some cases, women's names are not on official documents despite the new provision. In other cases, even when there are legal provisions for widows, a widow's in-laws (particularly brothers-in-law) are able to take away the land upon the death of her husband. The only situations in which women are typically able to control land are those wherein the woman is a widow and there are no other male

relatives (brothers of the husband) trying to claim the land, the woman is a female head of household and has no sons, or the family has only daughters. Yet wives often express a shared sense of ownership of property (particularly housing) even if they do not have any rights over the property.

The social norms around women and agricultural decisions are expressed in the Odisha Land Reforms Act. This allows widows, divorcees, and unmarried women to lease their land for cultivation when leasing is otherwise prohibited. This act has two underlying presumptions: (1) women should be protected from engaging in cultivation (therefore, they should be allowed to lease out their lands), and (2) only female heads of households should have control over land (while the normal married women's control over land is subsumed under "family"). Thus, there are strong social norms that support women's not being involved in agricultural decisions.

The quantitative findings suggest that women have input into most decisions. The qualitative results qualify this input: although it was often stated that "all kinds of decisions are made by men and women jointly," it was unequivocal that men were generally deferred to for final decisions based on their traditional authority (citing the patriarchal family structure). Age also affected decisionmaking influence, as it was suggested that older women are more influential in household decisions than younger women. Small decisions could occasionally be made when the husband was away, but in general women's capacity to make decisions was in doubt, due to their restricted mobility and limited exposure to information and education. Both women and men agreed that women lacked negotiating capacity, did not know the prices, and so forth to make good sales or purchasing decisions. Women stated that they wanted men to make major decisions (including those regarding children's education) because if a "wrong decision" were made, they would then not be blamed or beaten. Women also stated that it is their duty to minimize conflict within the family (Kalahandi District, Semilpadar, Women).

Decisions around the "daily food routine" were considered to be in the hands of women. In addition, women controlled small resources (such as poultry or goats). Women have greater access to (small) loans than do men via self-help groups. It was noted that the main change associated with women's participation in self-help groups is that women could make small daily expenditures on their own, and to some extent, their ability to access inputs has increased (Kalahandi District, Thrampur, Women).

Malawi

In Malawi, the quantitative results indicated that there is a higher level of joint ownership by women (41 percent) than individual ownership (28 percent). There is a tradition of both women and men owning land, although the patterns vary across the matrilineal and patrilineal areas. In the 2007 National Census of Agriculture and Livestock, both the Kasungu and Dowa districts were classified as matrilineal and virilocal (the classification is based on more than 50 percent of the villages in the districts having this lineage system). Both of the districts, however, have a combination of both the matrilineal and patrilineal lineage system, with 33.8 percent and 28.6 percent of the villages in Kasungu and Dowa, respectively, being patrilineal (Government of Malawi 2010).

In patrilineal landholding systems, land is passed on to male heirs. In matrilineal systems, the land is passed on to female heirs. There is variation in both of these systems depending on whether a married couple settles in the husband's village (virilocal residence) or the wife's village (uxorilocal residence).

The qualitative data indicate that land is allocated by the village headman to both female and male residents of the village; that person's family members can use it, but the one in whose name the land is allocated has more authority over it (Dzoole TA, M'dagwamo, Women). Both men and women inherit land equally from their parents, but landownership is determined by virilocal and uxorilocal residence patterns after marriage. Those men or women who migrate to their spouses' areas do not own the land, since it belongs to the native family. In villages where women move into their husbands' homes, "land is controlled by men because women are just visitors" (meaning they are just married in this area; the man pays bride-price for her). In contrast, "there are some households where the wife dominates/controls

decisionmaking. These are where the husband is staying in the wife's home area, or the husband doesn't provide" (Kawomba TA, Chilanga, Women). Subleasing is also a common practice of acquiring land—women sometimes use payout shares from the village savings and loan association to lease or purchase land.

The qualitative findings provide much more nuance about household decisionmaking. There was consistent agreement across most villages that men make the main decision about when to sell or rent out the land, while the couple decides jointly on whether to buy it. Renting or selling out land was described as a "last option," made only if they fail to source money elsewhere (Dzoole TA, Mdabwi, Mixed Group). In at least one group, it was mentioned that men can rent or sell even without telling the wife, based on the justification that "the land is mine." Compared to respondents in the other countries, however, the respondent groups in Malawi seem to place a higher value on making key decisions together, and women appear to have significantly more bargaining tools and autonomy in key decisions. For five of the seven decisionmaking domains, the country with the highest level of input by women is Malawi. One group stated that a household in which one spouse made any decisions without the knowledge of the other was on the verge of breakdown (M'dagwamo TA, M'dagwamo, Women).

On the purchase of inputs, some indicated that "women only support the man's decision; men are responsible for budgeting; also men are the ones who have money (to hire additional labor), so they make that decision." However, one group noted that in recent years, women have started to accumulate assets of their own from selling their crops (Njomba TA, Mafuta, Women). Women seem able to make some key decisions on their own (that is, slaughtering an animal, making a purchase), bargaining by presenting their justification for the purchase after the fact rather than asking permission in advance (M'dagwamo TA, M'dagwamo, Women). Ownership of animals may be sole or joint, depending on whose money was used to purchase the animal. Both women and men purchase livestock assets, and even if the animals are kept in the same pen or cage, the family member who purchased the livestock has the right to sell or slaughter his or her animals (Njombwa TA, Mafuta, Men).

Mali

In Mali, land is inherited patrilineally (father to son) or allocated by the village chief. Women have access to family land only through the male head of household; they do not own it. They can use family land for their crops in the off-season (after it has been cultivated by the men). This pattern is reflected in the very low percentages of women responding that they own land in Mali, either individually or jointly.

It was stated that the only way that a woman could control or own land is if she applied to lease or purchase a rice land parcel—with her own money—through the Office du Niger (Toridagako Circle, Niono, Women). This is a recent development, and although women compete with men for access to scarce land, a provision in the Farm Bill states that 10 percent of irrigated lands have to be allocated to women. There is, however, limited awareness about this provision, even in the project areas. Women had authority over only their home gardens and the income from them (Segou Circle, Ngakora, Women). Both men and women agreed that women can make agriculture decisions about their own production but that they use the resulting revenue (and any other income they generate from other sources, such as small income-generating activities) to support their husbands' activities—not their own. While women can make some decisions about poultry and their gardens, only widows were said to control their own assets (Djenne Circle, Tougouma, Men). Women stated that the reason women do not manage livestock is that they do not have the manpower or the money to purchase feed (Bandiagara Circle, Dandoli, Women). Women said that they can take small loans on their own (because they have higher repayment rates), but they are restricted from taking out larger loans because they do not have the assets required as collateral (Niono Circle, Toridagako, Women).

Both women and men tended to see women as the property of their husbands, therefore accepting men's authority on most decisions (their authority is backed up strongly by physical and verbal violence). Men stated that the only situation in which a woman can make major decisions is when she is the oldest member of her family and widowed (Djenne Circle, Gagna, Men). "Women, children, house, equipment,

and animals are all the property of the husband. If a woman is able to contribute financially to the life of the household, she has more power to make decisions” (Djenne Circle, Gagna, Matrix, Men).

Respondents also emphasized that when a woman contributes revenue to pay for household expenses—such as education, family planning, and healthcare—she has more decisionmaking power (Djenne Circle, Tougouma, Women). In one group, men added that if a woman were more educated or richer than her husband, she could make decisions in her husband’s place (Niono Circle, Toridagako, Men). Similarly, when asked about access to inputs, women explained that because men own land, they have more financial resources to access inputs and services. Input suppliers do not trust women because women have limited means and they suspect that women will not be able to repay loans (Bandiagara Circle, Dandoli, Women). Even when a woman can acquire and use inputs, the field in which they are used can be taken from the woman by either the owner or her husband if the field becomes productive (Niono Circle, Toridagako, Women). Thus, women’s landownership is gained through income of one’s own, and a woman’s ability to influence education and health decisions is also dependent on her own income. Having increased ownership of land—and therefore contributing more to household income—may explain women’s ability to contribute to the other major decisions.

Tanzania

In Tanzania, the qualitative data indicated that the only ways that women can acquire land are by inheriting a portion of land from her parents or deceased husband and, more rarely, purchasing or renting. As long as a woman is married, the family property is owned by the husband; she can use it with permission and gives advice about decisions regarding the use of the land, but the husband, as the head of the household, may take or ignore her advice (Masasi District, Naganga, Women). In the quantitative data, 39 percent of the women said that they owned most of the land individually. Another 43 percent said that they owned land jointly with their husbands. Even if 33 percent of the sample women are in female-headed households, these data indicate that a number of married women own land individually or jointly. In at least one group, women suggested that women can have veto power over the sale of forestland (Nachingwea District, Rupando, Women). Unlike in India, it was rare that the husband’s relatives expected to control the lands inherited by a widow. Women with means could purchase land. Women and men are said to have equal decisionmaking control over land and forest because the mode of acquisition is the same for both men and women (it is bought or rented) and women use the forestland for firewood.

Justification for men’s greater control over all assets, resources, and decisions was that women were seen as weak, culturally inferior, and incapable of intelligent decisions. Women make resource decisions only if they are widows or if the spouse has migrated for a long time. Women control assets only if the assets were acquired before marriage or if they purchase them with their own resources (Masasi District, Nagnana Village, Men).

In most villages, women said that they deferred to men, although they were in charge of decisions around food. They noted that decisions that do not involve payments (such as childbearing) were more likely to be made in consultation. Respondents said that men alone made “all decisions concerning payments,” but it was noted that women’s influence was changing to some extent. The quantitative data suggest that women have input into most decisions, even about major household expenditures. There were indications that conflicts were occurring in some households because men make unilateral decisions. In one village, women and men were said to have access to loans, so both could contribute to decisions around agriculture activities (Nachingwea, Ruponda, Women). In addition, it was noted that when women have a source of income, they are able to contribute more to the decisions (Nachingwea, Kilimahanda, Men). Thus, women’s landownership may be a proxy for increased income; if women can contribute income by selling crops produced on their own land, they may be able to contribute more to decisionmaking.

5. RELATIONSHIP BETWEEN PROPERTY OWNERSHIP AND HOUSEHOLD DECISIONMAKING

Although the qualitative data provide information about how decisions are made within households and how people perceive the processes, analysis of the quantitative data across the four countries can identify some of the broader patterns. We are interested in the relationship between women's property ownership and women's role in household decisionmaking. Thus, we ran a series of estimations where we regressed women's property ownership, including measures of both individual and joint ownership, on women's input into each of seven household decisions. Because the countries are so different, we analyzed each country separately.

The control variables included are woman's age and age squared; whether the household is headed by a single woman; whether the woman is married; whether she is in a polygynous marriage; whether there is another adult besides the head and other than the head's spouse (specifically, parent or grandparent of the household head); number of children dependent on the woman for food each day; woman's education (1 if she has received some primary education, either lower primary from class 1 to 4 or upper primary from class 5 to 7; 2 if she has some years of high school, class 8 to 10, or intermediate education, class 11 to 12; and 3 if she has graduated). The final control is whether the respondent has input into most or all decisions in a community group.³

Landownership and Women's Decisionmaking

Table 5.1 presents the coefficients on the two landownership variables for all seven decisions in all four countries (full regression results are in Appendix A).⁴ Compared to women without any form of landownership, women who own land individually are more likely to have higher input into decisionmaking on agricultural decisions in Malawi, Mali, and Tanzania, holding all else constant. The patterns continue but are less strong for nonagricultural decisions. Women's individual landownership has a positive impact on women's input into decisions about children's education and minor household expenditures in all three African countries. It has a positive impact on their input into decisions about major household expenditures in Mali and Tanzania, but not Malawi. Unlike the three African countries, however, women's individual landownership is not correlated with women's input into any of the household decisions in India.

³ These groups include agricultural/livestock/fisheries producers' group (including marketing groups); water users' group; forest users' group (preservation groups); credit or microfinance group (including Savings and Credit Cooperatives /vicuba); mutual help or insurance groups (including burial societies); trade, business, or cooperatives association; civic groups (improving community) or charitable group (helping others); local government/community elders/village council; religious group; and other women's groups.

⁴ In each estimation, only households that reported making such a decision are included. Thus, the samples for each estimation vary across decisions.

Table 5.1 Relationship of individual and joint landownership on household decisionmaking

Household decisionmaking	India	Malawi	Mali	Tanzania
Household food consumption	<i>n</i> = 662	<i>n</i> = 643	<i>n</i> = 588	<i>n</i> = 773
Self own	0.34	1.24***	2.98***	1.20***
Joint own	-0.15	0.60***	1.35***	0.22
Chi-square	0.1685	0.0157**	0.0002***	0.0000***
Cash crop farming	<i>n</i> = 409	<i>n</i> = 517	<i>n</i> = 391	<i>n</i> = 671
Self own	0.43	1.25***	2.28***	1.72***
Joint own	0.23	0.73***	0.86**	0.78***
Chi-square	0.6427	0.0601*	0.0074***	0.0002***
Market	<i>n</i> = 392	<i>n</i> = 539	<i>n</i> = 399	<i>n</i> = 679
Self own	-0.02	1.04***	2.76***	1.38***
Joint own	-0.21	0.45**	0.88**	0.41*
Chi-square	0.6639	0.0365**	0.0016***	0.0001***
Agricultural input	<i>n</i> = 509	<i>n</i> = 623	<i>n</i> = 488	<i>n</i> = 632
Self own	-0.08	1.19***	2.84***	1.25***
Joint own	-0.10	0.71***	1.10***	0.49**
Chi-square	0.9638	0.0586*	0.0005***	0.0035***
Minor household expenditures	<i>n</i> = 665	<i>n</i> = 640	<i>n</i> = 587	<i>n</i> = 768
Self own	0.27	0.73***	1.89***	0.43*
Joint own	0.32*	0.31	0.92***	0.12
Chi-square	0.8926	0.1059	0.0194**	0.1995
Children's education	<i>n</i> = 529	<i>n</i> = 541	<i>n</i> = 525	<i>n</i> = 605
Self own	-0.20	0.85***	1.24***	0.83***
Joint own	0.25	0.50**	1.07***	0.39*
Chi-square	0.3144	0.1833	0.6888	0.0958*
Major household expenditures	<i>n</i> = 609	<i>n</i> = 236	<i>n</i> = 351	<i>n</i> = 413
Self own	0.16	0.73	1.18**	1.25***
Joint own	-0.17	0.94***	0.62	0.66**
Chi-square	0.3681	0.6111	0.3533	0.0505*

Source: CARE Pathways baseline data (2012).

Note: * $p < [0.10]$. ** $p < [0.05]$. *** $p < [0.01]$.

Joint landownership also has a positive impact on women's decisionmaking. The size of the impact, however, is smaller for joint ownership than for individual ownership. In Malawi and Mali, joint landownership is associated with higher input into decisionmaking on all four agricultural decisions, holding all other socioeconomic factors constant. In Tanzania, however, joint ownership has a positive effect on the input into all of the agricultural decisions, except household food consumption. For nonagricultural decisions, the pattern is less clear. For each decision, joint ownership is statistically significantly correlated in two countries, but which two countries varies across decisions.

In all but one case,⁵ the size of the coefficient on individual ownership is always greater than that of joint ownership in all three African countries. This suggests that individual ownership is more strongly related to women's input in decisionmaking than is joint ownership. Using a chi-square test, we analyze whether the effects of individual and joint ownership are statistically different from each other. In Malawi, Mali, and Tanzania, the effects of individual and joint ownership are statistically different on all four agricultural decisions. In other words, respondents with individual ownership, on average, have higher decisionmaking input than do women with joint ownership into decisions on household food

⁵ That of major household expenditures in Malawi.

consumption, cash crop farming, marketing of agricultural products, and agricultural inputs. There is much less of a pattern for nonagricultural decisions. For India, none of the effects are statistically different from each other.

Housing Ownership and Women's Decisionmaking

Similarly, women's individual house ownership is positively associated with their level of input into decisionmaking on agricultural decisions in all three African countries (Table 5.2). Compared to women who do not own housing, women who own housing individually have higher input into decisionmaking on agricultural decisions in Malawi, Mali, and Tanzania, holding all other variables constant. Similar to the regressions using landownership, the effects of individual ownership on agricultural decisionmaking are all statistically significant at the 1 percent level in these three countries.

Table 5.2 Relationship of individual and joint housing ownership on household decisionmaking

Decision	India	Malawi	Mali	Tanzania
Household food consumption	<i>n</i> = 685	<i>n</i> = 598	<i>n</i> = 467	<i>n</i> = 744
Self own	0.13	2.06***	2.78***	1.03***
Joint own	−0.65***	0.98***	2.56***	0.27
Chi-square	0.0381**	0.0014***	0.7222	0.0042***
Cash crop farming	<i>n</i> = 384	<i>n</i> = 475	<i>n</i> = 325	<i>n</i> = 648
Self own	−0.49	1.55***	2.86***	1.12***
Joint own	−0.53**	0.76***	1.91***	0.69***
Chi-square	0.9449	0.0233**	0.2025	0.1262
Market	<i>n</i> = 380	<i>n</i> = 496	<i>n</i> = 330	<i>n</i> = 657
Self own	0.07	1.57***	2.09***	1.13***
Joint own	−0.63***	0.53**	1.97***	0.52**
Chi-square	0.1764	0.0026***	0.8754	0.0307**
Agricultural input	<i>n</i> = 478	<i>n</i> = 580	<i>n</i> = 389	<i>n</i> = 611
Self own	0.21	1.59***	2.13***	1.29***
Joint own	−0.93***	0.75***	1.65**	0.53**
Chi-square	0.0101**	0.0115**	0.5085	0.0075***
Minor household expenditures	<i>n</i> = 756	<i>n</i> = 597	<i>n</i> = 476	<i>n</i> = 741
Self own	0.68*	1.72***	2.32***	0.56*
Joint own	−0.38**	0.39*	0.91*	−0.12
Chi-square	0.0068***	0.0003***	0.0209**	0.0140**
Children's education	<i>n</i> = 578	<i>n</i> = 503	<i>n</i> = 423	<i>n</i> = 583
Self own	−0.31	1.34***	1.30**	0.38
Joint own	−0.58***	0.36	0.27	0.09
Chi-square	0.5788	0.0047***	0.1089	0.3602
Major household expenditures	<i>n</i> = 682	<i>n</i> = 192	<i>n</i> = 324	<i>n</i> = 398
Self own	0.18	0.73	1.89***	1.47***
Joint own	−0.68***	0.51	2.23***	0.39
Chi-square	0.0308**	0.7126	0.6936	0.0012***

Source: CARE Pathways baseline data (2012).

Note: **p* < [0.10]. ***p* < [0.05]. ****p* < [0.01].

The regression results on individual house ownership regarding nonagricultural decisions are mixed. While the pattern is for individual house ownership to be correlated with increased input into household decisions, it does not hold for children's education in Tanzania or major household expenditures in Malawi. In India, individual house ownership is correlated only with decisionmaking about minor household expenditures.

Compared to those women who are not house owners, women who jointly own housing have higher input into decisionmaking. For the three African countries, the patterns for agricultural decisions are the same, regardless of whether the asset owned jointly is land or housing. Owning housing jointly is correlated with greater input into all agricultural decisions (except household food consumption in Tanzania). For nonagricultural decisions, the results are weaker (or not significant) for minor and major household expenditures, with the exception of major household expenditures in Mali. Jointly owning a house in Mali is correlated with higher input into decisions about major household expenditures. Joint ownership of housing is not correlated with decisions about children's education in the three African countries.

In India, however, joint house ownership is negatively correlated with input into decisionmaking on all seven decisions. This is contrary to what the literature on women's empowerment would generally suggest. It may be that, in these areas of India, the social norms against women's being involved in agricultural decisions may be sufficiently strong that women prefer not to participate in these decisions and that women with more social status—such as those who claim property ownership—are able to say that they do not participate in these decisions. Furthermore, though the level of detail in the qualitative research does not give much insight into bargaining strategies and negotiations, it is possible that the threat of violence or the desire to fit the social expectations of a subordinate wife/mother (who “maintains stability in the family”) can lead women to understate or trade away some decisionmaking authority in exchange for other benefits.

In all but one of the regressions for the three African countries, the size of the coefficient on individual house ownership is always greater than that for joint ownership. This parallels the results for landownership.

While the chi-square tests do indicate some of the differences between the effects of individual and joint ownership of housing on input into household decisionmaking, they are less striking than the results for ownership of land. For house ownership, the results are mixed even for agricultural decisions. In Malawi, the difference is statistically significant in all four agricultural decisions, whereas in Mali none of the four differences are statistically significant. In Tanzania, the difference between individual and joint ownership is significant for decisions regarding household food consumption, marketing of agricultural products, and agricultural inputs, but not for input into decisions about cash crop farming.

Nor is there a clear pattern related to nonagricultural decisions. In all three African countries, the effects of individual and joint ownership are statistically different from each other regarding decisionmaking on minor household expenditures. For children's education, however, the difference is significant only in Malawi. For decisionmaking on major household expenditures, the effect of individual ownership is significantly greater than the effect of joint ownership in Tanzania only.

Overall, both individual and joint house ownership are positively correlated with decisionmaking input. Unlike the case for landownership, however, it cannot be generalized for the African countries that individual house ownership plays a greater role in increasing women's input into decisionmaking than joint ownership does. For house ownership, the effects of individual and joint ownership are based on context, with wide differences across countries.

In India, the effects of individual and joint house ownership are statistically different from each other for four of the decisions: household food consumption, agricultural inputs, and minor and major household expenditures. While these differences are important, they are not based on whether the decision is an agricultural one.

6. CONCLUSIONS

Property ownership is correlated with women's input into household decisionmaking, although the patterns differ across the four countries. Overall, women who own land or housing in Malawi, Mali, and Tanzania are more likely to have input into a greater number of household decisions. The pattern holds much less for India.

For the three African countries, landownership and house ownership (whether individual or joint) are each correlated with women's input into decisions regarding agriculture and, to a lesser extent, with women's input into other household decisions.

India provides a very different case. Women's landownership is not correlated with women's input into decisionmaking, with the exception of decisions about minor household expenditures. Similarly, women's individual housing ownership is positively correlated with increased input by women into minor household expenditure decisions. However, women's joint housing ownership is negatively correlated with the level of women's input into all decisions.

The qualitative findings caution us away from assuming that input into decisions means that women have the final say in these decisions. While there is some recognition of the importance of joint decisionmaking in all four countries, in the end much of the qualitative evidence reveals that the norm is for men to have the final say.

One important finding is that individual and joint landownership have statistically significantly different effects on women's input into agricultural decisions for all four of the decisions in the three African countries. This suggests that it is important to distinguish between individual and joint ownership of land and suggests that it would be useful to consider plot-level ownership at the individual and joint level, not simply asking about who owns most of the land. There is no relationship between women's landholdings, either joint or individual, and input into agricultural decisions in India.

Whether land is owned jointly or individually has less of an impact on other household decisions; the difference is statistically significant in 4 of the 12 estimates (3 decisions in each of 4 countries).

Whether housing is owned individually or jointly is statistically significantly different in explaining the relationship of housing ownership to decisions in more than half of the cases: 9 of the 16 agricultural decisions (4 decisions in each of the 4 countries) and 7 of the 12 nonagricultural decisions (3 decisions in each of the 4 countries).

This analysis relies on women's reporting of how the land is owned and their understanding of whether the land or housing is owned individually or jointly. It is not necessarily based on whether their names are on landownership documents. Joint ownership does not automatically indicate that the ownership rights are shared equally between the husband and wife. Issues of jointness and bargaining processes in households, both in terms of asset ownership and decisionmaking, should be the focus of additional research. This work highlights that individual and joint ownership may have different impacts on measures of women's empowerment and input into decisionmaking.

APPENDIX A: SUPPLEMENTARY TABLES

Table A.1 Relationship of landownership and decisionmaking: India

Variable	Decision						
	Household food consumption	Cash crop farming	Marketing of agricultural products	Agricultural input	Minor household expenditures	Children's education	Major household expenditures
Self own	0.34 [0.33]	0.43 [0.40]	-0.02 [0.42]	-0.08 [0.37]	0.27 [0.35]	-0.20 [0.42]	0.16 [0.35]
Joint own	-0.15 [0.18]	0.23 [0.25]	-0.21 [0.23]	-0.10 [0.20]	0.32* [0.19]	0.25 [0.21]	-0.17 [0.19]
Age	0.05 [0.05]	0.03 [0.06]	0.01 [0.06]	-0.02 [0.05]	0.05 [0.05]	-0.11* [0.06]	0.04 [0.05]
Age squared	-0.0005 [0.0005]	-0.0003 [0.0007]	-0.0002 [0.0007]	0.0003 [0.0006]	-0.0005 [0.0006]	0.001 [0.0007]	-0.0004 [0.0005]
Female head	0.46* [0.28]	0.43 [0.48]	0.79** [0.38]	0.26 [0.39]	0.58** [0.28]	0.34 [0.30]	0.19 [0.28]
Married	-1.03** [0.42]	-0.73 [0.64]	-0.80 [0.56]	-1.34** [0.53]	-0.76* [0.43]	-1.85*** [0.51]	-0.69 [0.43]
Polygamous marriage	0.85** [0.35]	1.31*** [0.42]	1.50*** [0.51]	1.10*** [0.38]	1.43*** [0.39]	1.45*** [0.46]	1.25*** [0.37]
Adult in household	-0.25 [0.21]	-0.31 [0.26]	0.07 [0.28]	-0.24 [0.23]	-0.14 [0.21]	-0.08 [0.23]	-0.19 [0.22]
Number of children	0.04 [0.05]	0.16*** [0.06]	0.16*** [0.06]	0.11** [0.05]	0.14*** [0.05]	0.10** [0.05]	0.08* [0.05]
Some primary education	0.14 [0.20]	0.06 [0.24]	0.05 [0.25]	0.08 [0.23]	0.29 [0.21]	-0.12 [0.23]	0.18 [0.21]
Some high school	0.54* [0.29]	-0.03 [0.35]	-0.06 [0.38]	0.63* [0.34]	0.67** [0.30]	0.24 [0.32]	0.39 [0.29]
Completed high school	-0.54 [1.13]	14.94 [1289.75]	-1.04 [1.62]	-0.36 [1.58]	0.03 [1.05]	-1.56 [1.01]	-0.46 [1.08]
Contributed to most group decisions	1.45*** [0.17]	1.31*** [0.22]	1.55*** [0.22]	1.38*** [0.19]	1.23*** [0.17]	1.54*** [0.20]	1.49*** [0.18]
Observations	662	409	392	509	665	529	609
Pseudo R-squared	.0924	.0850	.0884	.0834	.0874	.1108	.0822

Source: CARE Pathways baseline data, 2012.

Note: * $p < [0.10]$. ** $p < [0.05]$. *** $p < [0.01]$.

Table A.2 Relationship of landownership and decisionmaking: Malawi

Variable	Decision						
	Household food consumption	Cash crop farming	Marketing of agricultural products	Agricultural input	Minor household expenditures	Children's education	Major household expenditures
Self own	1.24*** [0.27]	1.25*** [0.28]	1.04*** [0.29]	1.19*** [0.26]	0.73*** [0.27]	0.85*** [0.27]	0.73 [0.45]
Joint own	0.60*** [0.19]	0.73*** [0.20]	0.45** [0.20]	0.71*** [0.19]	0.31 [0.19]	0.50** [0.21]	0.94*** [0.31]
Age	0.08** [0.04]	0.09** [0.04]	0.04 [0.04]	0.04 [0.04]	0.03 [0.04]	0.10** [0.04]	-0.05 [0.08]
Age squared	- 0.0009** [0.0004]	-0.001** [0.0005]	-0.0006 [0.0004]	-0.0003 [0.0004]	-0.0003 [0.0004]	-0.001** [0.0005]	0.0007 [0.0009]
Female head	-0.73** [0.29]	-0.36 [0.34]	-0.42 [0.31]	-0.52* [0.29]	-0.73** [0.29]	-0.58* [0.30]	0.0006 [0.40]
Married	-3.13*** [0.43]	-2.22*** [0.46]	-2.52*** [0.45]	-2.63*** [0.41]	-2.90*** [0.43]	-2.44*** [0.43]	-1.04* [0.56]
Polygamous marriage	0.21 [0.29]	0.10 [0.29]	0.21 [0.30]	0.23 [0.28]	0.44 [0.29]	0.52* [0.30]	-0.76* [0.43]
Adult in household	-0.41 [0.44]	-0.10 [0.51]	-0.39 [0.53]	-0.06 [0.50]	-0.18 [0.52]	0.58 [0.55]	-0.43 [0.65]
Number of children	-0.06 [0.05]	-0.02 [0.05]	0.005 [0.05]	-0.01 [0.05]	-0.04 [0.05]	0.02 [0.05]	-0.09 [0.07]
Some primary education	-0.80*** [0.26]	-0.49* [0.28]	-0.55** [0.28]	-0.55** [0.26]	-0.85*** [0.28]	-0.30 [0.26]	-0.33 [0.45]
Some high school	-0.45 [0.35]	-0.54 [0.38]	-0.51 [0.37]	-0.51 [0.34]	-0.52 [0.36]	0.11 [0.36]	-0.45 [0.54]
Completed high school	13.26 [1005.22]	omitted	omitted	12.69 [609.89]	12.80 [988.89]	11.94 [394.20]	12.88 [552.43]
Contributed to most group decisions	2.26*** [0.19]	1.99*** [0.20]	1.86*** [0.19]	1.85*** [0.18]	1.99*** [0.18]	1.89*** [0.19]	1.56*** [0.30]
Observations	643	517	539	623	640	541	236
Pseudo R-squared	.2369	.1884	.1709	.1899	.1987	.1818	.1334

Source: CARE Pathways baseline data (2012).

Note: * $p < [0.10]$. ** $p < [0.05]$. *** $p < [0.01]$.

Table A.3 Relationship of landownership and decisionmaking: Mali

Variable	Decision						
	Household food consumption	Cash crop farming	Marketing of agricultural products	Agricultural input	Minor household expenditures	Children's education	Major household expenditures
Self own	2.98*** [0.41]	2.28*** [0.46]	2.76*** [0.53]	2.84*** [0.45]	1.89*** [0.37]	1.24*** [0.38]	1.18** [0.50]
Joint own	1.35*** [0.30]	0.86** [0.40]	0.88** [0.42]	1.10*** [0.34]	0.92*** [0.30]	1.07*** [0.31]	0.62 [0.45]
Age	0.06 [0.04]	0.12*** [0.04]	0.07* [0.04]	0.06 [0.04]	0.03 [0.04]	0.12*** [0.04]	0.12** [0.06]
Age squared	-0.0008* [0.0004]	-0.001*** [0.0005]	— 0.0009* [0.0004]	-0.0008* [0.0005]	-0.0004 [0.0004]	-0.001*** [0.0004]	-0.002** [0.0006]
Female head	1.91*** [0.74]	0.70*** [0.81]	0.39 [0.89]	0.54 [0.71]	1.33** [0.64]	1.67** [0.77]	2.65** [1.29]
Married	0.57 [0.72]	-0.17 [0.74]	-0.43 [0.78]	-1.04 [0.70]	-0.39 [0.61]	-0.56 [0.76]	0.72 [1.32]
Polygamous marriage	0.009 [0.17]	-0.09 [0.19]	0.11 [0.19]	-0.05 [0.18]	-0.25 [0.16]	-0.23 [0.17]	-0.20 [0.23]
Adult in household	-0.23 [0.22]	-0.17 [0.26]	-0.29 [0.26]	-0.42* [0.26]	-0.43** [0.21]	-0.40* [0.22]	-0.96*** [0.32]
Number of children	-0.01 [0.03]	-0.03 [0.03]	0.02 [0.03]	-0.03 [0.03]	0.08*** [0.03]	0.003 [0.03]	0.08** [0.04]
Some primary education	0.33 [0.27]	0.26 [0.31]	0.20 [0.30]	0.40 [0.28]	0.52** [0.26]	0.38 [0.26]	0.66** [0.33]
Some high school	0.95*** [0.36]	-0.06 [0.43]	0.23 [0.49]	0.26 [0.42]	0.63* [0.37]	0.37 [0.37]	0.69 [0.48]
Completed high school	1.10*** [0.24]	0.48* [0.27]	0.48* [0.27]	0.46* [0.25]	0.76*** [0.23]	0.40* [0.24]	0.78*** [0.28]
Contributed to most group decisions	0.76*** [0.17]	0.43** [0.20]	0.28 [0.20]	0.61*** [0.18]	0.45*** [0.17]	0.32* [0.18]	-0.02 [0.23]
Observations	588	391	399	488	587	525	351
Pseudo R-squared	.1732	.0851	.0959	.1293	.1199	.0993	.1079

Source: CARE Pathways baseline data (2012).

Note: * $p < [0.10]$. ** $p < [0.05]$. *** $p < [0.01]$.

Table A.4 Relationship of landownership and decisionmaking: Tanzania

Variable	Decision						
	Household food consumption	Cash crop farming	Marketing of agricultural products	Agricultural input	Minor household expenditures	Children's education	Major household expenditures
Self own	1.20*** [0.26]	1.72*** [0.29]	1.38*** [0.28]	1.25*** [0.29]	0.43* [0.26]	0.83*** [0.30]	1.25*** [0.34]
Joint own	0.22 [0.19]	0.78*** [0.21]	0.41* [0.21]	0.49** [0.21]	0.12 [0.19]	0.39* [0.21]	0.66** [0.27]
Age	-0.04 [0.04]	-0.05 [0.05]	-0.02 [0.05]	-0.03 [0.04]	0.03 [0.04]	0.12*** [0.05]	0.03 [0.04]
Age squared	0.0004 [0.0004]	0.0003 [0.0005]	0.0002 [0.0005]	0.0003 [0.0005]	-0.0004 [0.0003]	-0.001*** [0.0005]	-0.004 [0.0005]
Female head	2.80*** [0.89]	2.40*** [0.85]	3.27*** [1.00]	3.76*** [0.95]	1.74** [0.72]	1.15 [0.81]	2.51** [1.14]
Married	0.90 [0.89]	0.25 [0.85]	1.03 [0.98]	1.55* [0.93]	-0.82 [0.71]	-0.56 [0.78]	0.36 [1.10]
Polygamous marriage	-0.48** [0.20]	-0.54** [0.22]	-0.57*** [0.22]	-0.50** [0.22]	-0.33 [0.20]	-0.60*** [0.22]	-0.25 [0.26]
Adult in household	0.11 [0.29]	-0.16 [0.31]	0.008 [0.31]	0.20 [0.33]	-0.17 [0.29]	-0.84*** [0.31]	-0.88** [0.37]
Number of children	-0.04 [0.04]	-0.04 [0.05]	-0.04 [0.05]	-0.08* [0.05]	-0.09** [0.04]	-0.009 [0.05]	-0.04 [0.06]
Some primary education	0.03 [0.19]	-0.36* [0.21]	0.08 [0.21]	-0.01 [0.21]	-0.14 [0.20]	0.49** [0.21]	-0.12 [0.27]
Some high school	-1.80** [0.80]	-1.80** [0.86]	0.18 [0.92]	-2.85 [1.74]	-0.99 [0.86]	-0.79 [0.99]	-1.37 [0.96]
Completed high school	Omitted	omitted	omitted	omitted	omitted	omitted	omitted
Contributed to most group decisions	1.56*** [0.16]	1.77*** [0.18]	1.59*** [0.17]	1.74*** [0.18]	1.54*** [0.17]	1.12*** [0.17]	1.36*** [0.21]
Observations	773	671	679	632	768	605	413
Pseudo R-squared	.2155	.2389	.2328	.2348	.1973	.1433	.1804

Source: CARE Pathways baseline data (2012).

Note: * $p < [0.10]$. ** $p < [0.05]$. *** $p < [0.01]$.

Table A.5 Relationship of house ownership and decisionmaking: India

Variable	Decision						
	Household food consumption	Cash crop farming	Marketing of agricultural products	Agricultural input	Minor household expenditures	Children's education	Major household expenditures
Self own	0.13 [0.35]	-0.49 [0.46]	0.07 [0.51]	0.21 [0.42]	0.68* [0.37]	-0.31 [0.46]	0.18 [0.38]
Joint own	-0.65*** [0.18]	-0.53** [0.25]	-0.63*** [0.24]	-0.93*** [0.22]	-0.38** [0.17]	-0.58*** [0.19]	-0.68*** [0.18]
Age	0.07* [0.05]	-0.03 [0.06]	0.04 [0.06]	-0.005 [0.05]	0.10** [0.04]	-0.02 [0.05]	0.09** [0.04]
Age squared	-0.0008 [0.0005]	0.0005 [0.0008]	-0.0004 [0.0007]	0.0002 [0.0006]	-0.001 [0.0005]	0.0002 [0.0006]	-0.0008* [0.0005]
Female head	0.30 [0.29]	0.42 [0.53]	0.86** [0.41]	0.16 [0.46]	0.19 [0.28]	0.17 [0.31]	0.09 [0.28]
Married	-1.47*** [0.44]	-1.75** [0.71]	-1.12* [0.60]	-1.19* [0.61]	-1.27*** [0.44]	-2.26*** [0.53]	-1.25*** [0.45]
Polygamous marriage	1.62*** [0.41]	1.10** [0.48]	1.75*** [0.60]	1.16*** [0.42]	1.69*** [0.41]	1.70*** [0.48]	1.50*** [0.40]
Adult in household	-0.46** [0.21]	-0.59** [0.27]	-0.18 [0.28]	-0.35 [0.24]	-0.27 [0.20]	-0.40* [0.22]	-0.24 [0.21]
Number of children	0.05 [0.04]	0.23*** [0.06]	0.18*** [0.06]	0.15*** [0.05]	0.08* [0.04]	0.11** [0.05]	0.05 [0.04]
Some primary education	0.33* [0.20]	0.24 [0.24]	0.32 [0.26]	0.33 [0.23]	0.28 [0.19]	0.09 [0.21]	0.15 [0.19]
Some high school	0.73*** [0.29]	-0.19 [0.34]	0.10 [0.38]	0.42 [0.33]	0.62** [0.28]	0.29 [0.29]	0.32 [0.27]
Completed high school	0.005 [1.13]	14.65 [756.18]	-0.61 [1.65]	0.11 [1.62]	0.52 [1.06]	-1.01 [1.03]	0.11 [1.10]
Contributed to most group decisions	1.22*** [0.16]	1.14*** [0.22]	1.15*** [0.22]	1.03*** [0.19]	0.99*** [0.16]	1.23*** [0.18]	1.23*** [0.16]
Observations	685	384	380	478	756	578	682
Pseudo R-squared	.0999	.0899	.0920	.0840	.0905	.1010	.0828

Source: CARE Pathways baseline data (2012).

Note: * $p < [0.10]$. ** $p < [0.05]$. *** $p < [0.01]$.

Table A.6 Relationship of house ownership and decisionmaking: Malawi

Variable	Decision						
	Household food consumption	Cash crop farming	Marketing of agricultural products	Agricultural input	Minor household expenditures	Children's education	Major household expenditures
Self own	2.06*** [0.36]	1.55*** [0.37]	1.57*** [0.36]	1.59*** [0.35]	1.72*** [0.38]	1.34*** [0.37]	0.73 [0.55]
Joint own	0.98*** [0.22]	0.76*** [0.23]	0.53** [0.22]	0.75*** [0.21]	0.39* [0.21]	0.36 [0.23]	0.51 [0.35]
Age	0.12*** [0.04]	0.11** [0.04]	0.09** [0.04]	0.06 [0.04]	0.06 [0.04]	0.12** [0.05]	-0.02 [0.10]
Age squared	-0.001*** [0.0005]	-0.001*** [0.0005]	-0.001** [0.0005]	-0.0007 [0.0005]	-0.0006 [0.0005]	-0.001** [0.0005]	0.0003 [0.001]
Female head	-0.49 [0.35]	0.13 [0.41]	-0.17 [0.38]	-0.36 [0.32]	-0.40 [0.34]	-0.25 [0.35]	0.50 [0.56]
Married	-2.94*** [0.51]	-1.97*** [0.54]	-2.30*** [0.52]	-2.53*** [0.48]	-2.36*** [0.51]	-1.86*** [0.49]	-0.63 [0.78]
Polygamous marriage	0.11 [0.30]	0.14 [0.31]	0.19 [0.32]	0.29 [0.29]	0.20 [0.29]	0.49 [0.30]	-0.72 [0.48]
Adult in household	-0.54 [0.51]	-0.35 [0.58]	-0.51 [0.64]	-0.33 [0.57]	-0.44 [0.59]	0.73 [0.61]	-0.71 [0.78]
Number of children	-0.08* [0.05]	-0.004 [0.05]	-0.03 [0.05]	-0.03 [0.05]	-0.05 [0.05]	0.03 [0.05]	-0.12 [0.08]
Some primary education	-0.87*** [0.27]	-0.55* [0.29]	-0.51* [0.29]	-0.56** [0.27]	-0.80*** [0.28]	-0.31 [0.27]	-0.77 [0.54]
Some high school	-0.48 [0.36]	-0.53 [0.40]	-0.41 [0.39]	-0.42 [0.35]	-0.51 [0.37]	0.15 [0.38]	-0.79 [0.65]
Completed high school	12.36 [544.91]	omitted	omitted	13.24 [784.68]	11.41 [371.81]	12.88 [621.44]	13.73 [1052.69]
Contributed to most group decisions	2.33*** [0.20]	2.13*** [0.21]	1.97*** [0.20]	1.95*** [0.19]	2.12*** [0.19]	1.91*** [0.20]	1.79*** [0.34]
Observations	598	475	496	580	597	503	192
Pseudo R-squared	.2597	.2012	.1884	.1990	.2225	.1866	.1475

Source: CARE Pathways baseline data (2012).

Note: * $p < [0.10]$. ** $p < [0.05]$. *** $p < [0.01]$.

Table A.7 Relationship of house ownership and decisionmaking: Mali

Variable	Decision						
	Household food consumption	Cash crop farming	Marketing of agricultural products	Agricultural input	Minor household expenditures	Children's education	Major household expenditures
Self own	2.78*** [0.52]	2.86*** [0.64]	2.09*** [0.63]	2.13*** [0.58]	2.32*** [0.48]	1.30** [0.53]	1.89*** [0.66]
Joint own	2.56*** [0.56]	1.91*** [0.64]	1.97*** [0.71]	1.65** [0.69]	0.91* [0.54]	0.27 [0.54]	2.23*** [0.76]
Age	0.07 [0.05]	0.10* [0.05]	0.04 [0.05]	0.07 [0.05]	0.03 [0.04]	0.09** [0.04]	0.07 [0.06]
Age squared	-0.0007 [0.0005]	-0.0009 [0.0006]	-0.0005 [0.0006]	-0.0008 [0.0005]	-0.0003 [0.0004]	-0.001** [0.0005]	-0.0009 [0.0006]
Female head	2.57** [1.14]	0.16 [1.12]	0.70 [1.20]	0.83 [1.00]	1.47 [0.95]	1.23 [1.02]	1.45 [1.62]
Married	1.27 [1.12]	-0.15 [1.09]	-0.18 [1.11]	-0.62 [1.00]	0.21 [0.95]	-1.10 [1.02]	0.26 [1.72]
Polygamous marriage	0.09 [0.19]	-0.11 [0.21]	0.08 [0.21]	-0.28 [0.20]	-0.29 [0.18]	-0.18 [0.19]	-0.24 [0.23]
Adult in household	-0.09 [0.24]	-0.02 [0.29]	-0.32 [0.29]	-0.37 [0.28]	-0.47** [0.23]	-0.25 [0.24]	-1.00*** [0.34]
Number of children	0.005 [0.03]	-0.0009 [0.04]	0.04 [0.03]	-0.01 [0.03]	0.08*** [0.03]	0.02 [0.03]	0.03 [0.04]
Some primary education	0.36 [0.29]	0.10 [0.35]	0.07 [0.34]	0.23 [0.31]	0.42 [0.29]	0.52* [0.28]	0.73** [0.34]
Some high school	1.36*** [0.42]	0.34 [0.46]	0.70 [0.51]	0.84 [0.52]	1.20*** [0.41]	0.62 [0.41]	0.89* [0.51]
Completed high school	1.08*** [0.27]	0.60** [0.29]	0.45 [0.29]	0.30 [0.28]	0.63** [0.25]	0.24 [0.27]	0.74** [0.30]
Contributed to most group decisions	0.53*** [0.19]	0.22 [0.22]	0.13 [0.21]	0.38* [0.20]	0.27 [0.18]	0.05 [0.20]	0.16 [0.24]
Observations	467	325	330	389	476	423	324
Pseudo R-squared	.1573	.0847	.0761	.0972	.1110	.0839	.0993

Source: CARE Pathways baseline data (2012).

Note: * $p < [0.10]$. ** $p < [0.05]$. *** $p < [0.01]$.

Table A.8 Relationship of house ownership and decisionmaking: Tanzania

Variable	Decisionmaking Aspect						
	Household food consumption	Cash crop farming	Marketing of agricultural products	Agricultural input	Minor household expenditures	Children's education	Major household expenditures
Self own	1.03*** [0.29]	1.12*** [0.31]	1.13*** [0.30]	1.29*** [0.31]	0.56* [0.29]	0.38 [0.33]	1.47*** [0.36]
Joint own	0.27 [0.20]	0.69*** [0.21]	0.52** [0.21]	0.53** [0.22]	-0.12 [0.19]	0.09 [0.22]	0.39 [0.26]
Age	-0.03 [0.04]	-0.02 [0.05]	-0.003 [0.04]	-0.02 [0.04]	0.05 [0.04]	0.14*** [0.05]	0.04 [0.04]
Age squared	0.0004 [0.0004]	0.00006 [0.0005]	-0.000005 [0.0005]	0.0002 [0.0005]	-0.0006 [0.0004]	-0.002*** [0.0005]	-0.0004 [0.0005]
Female head	3.00*** [0.98]	2.14** [0.99]	3.46*** [1.10]	4.09*** [0.98]	1.31* [0.79]	1.49 [0.95]	2.65** [1.19]
Married	1.00 [1.00]	-0.43 [0.98]	0.99 [1.10]	1.89* [0.98]	-0.96 [0.80]	-0.37 [0.95]	0.92 [1.18]
Polygamous marriage	-0.34 [0.20]	-0.40* [0.23]	-0.46** [0.22]	-0.39* [0.22]	-0.28 [0.21]	-0.56** [0.23]	-0.23 [0.27]
Adult in household	0.06 [0.29]	-0.20 [0.31]	-0.02 [0.31]	0.24 [0.33]	-0.19 [0.29]	-0.79** [0.31]	-0.78** [0.37]
Number of children	-0.04 [0.04]	-0.05 [0.05]	-0.06 [0.05]	-0.10** [0.05]	-0.08* [0.04]	-0.04 [0.06]	-0.04 [0.06]
Some primary education	0.17 [0.19]	-0.22 [0.21]	0.14 [0.21]	0.17 [0.21]	-0.03 [0.20]	0.52** [0.21]	0.07 [0.27]
Some high school	-1.52* [0.84]	-1.47 [0.92]	0.65 [1.09]	-4.15 [4.83]	-1.19 [0.95]	-1.32 [1.17]	-1.24 [1.05]
Completed high school	Omitted	omitted	omitted	omitted	omitted	omitted	omitted
Contributed to most group decisions	1.54*** [0.16]	1.76*** [0.18]	1.59*** [0.18]	1.72*** [0.18]	1.54*** [0.17]	1.15*** [0.17]	1.31*** [0.21]
Observations	744	648	657	611	741	583	398
Pseudo R-squared	.2070	.2309	.2266	.2376	.1966	.1401	.1779

Source: CARE Pathways baseline data (2012).

Note: * $p < [0.10]$. ** $p < [0.05]$. *** $p < [0.01]$.

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