

A Win-Win for Gender, Agriculture and Nutrition

Testing a Gender-Transformative Approach from
Asia in Africa



This is a baseline report developed for CARE USA and CARE International in Burundi by the Africa Centre for Gender, Social Research and Impact Assessment

EXECUTIVE SUMMARY

CARE Burundi and partners are implementing the project “A Win-Win for Gender, Agriculture and Nutrition: Testing a Gender-Transformative Approach from Asia in Africa” to test an innovative, gender-transformative approach for the agriculture sector and how this approach improves gender equality. The purpose of this baseline study was to provide benchmark indicators for measuring impact of the research based on the theory of change. The baseline was carried out in two Provinces, Kirundo and Gitega. A multi-stage sampling procedure was adopted where three Communes were purposively selected in every province namely Bugendana, Buraza, Mutaho in Gitega and Bwambarangwe, Kirundo, Ntega in Kirundo. This was followed by a cluster sampling technique where collines were randomly selected. And finally a total of 1,296 respondents sampled using a sampling frame provided by CARE.

The main tool for data collection was the Women’s Empowerment in Agriculture Index (Pro-WEAI) which was adjusted to include other modules on rice production and productivity, household dietary diversity, household incomes, couple communications, attitudes about domestic violence and others adopted from the CARE Burundi SASA baseline. The final questionnaire was translated in Kirundi and data was collected using Open Data Kit (ODK) using tablets.

The results show the average age of respondents was 43.6 years. Majority of the households (72%) were male-headed households. Most of the households owned and cultivated land (78%), with most of the land jointly owned (66.1%).

The main household assets were livestock which were largely by men (24.4% for large livestock; 64.3% for small livestock and 31.6% for Poultry). Nonetheless, the type of ownership was mainly joint (80.2% for large livestock, 71.6% for small livestock and 63.1% for the poultry). Other assets were ownership of non-mechanized equipment, small consumer durables, housing and buildings which were also jointly owned, apart from cellphones which were more likely to be solely owned.

Over 60% of the respondents grew rice. Apart from seeds which were used by over 80% of the respondents, use of other inputs such as fertilizers, manure and chemicals was very minimal. Agronomic practices were also limited to land preparation (62.3%), Planting (62.3%), 1st Weeding (60.4%), harvesting (57%), threshing (33.8%), and bagging (19%). The highest cost in rice production was fertilizer which comprised of 31% of the non-labour costs, followed by the cost of seed that was 19% of the total non-labour costs. Rice productivity was 52.51Kg/ARE which translated to 2125.21Kg/acre. The total mean valued for the rice produced was BIF 286, 553 per household.

Women had a significantly higher dietary diversity score (5.2) compared to men who had a score of 5.0 with women in male headed households having a significantly higher dietary diversity score (5.3) compared to women in female headed households who had an average dietary diversity score of 4.9. About a third of the women did not meet the minimum dietary diversity score for women. The results further show that male-headed households had a slightly higher Food Consumption Score (34.73) compared to female headed households (31.72). About 46.3% of the total households were within the acceptable levels of FCS.

Of the total agricultural income, crops contributed the largest share, with rice contributing to 25.1% of the total crop income. Sale of cattle contributed 47.8% of the total livestock income, while milk contributed 89.2% of the livestock product income.. Women participated more on decision to do with routine purchases of food and other household needs, and less on purchases of land, bicycles, livestock and other transport items (18%). Interestingly, a higher percentage of women made input into most or all decisions to do with income from staples (63.1%), small livestock (56%) and poultry (57.6%). The pattern was similar for non-farm income and wage employment.

A wide range of credit sources was available, but majority of the respondents (89%) accessed credit from group based sources, including village savings and loan associations. Majority of those who borrowed from groups were women, and they were also responsibility for payment.

Compared to men, most women felt they had little or no autonomy to make decisions on various farm activities. In terms of general self-efficacy, both men and women rated themselves very low. Furthermore, women's self-efficacy was much lower than the one of men, with only 40% of women saying they would ask their husbands to help with household tasks. This was much lower than the percent of men who said that they would help with household tasks if their wives asked and they were not doing anything else.

Although the results show that more men than women participated in collective activities, it was the women who had higher physical mobility and social capital, with the percent of women visiting public places or joining groups was higher than that of men. A bigger percentage of men (92.7%) also said that they respected their wives compared to 80.6% of women. Similarly, more men (62.1%) communicated to their wives upon disagreement than women did.

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ACRONYMS

BIF	Burundian Franc
CDDS	Child Dietary Diversity Score
EKATA	Empowerment through Knowledge And Transformative Action
GL	Gender Light
HDDS	Husband Dietary Diversity Score
FCS	Food Consumption Score
VSLA	Village Savings and Loan Associations
WDDS	Women Dietary Diversity Score

1.0. Introduction

1.1. Project summary and objectives

The project “A Win-Win for Gender, Agriculture and Nutrition: Testing a Gender-Transformative Approach from Asia in Africa” is a four-year research program, implemented in six communes in the provinces of Kirundo and Gitega in Burundi, to test an innovative, gender-transformative approach for the agriculture sector that starts with developing critical consciousness and challenging discriminatory beliefs and social norms through a model of reflection, community dialogue and collective action. CARE and partners are testing how this approach improves gender equality and how a focus on power relations and consciousness-raising may also yield sustainable effects on food security, nutrition and economic well-being. The project is testing two key approaches (1) a gender-transformative model (the “EKATA”- Empowerment through Knowledge And Transformative Action- model) for gender equality and (2) a typical gender-mainstreamed approach in the agriculture sector (“Gender-Light” model), in which basic gender activities are integrated into a program that has a principal focus and measures of success on women’s economic empowerment through agriculture and micro-enterprise development. The key research question is *“What is the added value, and what are the associated costs of applying a gender-transformative approach within a livelihoods intervention, in terms of accelerating lasting transformations in gender equality, food security and economic well-being?”*

The aim is to challenge mainstream assumptions in the agriculture and food security sector that addressing women’s economic empowerment and changing unequal access to material resources (with minimal gender-awareness messaging) is sufficient enough to catalyze significant social changes in gender equality. This assumption is dearly upheld by many development agencies because it allows for a “lighter” more cost-effective and potentially more replicable and scalable sectoral intervention, without the challenges and skills training associated with deeper political or social change. CARE’s hypothesis is that an explicit and more intensive focus on gender can be a win-win for gender justice and improvements in agriculture productivity, income and food security.

The project has three main objectives:

1. To contextually adapt EKATA, a proven and impactful gender-transformative approach, for use in a multi-sectoral agricultural intervention in Burundi.
2. To evaluate the differences in outcomes and processes of the gender-transformative EKATA approach compared against a standard Gender Light approach in the outcome areas of gender equality, and food security and economic well-being.

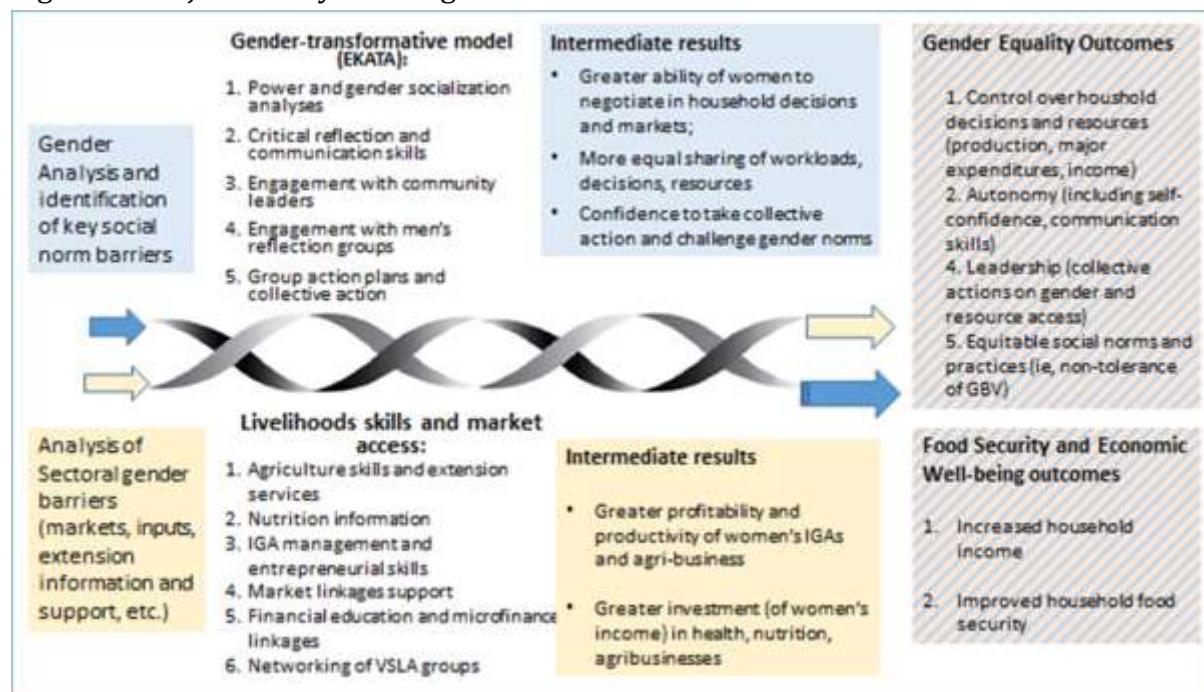
- To determine the differential costs and capacities required to support lasting transformations in gender equality and improved sectoral outcomes through a gender-transformative approach, as compared with the standard Gender Light model.

1.2. Project theory of change

A gender-transformative approach such as EKATA, which addresses underlying social norms and gender inequalities, and includes a fundamental element of critical reflection, power analysis and group solidarity, is expected to yield greater and more sustainable outcomes than the prevailing gender integration (Gender Light) model, not only in gender equality outcomes but also in associated sectoral outcomes in food and livelihood security and economic well-being.

The Gender-Light model, like most mainstream interventions in the sector, is premised on the capacity of women to take individual actions, without leveraging the critical ‘consciousness-raising’ and collective action component that may be crucial to transformation of social norms and unequal power structures. In contrast to the EKATA approach, a Gender-Light model is unlikely to significantly transform the power relations within the household; to fully engage men in sharing caregiving responsibilities; or to enable women to gain control over valuable productive assets or to participate fully in the major household decisions and strategic life choices.

Figure 1: Project theory of change



Administratively, the country is divided into 17 provinces. Each province is subdivided into communes and each commune into collines. The colline is the smallest administrative unit. The research design follows a quasi-experimental approach that will be used to test the impacts of the Gender Light and EKATA model against a control. This type of design is appropriate for development projects as it has no “real” control. The control and treatments have incremental interventions and the design is therefore appropriate from an ethical perspective. A cluster sampling technique was used to randomly select collines. The two gender models and a control will be randomly allocated at the level of the colline, with all VSLA’s in a colline implementing one approach to avoid spillover effects.

The 2 treatments and control considered were:

- VSLA + Livelihoods skills and market access (Control)
- VSLA + Livelihoods skills and market access + Gender Light (Treatment 1)
- VSLA + Livelihoods skills and market access + EKATA (Treatment 2)

2.2. Data collection tools

The baseline survey aimed at collecting both qualitative and quantitative data. For the quantitative research, the main tool was the Women’s Empowerment in Agriculture Index (Pro-WEAI) developed by International Food Policy Research Institute and the Oxford Poverty and Human Development Institute for the Feed the Future program. The tool is adapted to reflect the holistic and strategic approach to empowerment particularly on issues of autonomy, self-confidence, mobility, and gender-equitable attitudes. It includes 13 indicators nested within 5 domains of empowerment: These main domains are a) Decisions about agriculture; b) Control over household decisions and resources (production, major expenditures, income); c). Autonomy (self-confidence, communication skills); d) Leadership (including collective action on gender issues and resource access); and e) Equitable social norms and practices (equal sharing of workloads, respect for women’s rights, non-tolerance of gender-based violence).

In addition, the tool was adjusted to include other modules on rice production and productivity, household dietary diversity and household incomes. The WEAI modules also had additions on couple communications, attitudes about domestic violence and others adopted from the CARE Burundi *SASA* baseline.

The development of the tool was led by the Africa Gender Centre in collaboration with CARE Burundi and CARE USA. The questionnaire which was developed in English was later translated to French and Kirundi for ease of implementation. The Kirundi version of the questionnaire was programmed and loaded in the tablets which were used for data collection.

2.3. Sampling procedures and sample size

For the purposes of selecting respondents in the baseline survey, a multistage sampling was used. The provinces and communes were purposively sampled based on availability of VSLAs and rice production potential. It was important to sample areas where rice growing was taking place in order to allow for effective program intervention. From each commune, a cluster sampling of collines was done to select those that would be used for implementation and analysis. At least six collines were selected in each commune and randomly allocated to the two treatments and to a control group. All VSLAs in each sampled colline will implement the same treatment in order to avoid cross contamination of approaches.

Table 1: Selected study sites

Province	Commune	Treatment	Colline sampled
Gitega	Bugendana	EKATA	Kivuvu, Nyakeru
		Gender Light	Mwurire, Rwingiri
		Control	Runyeri, Gaterama
	Buraza	EKATA	Muhonda, Buraza
		Gender Light	Gitaramuka, Bugega
		Control	Ndago, Burazi
	Mutaho	EKATA	Mwumba, Muyange
		Gender Light	Masango, Kivoga
		Control	Bigera, Kidasha
Kirundo	Bwambarangwe	EKATA	Mukenke, Mutarishwa
		Gender Light	Kabuyenge, Minyago
		Control	Gasave, Mugongo
	Kirundo	EKATA	Yaranda, Mwenya
		Gender Light	Rambo, Rugeno 1
		Control	Karamagi, Gikuyo
Ntega	EKATA	Gisitwe, Kinyovu	
	Gender Light	Gitwenti, Buringanire	
	Control	Gatwe, Rutagara	

After the selection of VSLAs, a random sample of households was selected for the quantitative survey. To select the households, a sampling frame provided by CARE and partners with all the names of the VSLA members was used. A computer package www.randomizer.org was used to select random samples of respondents. The study population was mainly the smallholder farmers growing rice and the respondents were adult female and males in a household. Based on the formula discussed in the proposal, a

total of 1,296 respondents were sampled (432 each in EKATA, Gender Light and Control). This was done proportionately depending on the number of VSLAs in each selected colline. **Table 1** summarizes the sampled areas per province.

2.4. Data collection

2.4.1. Training of enumerators

Actual data collection was done by a team of locally recruited enumerators with the help of CARE Burundi. The selection of enumerators was based on their educational background (at least someone with a bachelor's degree and with knowledge of Agriculture and gender), has knowledge of the local language and is familiar with the areas where data collection took place. Based on this, a total of 15 enumerators were selected from Gitega and Kirundo provinces and interviewed.

Training of enumerators was done by Africa Gender Centre and this was centrally done at Gitega. The enumerators were taken through the content of the questionnaire (French version), and later on they were trained on use of tablets to capture data in the field. The main topics of the enumerators training included: understanding the objectives of research, understanding questionnaire content, role plays and discussions on framing of questions, use of tablets in data collection, loading and up-loading data from the tablets to the server, carrying out field implementation and procedures to be followed in the field during data collection.

2.4.2. Questionnaire pre-testing and revision

Before embarking on the final data collection, the enumerators and the facilitators pre-tested the questionnaire in nearby homesteads in Gitega province. This was meant to ensure that the enumerators fully understood the content of the questionnaire, the order of the questions and the skip patterns in the tablet. After the pre-testing, the questionnaire was revised to reflect some of the concerns observed in the field.

2.4.3. Field data collection

The implementation of field data collection was overseen by CARE Burundi in close consultation with Africa Gender Centre. This took approximately one month.

Table 2 summarized the total number of household interviewed in each site.

2.5. Data analysis

The data which was uploaded in the server was downloaded in Excel, and converted into SPSS Software for ease of management and analysis. Exploratory analysis was done to identify key anomalies and outliers (data cleaning). For most variables, the analysis includes descriptive statistics, cross-tabulations, comparison of means and where

applicable inferential statistics. The outputs have been presented in tables, graphs and charts for ease of interpretation.

Table 2: Total number of households interviewed

Province	Commune	EKATA	Gender Light	Control	Total sample
Gitega	Bugendana	115	83	50	248
	Buraza	40	50	40	130
	Mutaho	65	66	93	224
	Total	220	199	183	602
Kirundo	Bwambarangwe	61	112	88	261
	Kirundo	45	106	136	287
	Ntega	116	15	34	165
	Total	222	233	258	713

3.0. Results and discussion

The results closely follow the project theory of change. For most results, we compare across the control, gender light and gender transformative especially where there are differences between these treatment groups. As most data (especially with respect to the gender outcomes) was collected from male and female adults in the same household, most of the analyses is presented to contrast men and women in the same household in order to identify where gender is an important variable. Where relevant, we have also made comparisons between male and female headed households, and between women in male and women in female headed households.

3.1. General description of sampled households and individuals

Majority of the households across the treatment and control groups were male headed. Overall, 72% of the households were male headed. The average age of a head of household was 43.6 years, and there was not much variation across the treatment groups. Female heads of households were slightly older at 45.0 compared to male heads of households at 43.7. Women in female headed households were much older (45.0) than those in male headed households (38.3). Close to half of the respondents had no education and very few (less than 2%) had secondary or college education. 33% of the respondents had upper primary education (**Table 3**).

Table 3: Demographic characteristics of surveyed households

	By Treatment Group			By Gender		All
	EKATA	Gender Light	Control	Female	Male	
Sex of head of household (%)						
Male	70%	75%	69%			72%
Female	30%	25%	31%			28%
Age of head of household (yrs.)	43.8	43.2	43.9	45.0	43.7	43.6
Education levels						
None	43.7%	44.7%	49.2%	49.5%	44.4%	45.9%
Lower primary (1-4)	21.3%	18.1%	18.8%	20.3%	19.0%	19.4%
Upper primary (5-8)	33.3%	35.4%	30.6%	28.9%	34.8%	33.1%
Secondary	0.2%	1.6%	0.9%	1.1%	0.9%	0.9%
College	1.1%	0.2%	0.4%	0.3%	0.9%	0.9%
Family size	5.5	5.4	5.1	4.1	5.8	
Occupation of household heads						
Working on farm	88.9%	83.1%	89.1%	98.9%	82.4%	87.1%
Salaried worker	3.2%	4.2%	2.7%	0.3%	4.6%	3.3%
Family business	1.6%	6.0%	2.3%	0.0%	4.6%	3.3%
	6.3%	6.8%	5.8	0.8%	8.5%	6.3%

About 90% of female heads of households worked on farm compared to 82.4% of the male heads of households. More male heads of households were salaried workers or worked in family businesses compared to female heads of households (**Table 4**).

Table 4: Type of dwelling and access to basic services

	By Treatment Group			By Gender		All
	EKATA	Gender Light	Control	Female	Male	
Dwelling						
Iron or tile roof	91.8%	93.7%	88.4%	87.2%	90.7%	91.3%
Grass thatch roof	6.1%	5.8%	9.8%	10.7%	5.8%	7.2%
Mud walls						
Use pit latrine	92.5%	92.1%	92.1%	90.6%	92.9%	92.2%
Main source of water						
Spring	59.3%	69.0%	67.8%	65.5%	65.2%	65.3%
Public tap	19.5%	16.2%	17.7%	16.3%	18.4%	17.8%
Piped water	4.5%	2.5%	2.7%	3.5%	3.2%	3.3%
Main cooking fuel is firewood	96.2%	96.8%	99.3%	97.3%	97.4%	97.4%
Have access to electricity	1.8%	1.6%	0.5%	0.5%	1.6%	1.3%

Most of the surveyed households used firewood as a source of energy (97.4%), had a roof dwelling with iron or tile roof (91.3%), earth or mud walls (86.5%), used a pit latrine (92.2%) and had protected springs as their source of drinking water (65.3%).

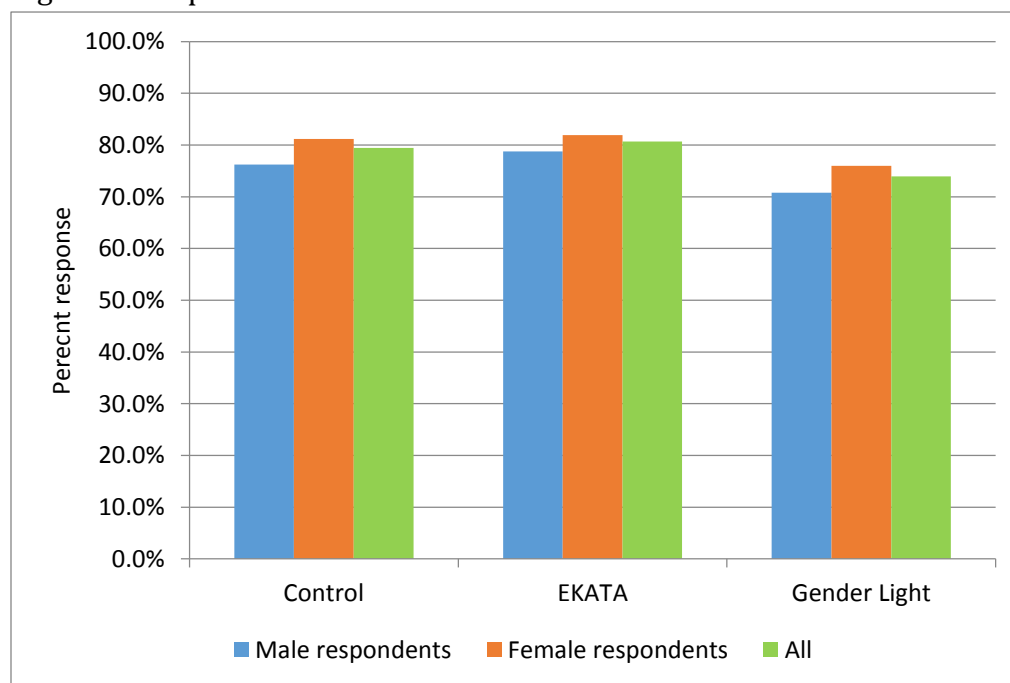
3.2. Livelihood outcomes

3.2.1. Ownership of assets

Ownership and access to land

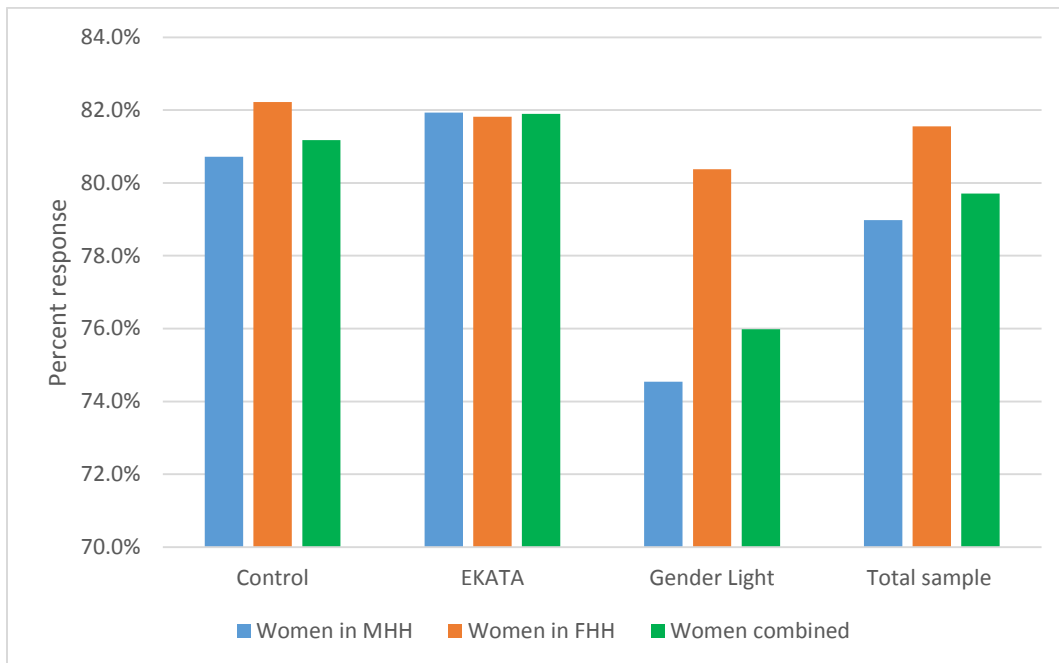
Majority of the respondents own or cultivate land. In **Figure 3**, at least 78% of the total household sampled said they owned or cultivated land. Of the male respondents, 75.2% indicated they owned or cultivated land while 79.7% of the female respondents indicated the same. There were some variations across the groups. The proportion of respondents who owned or cultivated land was highest under EKATA (80.7%) compared to control (79.4%) and gender light (73.9%). Across the three groups-the two treatments and control- the percentage of female respondents who owned and cultivated land was higher than that of the male respondents (76.2% male respondents and 81.2% female respondents in the control group; 78.8% male respondent's vs 81.9% female respondents in the EKATA group and 70.8% vs 76% female respondents in the Gender Light group).

Figure 3: Proportion of households who own and cultivate land



The percentage of women in female-headed households who owned and cultivated land was higher (81.6%) compared to women in male headed households (79%). This may imply that women in female headed households have more autonomy in accessing and using land unlike those in male headed households. In the control group, 80.7% of the women in the male headed households and 82.2% of the women in the female headed households owned or cultivated land. This was almost similar to the EKATA group where 81.9% of the women in male headed households and 81.8% of the women in the female headed households owned or cultivated land. The percentages were however lower for gender light group where 74.5% of women in male headed households and 80.4% of women in female headed households owned or cultivated land (**Figure 4**).

Figure 4: Proportion of women in male and female headed households who owned or cultivated land



Looking at the types of land ownership, overall, 66.1% of the respondents said that the land was jointly owned, 32.3% that it was solely owned, and only 1% noted that land was ‘solely and jointly’ owned. For male respondents, 72% noted that the land was jointly owned (69.8% under Control, 75.3% under EKATA and 70.4% under Gender light). About 26.3% of male respondents indicated they owned the land solely while 62.6% of female respondents indicated they owned the land jointly owned (**Table 5**).

Table 5: Proportion of men and women owning land solely or jointly

Sex of respondents	Type of ownership	Control	EKATA	Gender Light	Total sample
Male	Solely	29.0%	21.9%	28.6%	26.3%
	Jointly	69.9%	75.3%	70.4%	72.0%
	Solely and jointly	1.1%	1.4%	.5%	1.0%
Female	Solely	38.0%	33.7%	35.6%	35.7%
	Jointly	60.6%	64.6%	62.6%	62.6%
	Solely and jointly	1.1%	1.1%	.9%	1.0%
Total	Solely	34.9%	29.3%	33.0%	32.3%
	Jointly	63.8%	68.7%	65.5%	66.1%
	Solely and jointly	1.1%	1.2%	.8%	1.0%

Ownership of livestock

Ownership of large livestock, such as cows, was higher for male than for female respondents, with 24.4% of the male respondents and 19.3% of the female respondents saying they owned large livestock. Ownership of large livestock was highest under the Gender Light group (30.3% of male respondents and 24.5% of female respondents owned large livestock). In the EKATA group, 18.7% of male respondents and 15.4% of female respondents owned large livestock while in the control group, this percentage was 24.5% and 18.1% of male respondents and female respondents respectively. This difference in men and women's ownership of livestock was significantly different across all the groups.

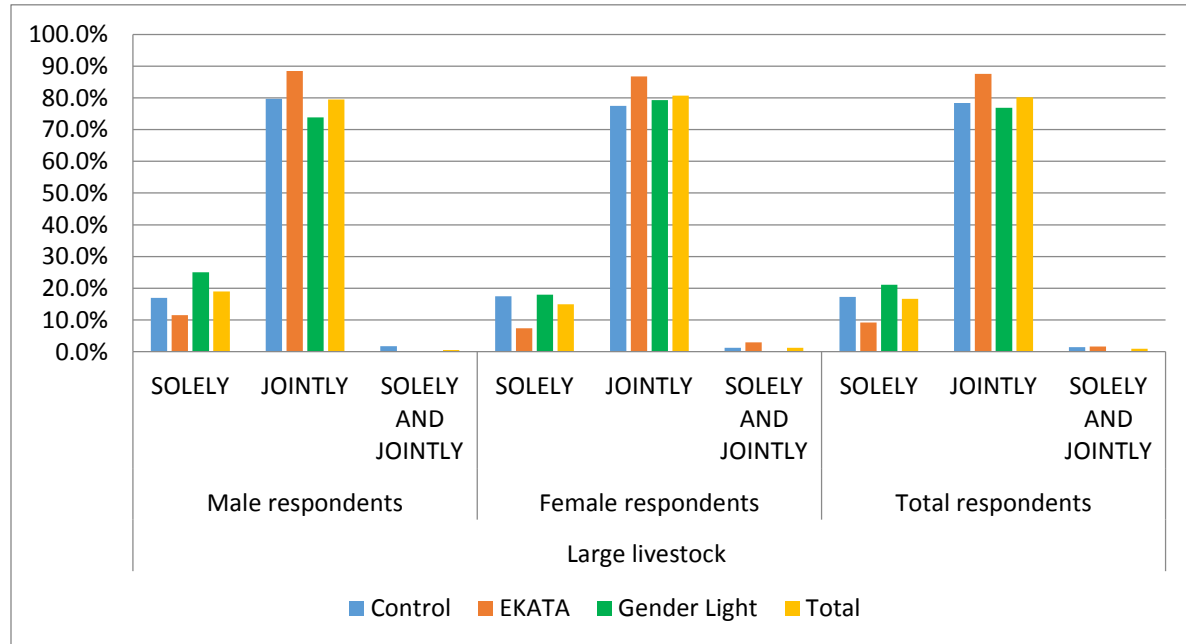
The pattern of ownership of small livestock was almost similar to that of large livestock. A slightly higher percent of male respondents reported to own small livestock compared to the female respondents. Of the total, 64.3% of the male respondents and 59.2% of the female respondents owned small livestock. While it would be expected that poultry is a woman's' enterprise, the results show that ownership of poultry was also dominated by men. 31.6% of the male respondents and 30.1% of the female respondents owned poultry which included chicken, ducks and turkeys. This is not unusual especially in cases where improved poultry have been adopted and there is likelihood of more income from such sources. The highest percentage of poultry ownership was in control group (32.6%). Ownership of fishponds and fishing equipment was very minimal (**Table 6**).

Table 6: Proportion of male and female respondents indicating ownership of different livestock

Livestock type	Sex of the respondents	Control	EKATA	Gender Light	Total	Chi Value
Large livestock	Male	24.2%	18.7%	30.3%	24.4%	10.16***
	Female	18.1%	15.4%	24.5%	19.3%	12.1***
	Total	20.3%	16.7%	26.8%	21.2%	22.3***
Small livestock	Male	66.4%	61.2%	65.7%	64.3%	1.9
	Female	57.8%	59.3%	60.5%	59.2%	.654
	Total	60.9%	60.0%	62.5%	61.1%	.996
Poultry and other small animals	Male	36.9%	30.9%	28.5%	31.9%	4.36
	Female	30.2%	31.4%	28.6%	30.1%	.82
	Total	32.6%	31.3%	28.6%	30.8%	2.6
Fish pond or fishing equipment	Male	.4%	.7%	1.1%	.8%	.79
	Female	0.0%	0.0%	.2%	.1%	2.04
	Total	.1%	.3%	.6%	.3%	1.93

Most of the households owned the livestock jointly. Over 70% of both male and female respondents indicated that they owned the large livestock jointly.

Figure 5: Proportion of male and female respondents who own large livestock solely and jointly



Less than 30% of male-respondents and less than 20% of female respondents indicated they owned the livestock solely (**Figure 5**). This trend was also observed for the small livestock such as sheep, goats and pigs (**Figure 6**). For poultry and other small animals, at least a third of the female respondents indicated they owned them solely (**Figure 6**).

Figure 6: Proportion of male and female respondents who own small livestock solely and jointly

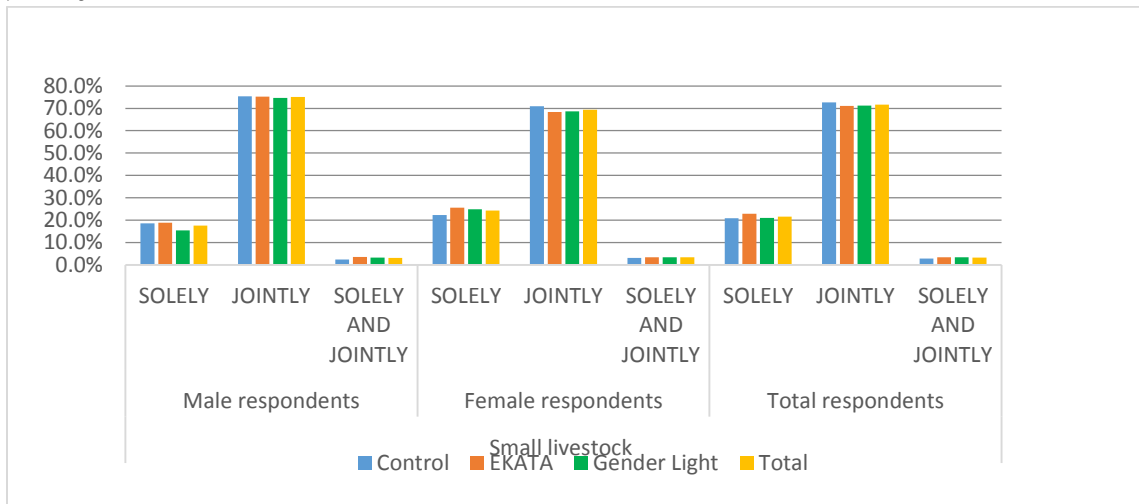
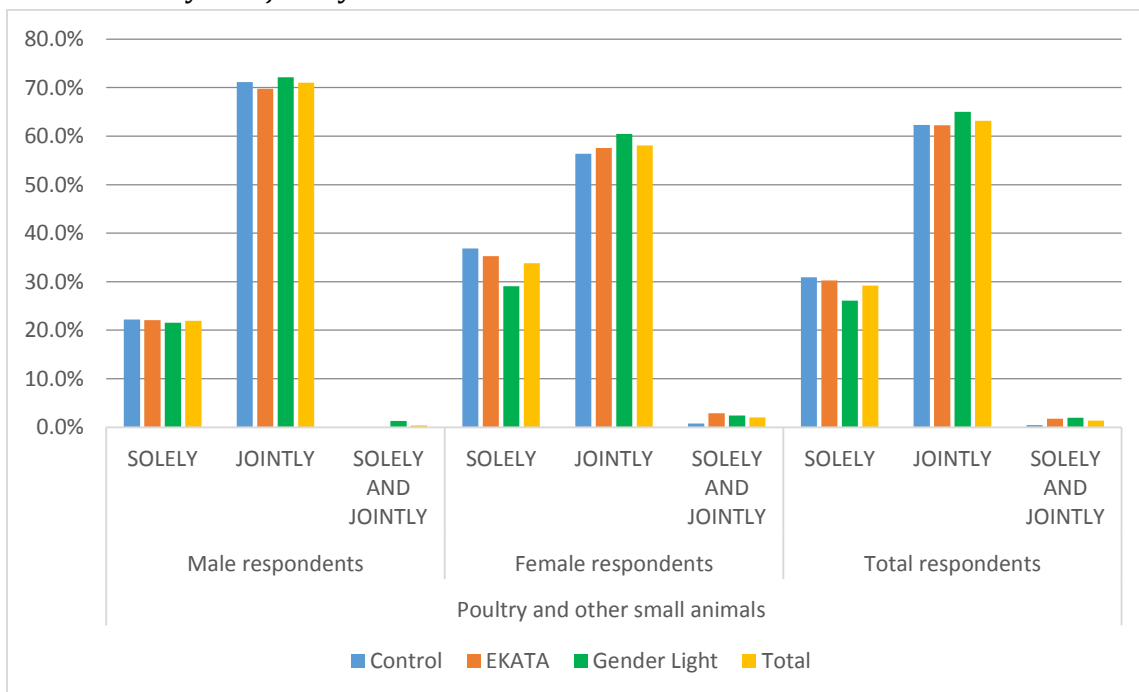


Figure 7: Proportion of male and female respondents who own poultry and other small animals solely and jointly



Across all livestock types, men owned more livestock solely compared to women. For large livestock, men owned on average 1.26 livestock solely compared to women’s 1.17. Even for small livestock where the expectation would be that women own more, men solely owned on average 4.72 compared to women who owned 4.13. These differences were significant for small livestock.

The jointly owned livestock assets need to be interpreted with caution as men and women in the same household often mentioned different figures for jointly owned assets. This could be differences in perceptions of ownership by men and women. For instance men may be more prone to say assets are jointly owned as that would be more politically correct as a good demonstration of harmony within the household. For large and small livestock, men reported higher numbers of jointly owned livestock compared to women, while women reported more jointly owned numbers of poultry and other small animals compared to men (**Table 7**). These differences were however not significant.

Table 7: Number of livestock owned jointly of solely

	Sex of the respondent	Control		EKATA		Gender light		Total sample	
		Solely	Jointly	Solely	Jointly	Solely	Jointly	Solely	Jointly
Large livestock	Male	1.55	1.40	1.17	1.54	1.14	3.50	1.26	1.38
	Female	1.20	1.38	1.14	1.44	1.16	3.67	1.17	1.33
	Total	1.35	1.39	1.15	1.49	1.15	3.60	1.22	1.35
Small livestock	Male	3.06	2.33	2.74	2.22	2.50	1.24	2.76	2.40
	Female	1.92	2.52	2.18	2.39	2.16	1.20	2.10	2.38
	Total	2.31	2.44	2.37	2.32	2.27	1.22	2.32	2.38
Poultry and other small animals	Male	4.70	3.66	5.11	6.12	4.33	2.62	4.72	4.80
	Female	3.40	4.68	4.81	6.43	4.13	2.22	4.13	5.07
	Total	3.77	4.21	4.89	6.30	4.19	2.39	4.30	4.95

Ownership of other household equipment

Looking at ownership of other assets, the most commonly owned assets were non mechanised farm equipment, with 84.6% of female respondents and 80.2% of the male respondents indicating they owned these (Table 8). The next commonly owned assets were small consumer durables with 49.9% indicating owning these, with slightly higher percentage of women indicating they owned these compared to men. Only 42.7% of the respondents indicated owning a house or a building. Considering the survey was done in households in rural settings where house rental may be rare, this is a surprising finding. It

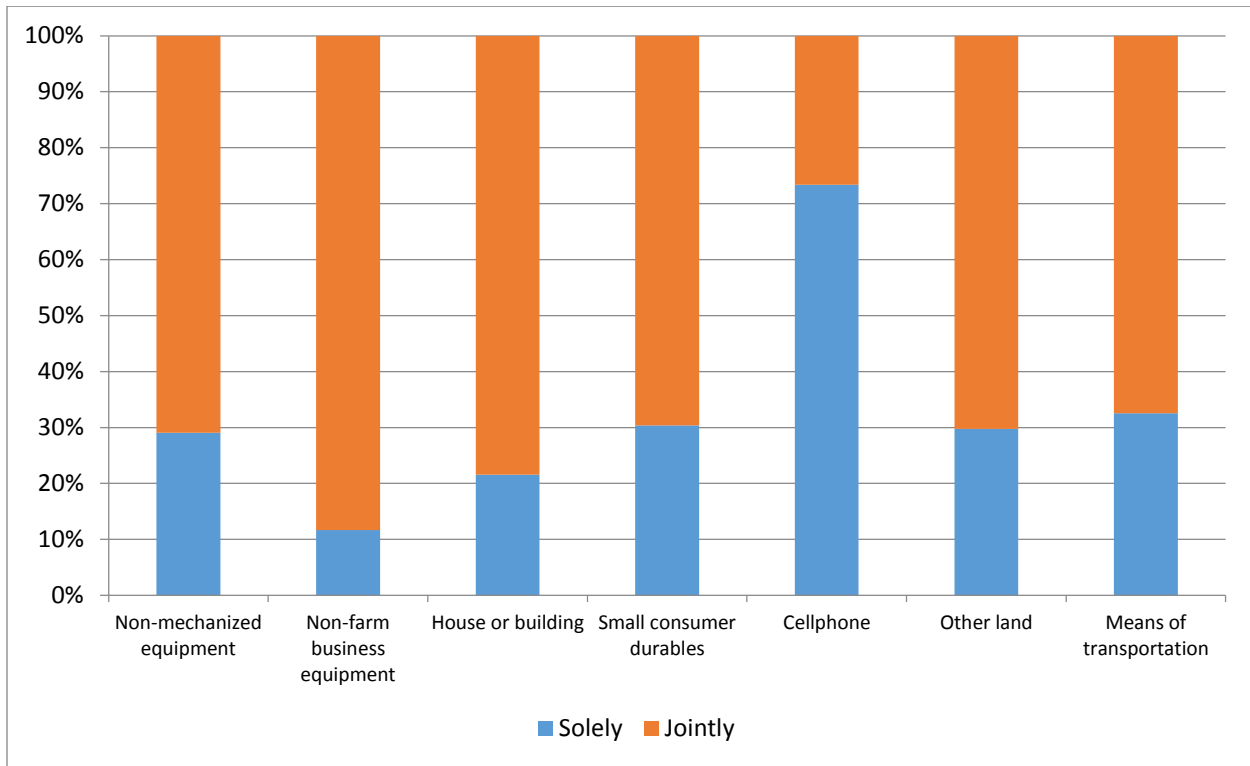
may be that respondents interpreted this as owning another house or building other than where they were residing.

Table 8: Household ownership of other assets and equipment

Asset type	Sex of respondent	Control	EKATA	Gender light	Total sample	Chi ² value
Non-mechanized farm equipment	Male	82.4%	83.8%	74.7%	80.2%	8.2**
	Female	87.5%	83.3%	82.9%	84.6%	4.4*
	Total	85.7%	83.5%	79.7%	82.9%	9.01*
Non-farm business equipment	Male	13.5%	16.2%	15.9%	15.3%	.83
	Female	13.2%	13.3%	14.1%	13.5%	.18
	Total	13.3%	14.4%	14.8%	14.2%	.70
House or building	Male	39.3%	42.8%	50.2%	44.3%	6.56*
	Female	38.1%	39.8%	47.6%	41.8%	9.13**
	Total	38.5%	41.0%	48.6%	42.7%	15.7***
Other land not used for agricultural purposes	Male	13.1%	12.9%	12.3%	12.8%	.09
	Female	9.5%	11.8%	10.2%	10.5%	1.25
	Total	10.8%	12.2%	11.0%	11.3%	.84
Small consumer durables	Male	52.0%	50.7%	44.4%	48.9%	3.57
	Female	56.7%	47.7%	47.1%	50.5%	10.0***
	Total	55.0%	48.9%	46.1%	49.9%	11.7***
Cell phone	Male	32.4%	35.6%	41.5%	36.7%	4.8*
	Female	20.9%	31.7%	30.7%	27.7%	15.7***
	Total	25.0%	33.2%	34.9%	31.1%	18.3***
Means of transportation	Male	26.6%	28.1%	28.5%	27.8%	.24
	Female	20.2%	22.2%	21.2%	21.2%	.52
	Total	22.5%	24.4%	24.1%	23.7%	.84

The biggest difference between men and women was in the ownership of a cellphone. While 36.7% of male respondents indicated they owned a cellphone, only 27.7% of the female respondents owned a cellphone. There were some differences across the sites selected for the EKATA, Gender Light and Control interventions. The proportion of households owning non mechanised farm equipment, house or building, small consumer durables and cellphone was significantly different across these three sites.

Figure 8: Proportion of respondents who reported owning equipment solely or jointly



Looking at the patterns of ownership, only cellphones were more likely to be owned solely by men or women while the others were more likely to be owned jointly (**Figure 1**). Close to 90% of the respondents (88.9%) indicated they owned non-farm business equipment jointly, 69% owned consumer durables jointly and 68.8% owned other land jointly and 63.3% owned means of transport jointly. Of those respondents who owned cellphones, 64.6% owned them solely while only 23.6% owned them jointly with their spouses.

Table 9: Number of assets owned by male and female respondents

	Male		Female		All	
	Sole	Joint	Sole	Joint	Sole	Joint
Non-mechanized farm equipment	2.67	2.44	2.25	2.31	2.38	2.37
Non-farm business equipment	1.09	1.08	1.13	1.06	1.11	1.07
House or building	1	3.5	1	1.07	1.01	1.08
Small consumer durables	1.95	2.95	2.31	2.89	2.18	2.91
Cell phone	1.01	1.09	1.06	1.09	1.03	1.09
Other land not used for agricultural purposes	1.35	1.27	1.26	1.1	1.33	1.15
Means of transportation	1.01	1.06	1.08	1.05	1.04	1.06

Similar to livestock, across all the categories of equipment (except small consumer durables), men solely owned more than women in terms of numbers (**Table 9**). On average, male respondents indicated owning 2.67 pieces on non-mechanised equipment compared to women's 2.25. For small consumer durables, women owned on average 2.31 compared to men's 1.95. These differences were significant for non-mechanised farm equipment, small durables, cellphone and means of transportation.

Men also reported a higher number of assets as jointly owned compared to women, which implies that while women may view assets as solely owned, men may be viewing them as jointly owned, sort of 'what is mine is ours'. There were no significant differences in numbers of assets owned across sites selected for the EKATA, Gender Light and Control interventions.

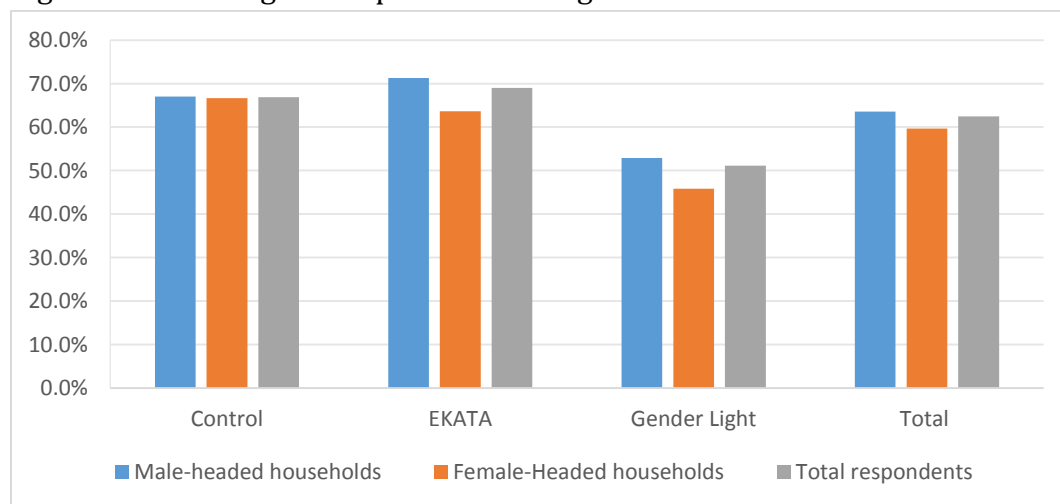
Other studies have found similar results of higher ownership of assets by men and women. Doss et al (2011), in a study in Ghana, Ecuador and Karnataka India, found men owned more assets in Ghana, Ecuador and Karnataka India. Njuki et al (2011) in studies on livestock in Kenya, Tanzania and Mozambique found similar patterns. Women's ownership of assets has been associated with higher bargaining power within households (Doss, 2006; Bhattacharyya et al., 2011).

3.2.2. Rice production and productivity

Households producing rice

Of the total households sampled, 62.4% had grown rice in the season preceding the baseline survey (**Figure 9**).

Figure 9: Percentage of respondents who grew rice

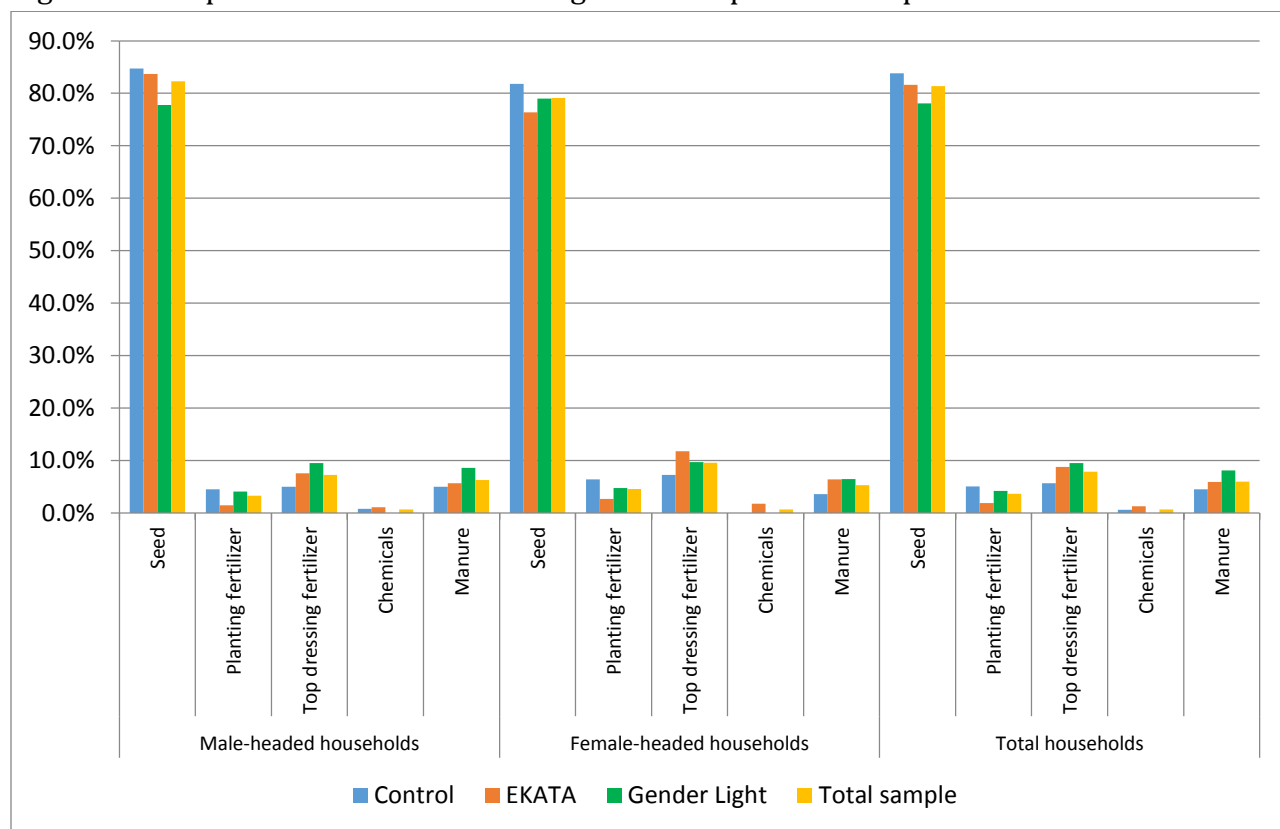


The lowest percentage of households that had grown rice was households in the sites selected for Gender Light interventions where 51.2% of the households had grown rice compared to 66.9% and 69% for the sites selected as control and sites selected for EKATA interventions respectively. There were more male- than female headed households that grew rice in the season prior to the survey across the three sites.

Use of inputs in rice production

Farmers used different inputs in rice production. The most commonly used were seeds, fertilizer, chemicals and manure (**Figure 10**). Overall, 81.4% of the respondents used seeds in planting. It is likely that the remaining households used already germinated seedlings as planting material. This percentage varied slightly between the treatment groups. The majority of the households that used seed used local seed (75.5%), with only 21.8% using hybrid seeds. Respondents from female-headed households were more likely not to know the type of seed they planted compared to those in male headed households.

Figure 10: Proportion of households using various inputs for rice production

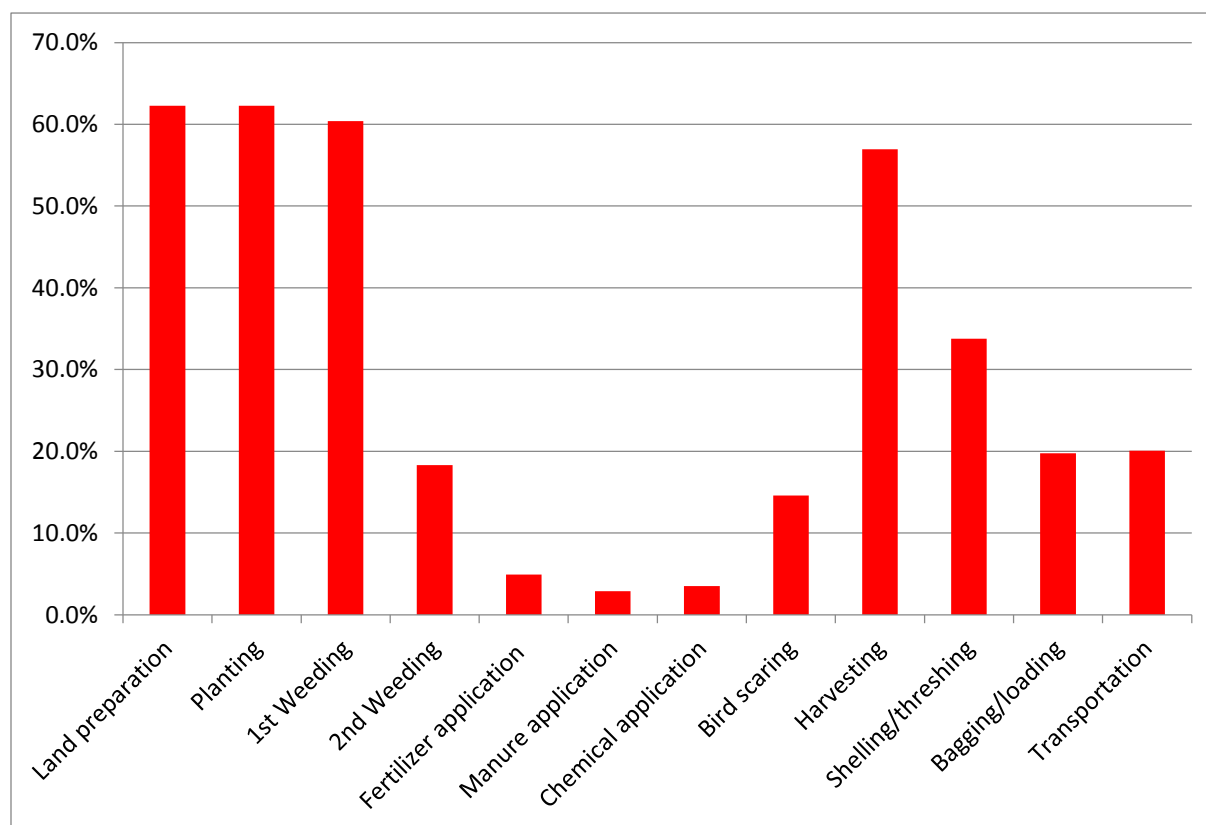


Use of planting fertilizer was minimal, with only 3.7% of the households reporting use of fertilizer during planting. The lowest percentage (1.9%) of households using fertilizer are those in the sites selected for EKATA interventions. A similarly low number of households

used fertilizer for top dressing, with only about 7.9% of the total respondents using top dressing fertilizer and another 6% using manure. Chemicals for disease control were only used by 1% of the households who grew rice. Availability of manure for used could be dictated by ownership of livestock by the household.

An analysis of the most practised agronomic practices shows that the most common agronomic practices were the basic practices such as land preparation, line planting, harvesting, threshing, winnowing and bagging (**Figure 11**). Other practices such as 2nd weeding, fertilizer application, manure and chemical application were practised by very few farmers. We expected that some practices such as land preparation and planting would be 100%, but it is likely that respondents were responding on whether they individually carried out these practices.

Figure 11: Proportion of respondents carrying out different agronomic practices



Cost of rice production

Looking at the costs of production, the highest cost was the cost of fertilizer at BIF 10,645 (1 USD = 1600 BIF) which comprised of 31% of the non- labour costs, followed by the cost of seed at BIF 6451, that was 19% of the total non-labour costs (Table 10). For male headed households, planting fertilizer was leading in costs (BIF10,975 for male headed households

and BIF10,036.92 for female headed households). The low use of fertilizers could therefore be due to the high cost. On average male headed households spent BIF 6,968 to purchase seed while female headed households spent on average a lower amount at BIF 5,067. There were also some differences across the sites selected for EKATA, Gender Light and Control interventions.

Male headed households spent less on topdressing fertilizer at BIF 5,815.57 compared to BIF 6,295.93 for female headed households. The variation across sites in the use of top dressing fertilizers was minimal. Chemical use was mainly by male headed households with only a small amount of chemical use reported by female headed households under the EKATA sites who spent on average BIF 427.50.

Table 10: Total non-labour costs for rice production (in BIF)

Inputs	Household type	Control	EKATA	Gender Light	Total sample
	All households	6008.49	5925.64	7769.17	6451.66
Seed	Male headed households	6,580.24	6,210.72	8,403.12	6,968
	Female headed households	4,706.16	5,175.60	5,543.88	5,067.06
Planting fertilizer	All households	15777.78	5685.71	5840.00	10645.41
	Male headed households	16,736.36	3,600.00	7,211.11	10,975.00
	Female headed households	14,271.43	8,466.67	1,726.67	10,036.92
Top dressing fertilizer	All households	4897.50	6926.21	5618.52	5977.69
	Male headed households	5,850.00	5,323.25	6,264.76	5,815.57
	Female headed households	3,468.75	9,392.31	3,356.67	6,295.93
Chemicals	All households	1500.00	4851.00	-	3893.57
	Male headed households	1,500.00	7,800.00		5,280.00
	Female headed households	-	427.50	-	427.50
Manure	All households	7434.38	4423.64	3730.43	4951.97
	Male headed households	9,470.83	3,201.33	2,305.26	4,466.74
	Female headed households	1,325.00	7,042.86	10,500.00	6,440.00

For labour inputs, the main labour activities included land preparation, planting, weeding, top-dressing, manure and chemical application, bird scaring, harvesting and post-harvest activities such as shelling/threshing/winnowing, bagging/loading, transportation.

Table 11: Average labour costs for different management activities (BIF)

	Control	EKATA	Gender Light	All
Land preparation	19574.68	17940.34	19661.76	19003.36
Planting	17393.38	23796.21	14610.53	18883.42
1st Weeding	16783.03	16900.85	18459.76	17368.35
2nd Weeding	17368.75	60144.90	16635.71	36410.09
3rd weeding	16881.82	22077.78		19220.00
Fertilizer application (top dressing)	7825.00	6000.00	7966.67	7552.94
Manure application	6150.00	4800.00	10800.00	7740.00
Chemical application			474000.00	474000.00
Bird scaring	145200.00	84600.00	102060.00	103087.50
Harvesting	9863.87	10681.36	23827.35	13881.75
Shelling/threshing/winnowing	7256.60	16726.54	8766.67	11819.19
Bagging/loading	5512.50	11934.48	9203.71	9967.75
Transportation	16997.22	7738.89	7796.30	10600.85
Other labour costs (Specify)	4500.00	22700.00	3600.00	14771.43
Other labour costs (Specify)	18000.00	10800.00		14400.00

The largest consistent cost across all the sites was the cost of bird scaring, which was 13% of the total labour costs of rice production (Table 11). For the few farmers who used chemical fertiliser, the application of the fertilizers and time spent made up 60% of the total labour costs.

Total rice production, productivity and revenue

The production per household was relatedly low at an average of 158Kg (Table 12).

Given the area and the actual harvest obtained by each farmer in the main season preceding the survey period, the productivity per area measured in acres was calculated using the following formula:

$$P = \left(\frac{Y}{A} \right) \quad (1)$$

Where P is the productivity, Y is the actual rice harvested harvest in kilograms; A is the area of land under rice.

The production per household and the productivity was very low, at an average of 158Kg per household and 52.5kg per ARE (2125.21 kg/acre). The low production and productivity could be to the low use of hybrid seed and other inputs such as fertilizer and manure. There was a variation across sites with the lowest productivity being in the sites selected for Gender Light interventions. While there was no data for rice productivity in Burundi, data from Rwanda showed average productivity of 3000kg per acre (IFAD, 2009).

Table 12: Production and productivity of rice

	Treatment			
	Control	EKATA	Gender Light	Average for all sites
Area under rice (ARE)	11.47	15.23	19.42	15.01
How much rice did you harvest in kilograms?	148	158	172	158
Rice productivity KG/ARE	53.99	55.95	45.79	52.51
Rice productivity KG/acre (1 acre =40.47 ARE)	2184.97	2264.43	1853.30	2125.21
How much rice did you sell in kilograms?	60	68	70	66
What was the price per kilograms?	984	1776	713	1201
How much rice (kilograms) was kept for home consumption?	88	95	103	95
Total revenue	158957	532677	123572	286553

Total mean value of rice produced was BIF 286,553 and was highest in the sites selected for Gender Light interventions at BIF 532,677. Female headed households cultivated a slightly lower (14.7 ARE) than male headed households (15.12 ARE). This difference was especially significant in the sites selected as control with male headed households cultivating more than twice the area cultivated by female headed households (**Table 13**).

Table 13: Area under rice and productivity index (Kgs per ARE)

		Control	EKATA	Gender Light	Total sample
Area under rice (ARE)	Male headed households	13.94	13.31	18.86	15.12
	Female headed households	5.86	20.29	21.37	14.70
Rice productivity (Kg/ARE)	Male headed households	55.48	56.05	50.10	54.14
	Female headed households	50.60	55.70	30.69	48.15
Total		53.99	55.95	45.79	52.51

In the sites selected for EKATA and Gender Light interventions, female headed households cultivated rice in larger areas than male headed households.

3.2.3. Household Food Security

Household food security was measured using a diet diversity score for the household the female adult and an index child as well as a Food Consumption Score (FCS).

Household Dietary Diversity Scores (HDDS)

Household dietary diversity is defined as the number of unique foods consumed by household members over a given period. It is a useful approach for measuring household food access, particularly when resources for undertaking such measurement are scarce. The analysis used the FANTA guidelines for measuring dietary diversity (Swindale and Bilinsky, 2006).

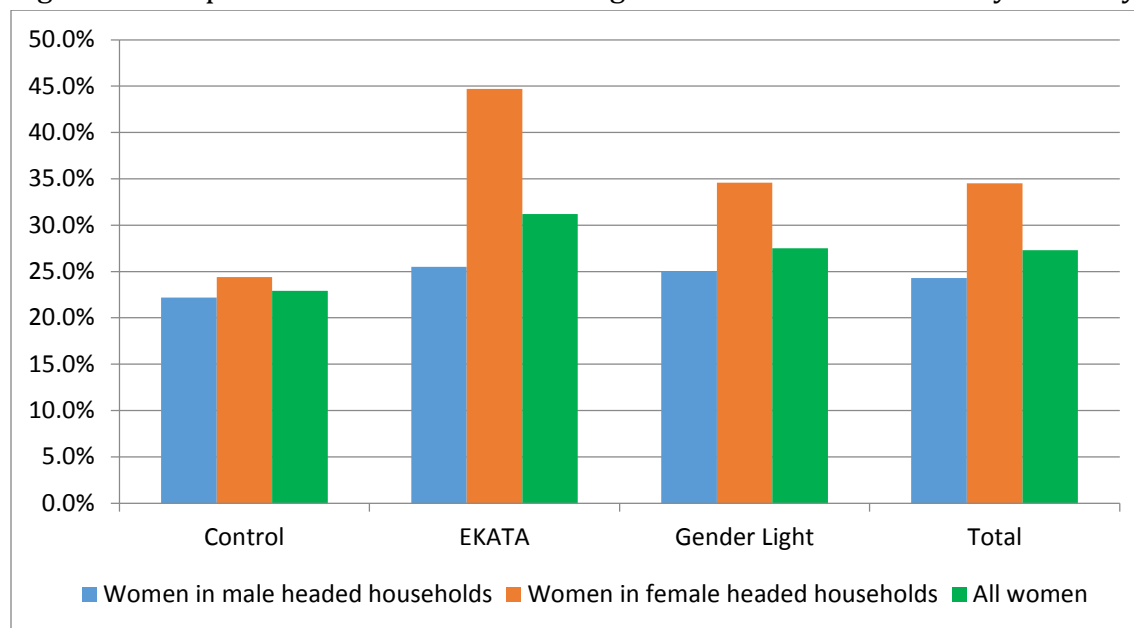
Overall, women had a significantly higher dietary diversity score (5.2) compared to men who had a score of 5.0 (Table 14). Women in male headed households had a significantly higher dietary diversity score (5.3) compared to women in female headed households who had an average dietary diversity score of 4.9. Dietary diversity has been shown to positively associated with nutrient adequacy ([Torheim et al, 2003](#)).

Table 14: Household dietary diversity scores (DDS)

	HDDS	Control	EKATA	Gender Light	Total sample
All households	Women’s DDS	5.2	5.1	5.1	5.2
	Men’s DDS	4.9	5.1	4.9	5.0
	Index Child’s DDS	3.7	3.2	4.2	3.7
Women DDS	Male headed households	5.3	5.3	5.2	5.3
	Female headed households	5.1	4.7	4.9	4.9
Children DDS	Male headed households	3.6	3.4	4.2	3.8
	Female headed households	4.1	2.2	4	3.4

What these figures mask however, is the proportion of women that do not meet the minimum dietary diversity score for women- Minimum Dietary Diversity – Women (MDD-W). The MDD-W reflects consumption of at least five of ten food groups by women (FAO and FHI 360, 2016). Across the whole sample, about a third of the women (27.3%) did not meet the MDD-W score. For women in female headed households, 34.5% did not meet the MDD-W score (**Figure 12**).

Figure 12: Proportion of women **not** meeting minimum allowable dietary diversity scores

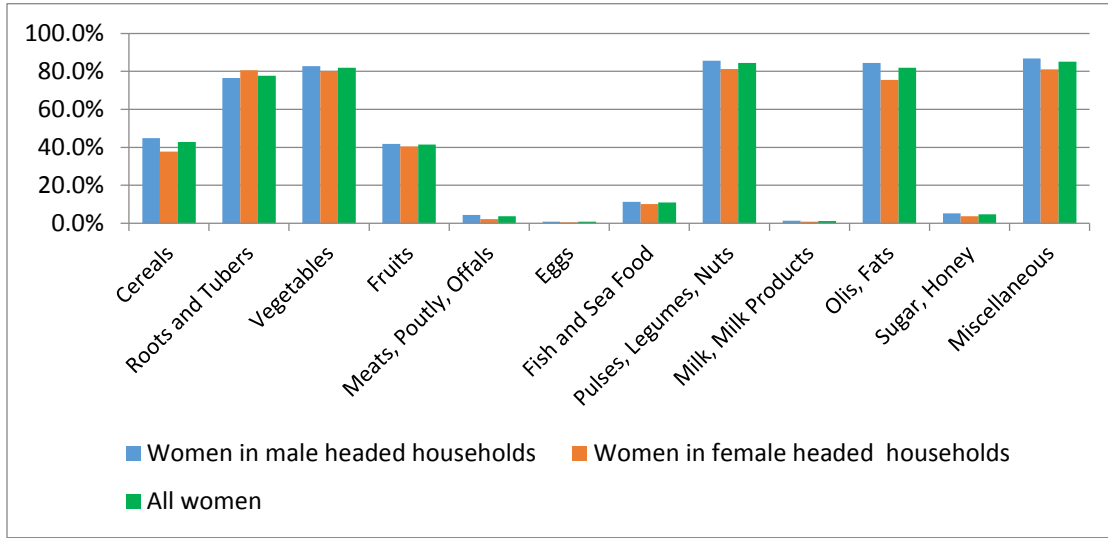


There was a clear differences across the sites selected for the EKATA, Gender Light and Control interventions with the EKATA sites having close to half of the women in female headed households (44.7%) scoring below the MDD-W score. Female headed households have been found in other studies to be poorer and more food insecure. This has implications for the roll out of nutrition programming. One caveat on these figures is that we did not take the age of the women into consideration and the minimum allowable dietary diversity score for women is calculated for women between the ages of 19 and 49. Given the average age of the respondents, we however assume that most of the women interviewed were within this range.

In order to better guide interventions, an analysis of foods that mostly consumed in the 24 hrs prior to the survey was done.

There were five commonly eaten food groups that included roots and tubers, vegetables, pulses legumes and nuts, oils and fats and other miscellaneous foods (**Figure 13**). The least commonly eaten foods were meats, poultry and offals, eggs, milk and milk products, sugar and honey. For these foods, less than 5% of the women had consumed them in the 24 hours prior to the survey.

Figure 13: Proportion of households who had consumed different food groups 24 hours prior to the survey



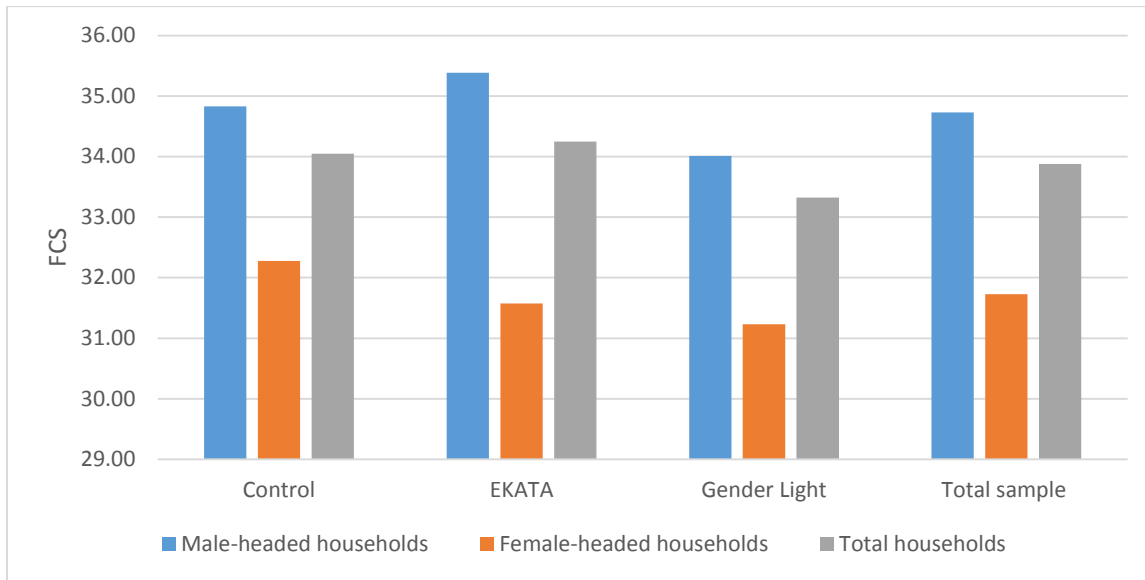
Food consumption score

The FCS facilitates comparisons between households on a common metric within and across countries. The FCS attempts to capture food sufficiency and diversity (WFP, 2008). To generate the FCS, households are asked about their food intake over the past 7 days. The enumerator asks about food goods typically consumed and records how often over the past week household members have consumed the goods. Each category is assigned a weight based on its nutritional value. More nutrient- and energy-dense foods, such as meat and dairy, are assigned higher weights, whereas foods with few calories, such as vegetables and fruit, are assigned lower weights. Pulses are weighted slightly more heavily than cereals because of their nutritional composition, which generally includes more protein than staple grains. Based on the recommended World Food Program (WFP) weights, the FCS was calculated as follows

$$FCS = (4 \times \text{meats}) + (2 \times \text{staples-cereals}) + (3 \times \text{pulses}) + (1 \times \text{vegetables}) + (1 \times \text{fruits}) + (4 \times \text{milk and milk products}) + (0.5 \times \text{oil/fats}) + (0.5 \times \text{sugar and honey}) + (0.5 \times \text{Miscellaneous})$$

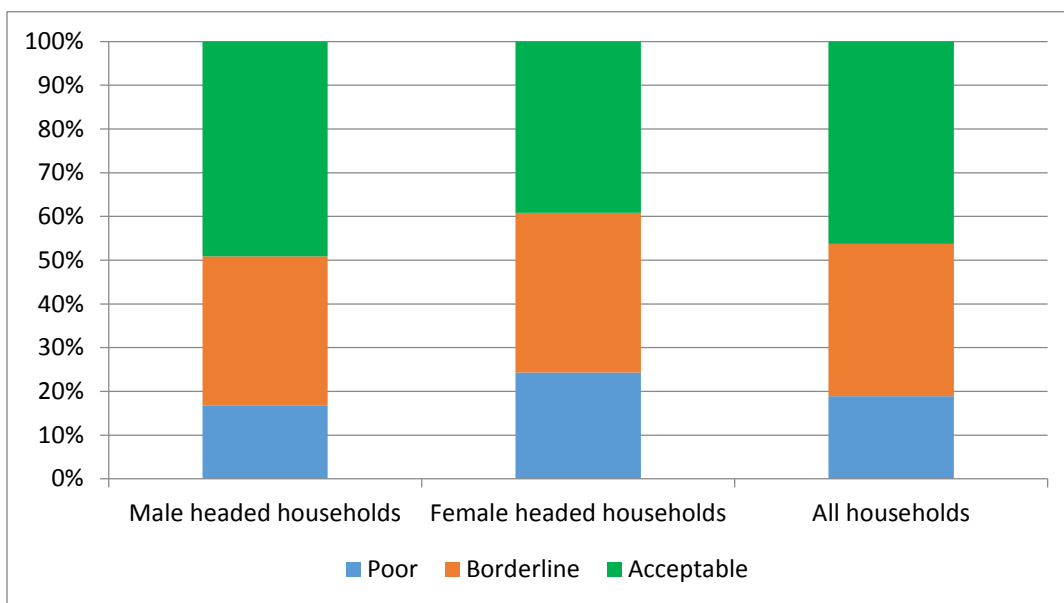
Overall, the FCS for the whole sample was 33.88. The maximum, according to WFP is 112, when all food categories are consumed 7 days a week. Male headed households had a slightly higher FCS (34.73) compared to female headed households (31.72), a pattern repeated across all the treatment sites (Figure 14).

Figure 14: Household food consumption score



Once the food consumption score is calculated, WFP has set thresholds to classify households. The typical thresholds are: FCS Profiles 0-21 Poor, 21.5-35 Borderline > 35 Acceptable. Based on this classification, close to half of the households (46.3%) had an acceptable food consumption score while close to a fifth (18.9%) had a poor food consumption score (**Figure 15**).

Figure 15: Proportion of households with an acceptable, borderline and poor food consumption score



While there were not major differences across the sites, there were more male than female headed households with an acceptable food consumption score (49.1% vs 39.3%) and there were more female headed than male headed households with a poor food consumption score (24.3% vs 16.7%).

3.2.4. Agricultural income

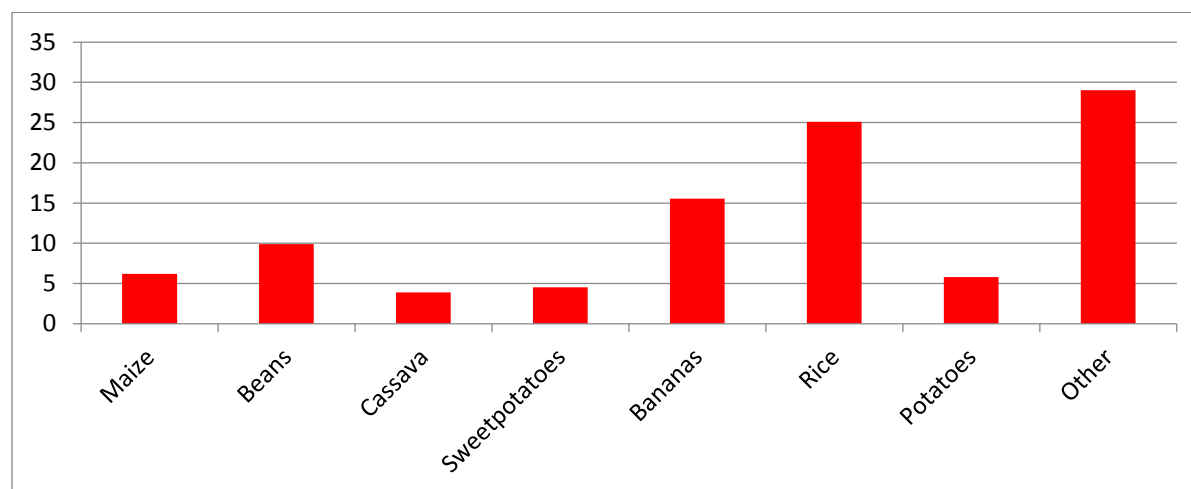
The average income from crops and livestock was BIF 1,106,267 with male headed households earning a significantly higher income from crops and livestock compared to female headed households (**Table 15**).

Table 15: Average household income from crops and livestock

		Crop income	Livestock	Livestock products	Total
All households		490,970.68	404,009.53	211,286.88	1,106,267.09
By household type	Male headed	531,782.47	435,407.29	190,040.00	1,157,229.76
	Female headed	269,697.61	257,142.93	287,066.67	813,907.21
By treatment group					
	Control	465,031.76	446,707.83	273,420.00	1,185,159.60
	EKATA	561,480.97	311,867.36	161,842.86	1,035,191.19
	Gender Light	426,943.20	397,131.38	151,557.14	975,631.73

Households in the sites selected for the control had the highest income from crops and livestock, followed by those in the EKATA sites with households in the Gender Light sites having the least income from crops and livestock.

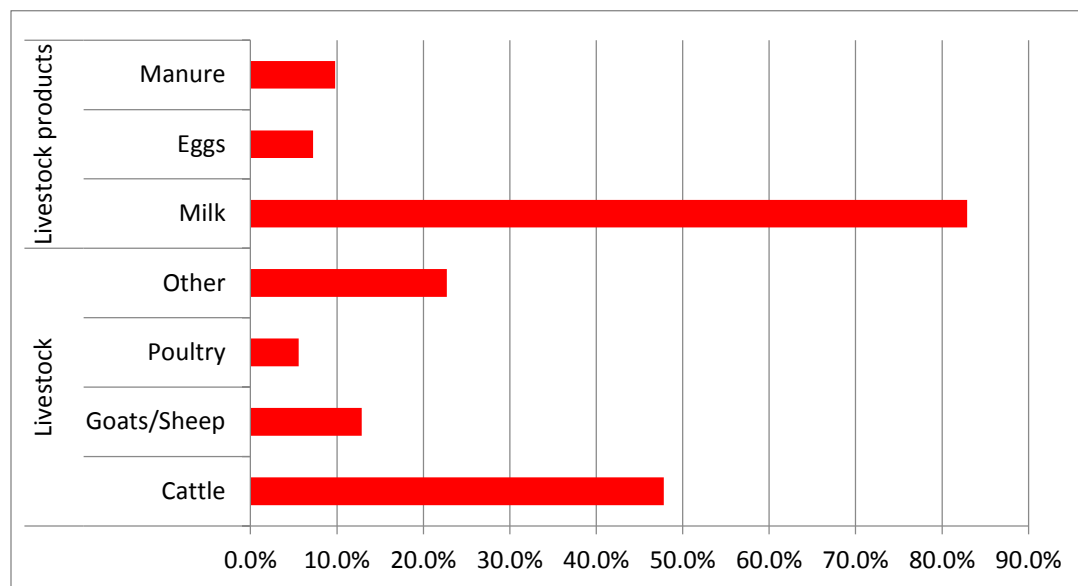
Figure 16: Contribution of different crops to the total crop income



The largest contributor to the crop income was rice which contributed to 25.1% of the total crop income (**Figure 16**). This points to the high potential of rice in contributing to household income if the production and productivity were improved. The second largest contributor was bananas, contributing 15.3% to the total crop income. Beans were also an important source of income.

Sale of cattle contributed 47.8% of the total livestock income, while sheep and goats contributed 12.9% (Figure 16). For livestock products, milk contributed 89.2% of the income, while 7.2% came from eggs and 9.8% came from eggs and manure respectively.

Table 16: Contribution of different livestock and livestock products to total livestock income

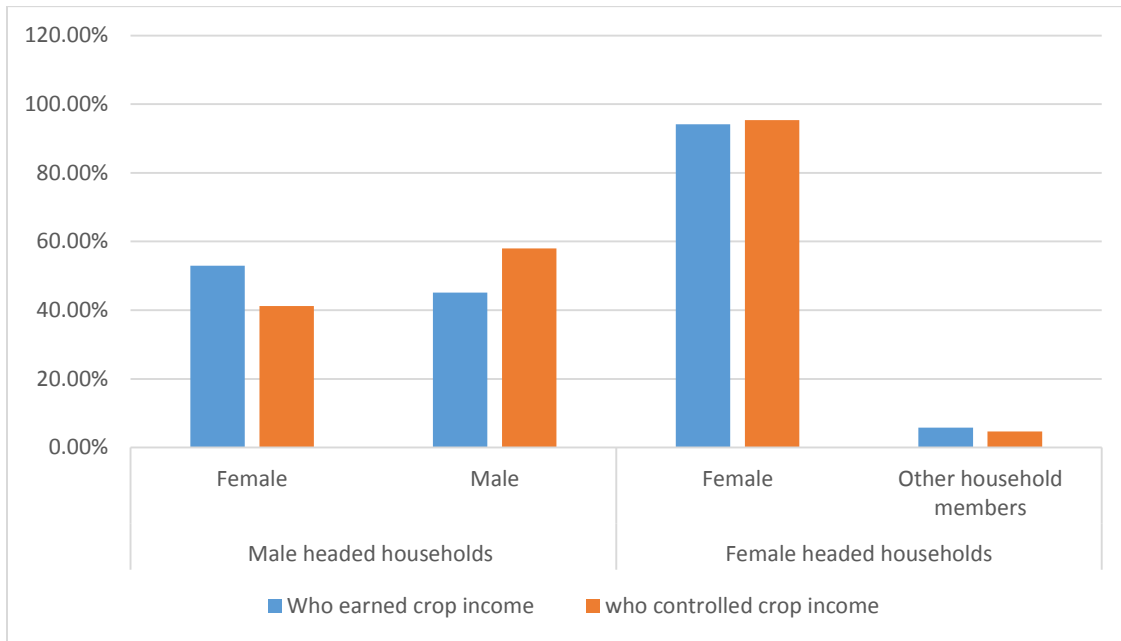


Decision making on crop income

In the male headed households, income from crop was mainly earned by women (52.9%) (**Figure 17**). However, when it comes to the control, only 41.2% of the women controlled the income from crops. On the other hand, 45% of the men earned income from crops but control was by 58%.

This would probably mean that women in male headed households still lacked the autonomy to spend the income they earned without involving their husbands. For the female headed households, over 90% of the women earned and controlled their income. Only a small percent was earned and controlled by other household members.

Figure 17: Who mainly earned and made decisions on the crop income?



Decision making on livestock income

There were more men (50.5%) earning income from livestock compared to women (43.4%) in the male headed households (Figure 18). The control of income from the livestock was also mainly by men (57.9%) as compared to the women (40.5%). Nonetheless, in the female headed households, the earning and control of income from livestock was mainly by the women. Only a small percent was by other household members.

Figure 18: Who mainly earned and made decisions on livestock income?



Decision making on livestock product income

Unlike the income from crops and livestock, the percentage of women controlling income from livestock products was higher (43.7%), than those who earned (40%). Income from livestock products included sale of eggs, milk and manure (**Figure 19**). The respondents noted that at least 43% of the men earned the income from livestock products while 54.9% controlled.

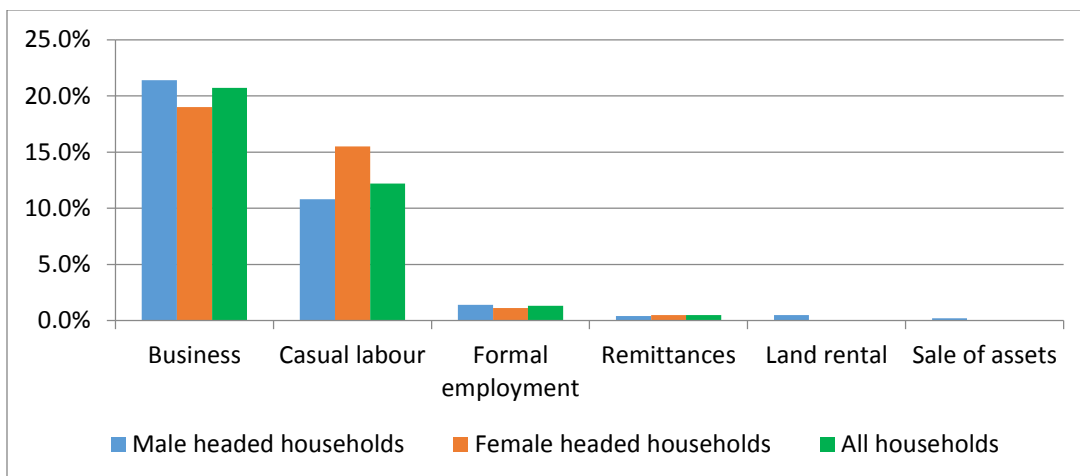
Figure 19: Who mainly earned and made decision on livestock products income?



Other sources of income

Other sources of household incomes includes business, employment as casual labour, formal employment, remittances from relatives, government pension, renting out land (cash value of rent), renting out houses (cash value of rent) and sale of other assets (Figure 20).

Figure 20: Proportion of households earning income from other sources



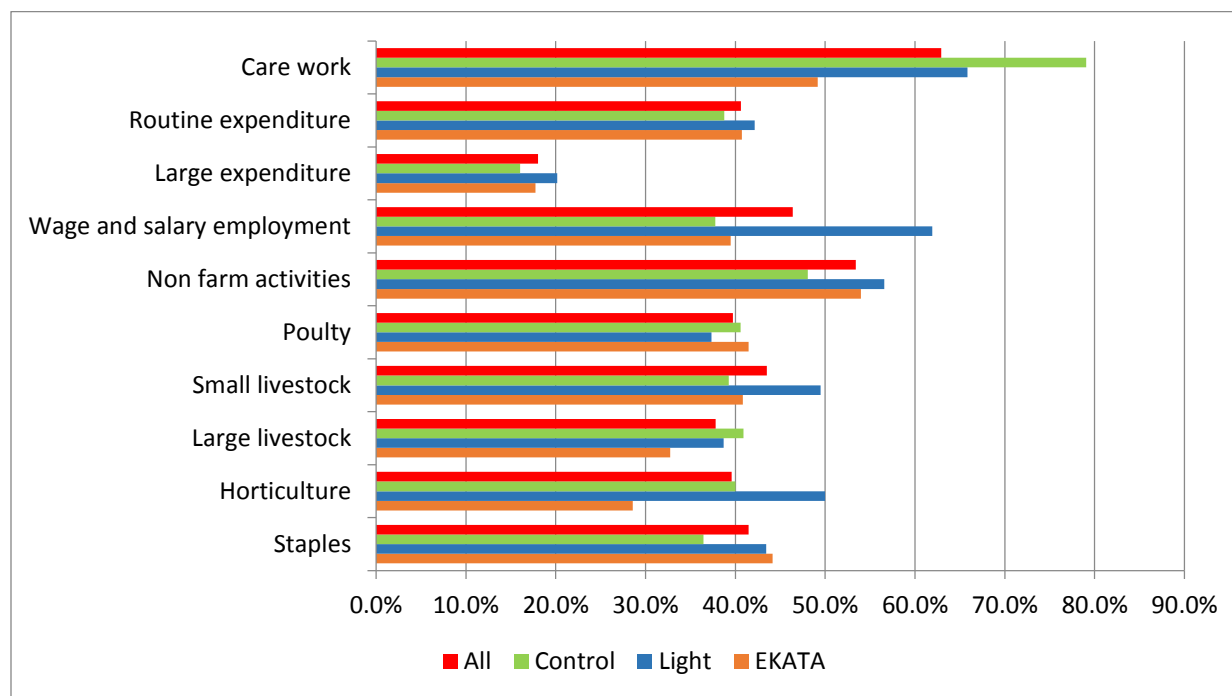
3.3. Gender Outcomes

3.3.1. Decision making on productive activities

Decision making on productive activities

Across all the sites, less than half of women interviewed made input into most of all decisions on production and processing of staples, horticulture, large and small livestock, poultry, large and routine expenditures (**Figure 21**). Only 18% of women made inputs into most or all decisions regarding large and occasional household purchases such as land, bicycles, livestock and other transport items compared to 40.6% who made input into most or all decisions on routine purchases such as food for daily consumption and other household needs. The difference was less for women making input into most or all decisions on raising and same of large livestock (37.8%) and small livestock such as sheep and goats (43.5%) and poultry (39.7%). The highest participation in decision making by women was in household care work where 62.9% of the women interviewed had input into most or all the decisions made.

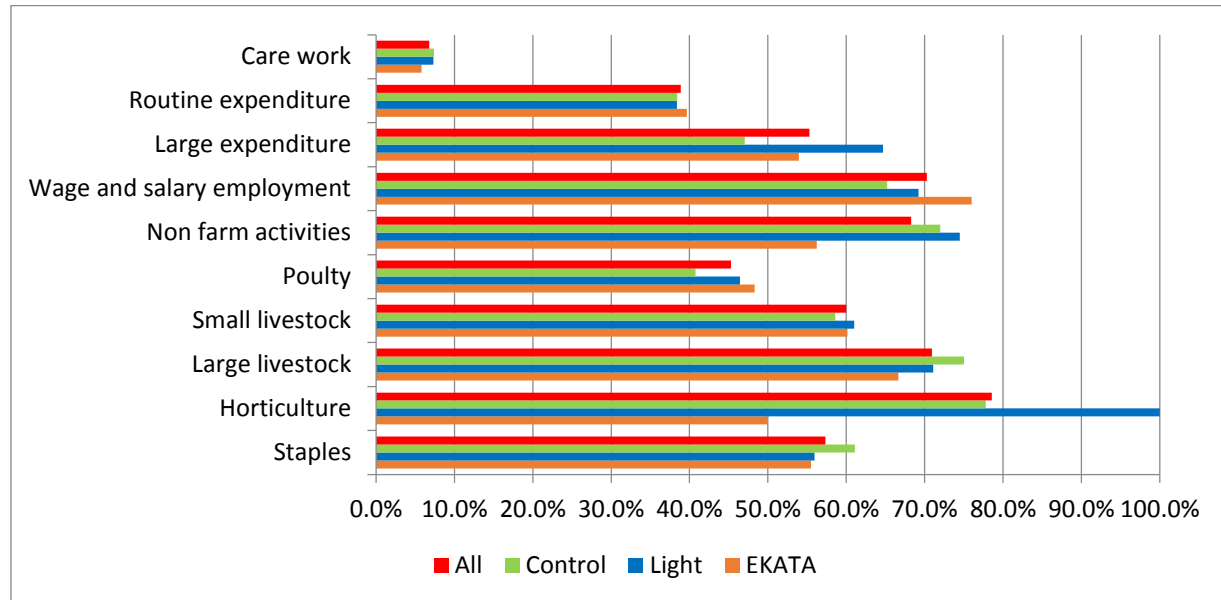
Figure 21: Proportion of women making input into most or all decisions for different activities



On the other hand, less than 10% of men made input into most or all decisions on household care work while over 60% made input into most or all decisions on wage and salary employment, non- farm activities, large and small livestock and horticulture (**Figure**

22). Close to 80% of the men made input into most or all decisions regarding horticulture, a high value enterprise.

Figure 22: Proportion of men making input into most or all decisions for different activities



Decisions on income

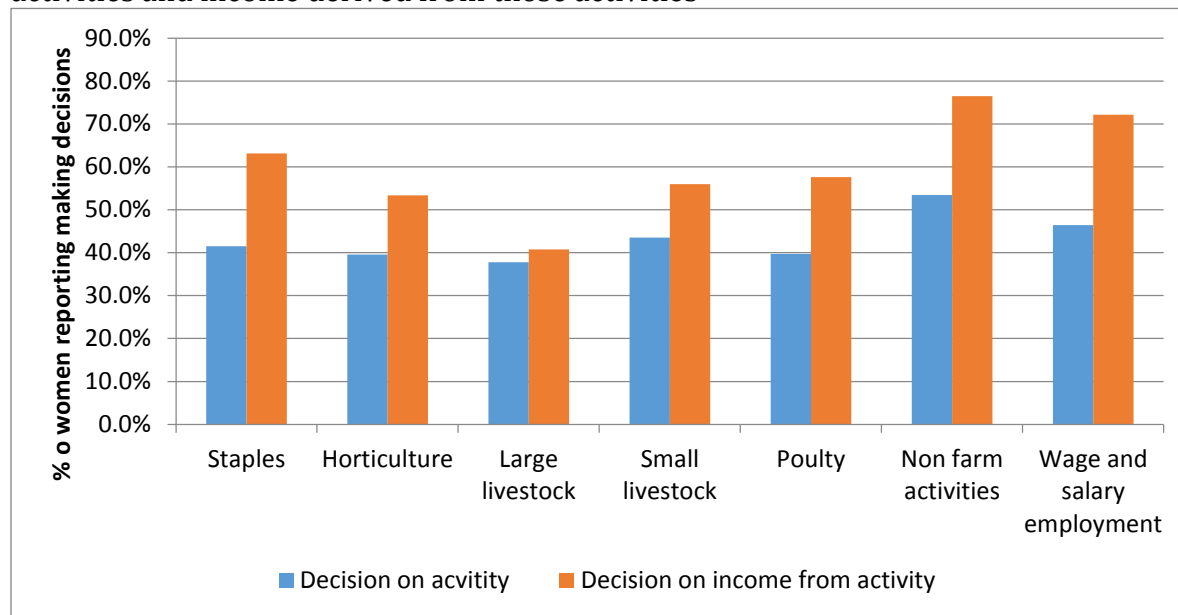
While decision making on income from the same activities followed similar patterns, with less women making input into most or all decisions compared to men, there were more women making decisions on the income from different activities than those that made decisions on the activity itself.

While 41.5% of women made input into most or all decisions on staple production and processing, this percentage rose to 63.1% for women who made input into most or all decisions related to the use of income from staples (**Figure 23**). For small livestock and poultry, the percentage rose from 43.5% and 39.7% to 56% and 57.6% respectively. The smallest change in input in decision making for women was in large livestock, where 37.8% of women made input into most or all decisions on large livestock production and 40.7% made decisions on the use of income from the sale of large livestock.

For non- farm income, the percentage of women making input into most or all decisions shifted from 53.4% for involvement in non- farm activities to 76.5% for use of income from these activities. This means that while women may not have had a lot of input into what types of non-farm activities to engage in, or how to operate them, they had more input into the decision on how money from these activities would be used. A similar pattern was observed for wage employment where only 46.4% of women had input into most or all the

decisions on wage or salaried employment, while 72.2% made input into most or all the decisions on the use of income from wage employment.

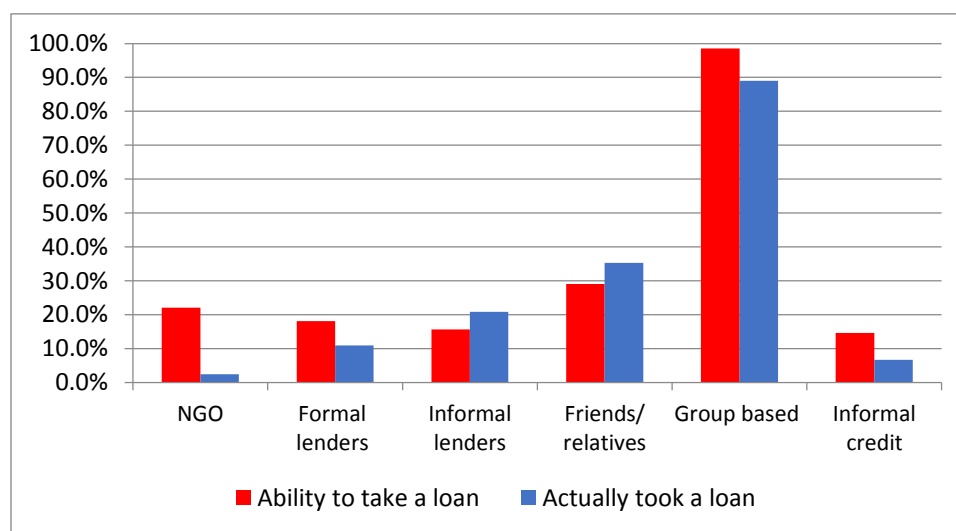
Figure 23: Proportion of women making input into most or all decisions on different activities and income derived from those activities



Decisions on credit access, utilization and repayment

Majority of households indicated they had access to different types of credit, the most common being group based microfinance including village savings and loan associations, savings and credit organizations (see **Figure 24**).

Figure 24: Proportion of households with ability to access credit and who obtained cash credit as reported by female respondents



Most of the respondents (89%) accessed credit from group-based sources including village savings and loan associations (VSLAs) The least common sources of credit were Non – Governmental Organizations, formal lenders such as banks, and informal credit sources such as individual money lenders. There were no significant variations in what men and women reported on credit acquisition. There were however differences between women in male headed households and women in female headed households. Only women in male headed households reported having obtained credit from NGOs.

For almost all sources of credit (excluding informal lenders), a higher proportion of women in male headed households reported accessing credit compared to women from female headed households (**Table 17**). No women in female headed households reported having accessed credit from this source. And while 12.3% of women in male headed households reported that a member of their household had obtained credit from a formal lender, only 5.9% of women in female headed households reported accessing credit from formal lenders. For group based credit, which was the most common source of credit, women in male headed households and women in female headed households almost, had equal access (89% vs 88.9%). Women in female headed households relied more on informal lenders compared to women in male headed households.

Table 17: Ability to access and actual access to credit by women in male and female headed households

	Women in male headed households		Women in female headed households	
	Ability to access	Actually took a loan	Ability to access	Actually took a loan
NGO	23.5%	3.2%	18.7%	0
Formal lenders	19.9%	12.3%	13.6%	5.9%
Informal lenders	15.2%	21.7%	16.9%	19.0%
Friends/ relatives	30.0%	37.1%	26.5%	30.3%
Group based	98.8%	89.0%	97.9%	88.8%
Informal credit	13.0%	5.7%	19.0%	8.5%

For all sources of credit, for households that borrowed money, more men than women borrowed money, and men borrowed significantly higher amounts than the women (**Table 18**). This was the case even for group based sources, where it was expected more women than men would borrow due to their membership in village savings and loan associations.

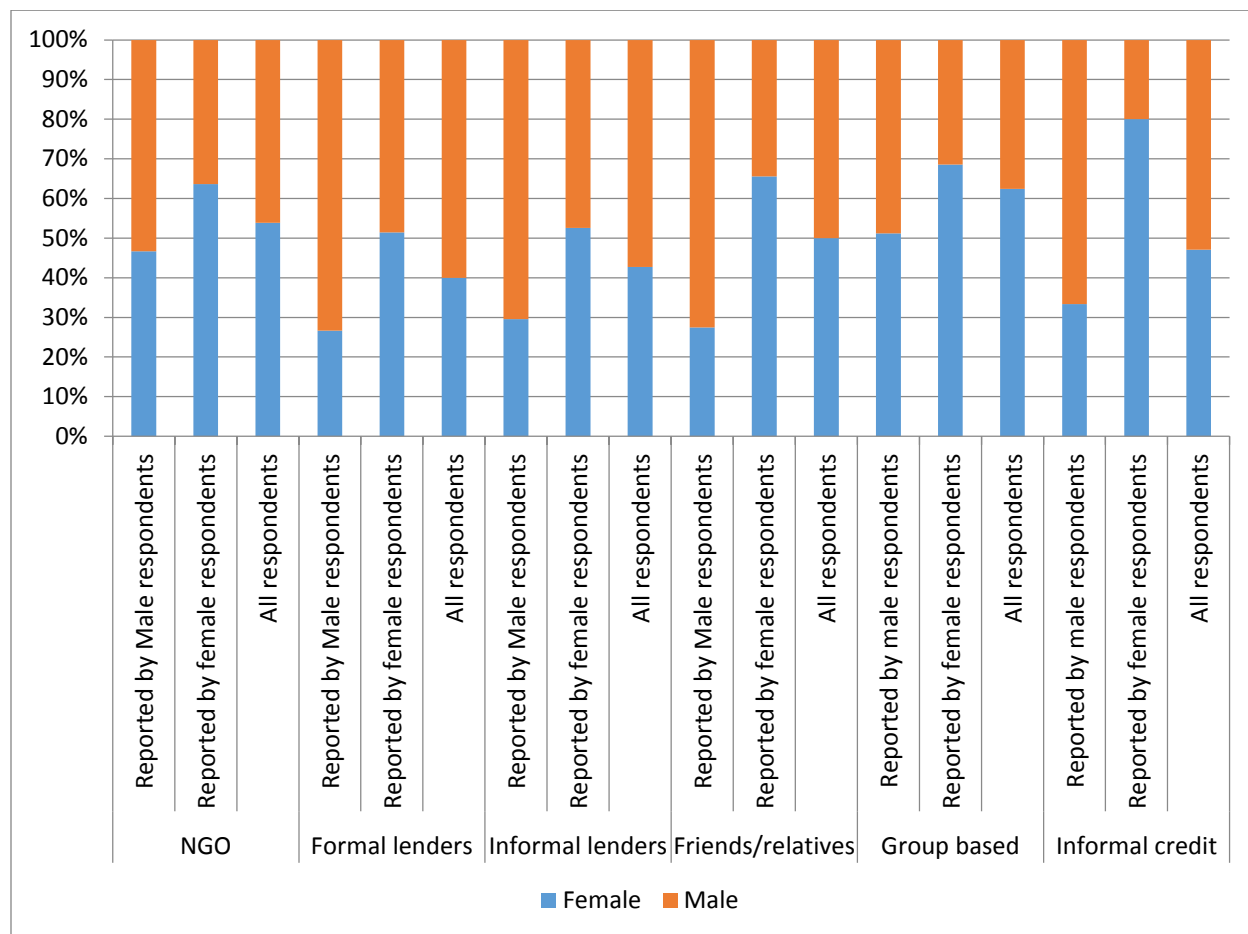
Table 18: Levels of borrowing by men and women from different sources

Source of credit		N	Mean	Std. Deviation	Std. Error
Formal lender	Men	44	428750.00	853450.319	128662.477
	Women	3	78333.33	46457.866	26822.462
	All	47	406382.98	829738.161	121029.750
Informal lender	Men	62	30822.58	33173.920	4213.092
	Women	13	18846.15	12253.205	3398.428
	All	75	28746.67	30860.231	3563.433
Friends or relatives	Men	210	43193.33	145440.468	10036.346
	Women	32	19437.50	20982.231	3709.170
	All	242	40052.07	135889.281	8735.294
Group based	Men	1330	30266.35	54086.168	1483.066
	Women	324	26123.46	31032.170	1724.009
	All	1654	29454.81	50426.259	1239.907
Informal credit / other savings groups	Men	33	145484.85	164684.570	28667.904
	Women	6	30833.33	28708.303	11720.116
	All	39	127846.15	157173.143	25167.845

Whether men or women made the decision on whether to take a loan or not differed depending on the source of credit. There were also variations on who made the decision to take the loan depending on who was asked the question, the man or the woman (**Figure 25**).

Other than for group based credit, both male and female respondents indicated they made the decisions themselves. For example, for formal sources of credit, 73.3% of male respondents indicated they made the decision while 51.4% of the female respondents indicated they made the decision. For credit from friends and relatives, a similar pattern was observed whereby 72.5% of the male respondents indicated they made the decisions while 65.6 of the female respondents said they made the decision. For group based credit, there was more consistency in what male and female respondents said with more than half of the male respondents (51.2%) and over 60% of the female respondents (68.6%) indicating women made the decisions on taking credit more women than men made decisions on NGO and group based credit, while more men than women made decisions on all the other sources of credit.

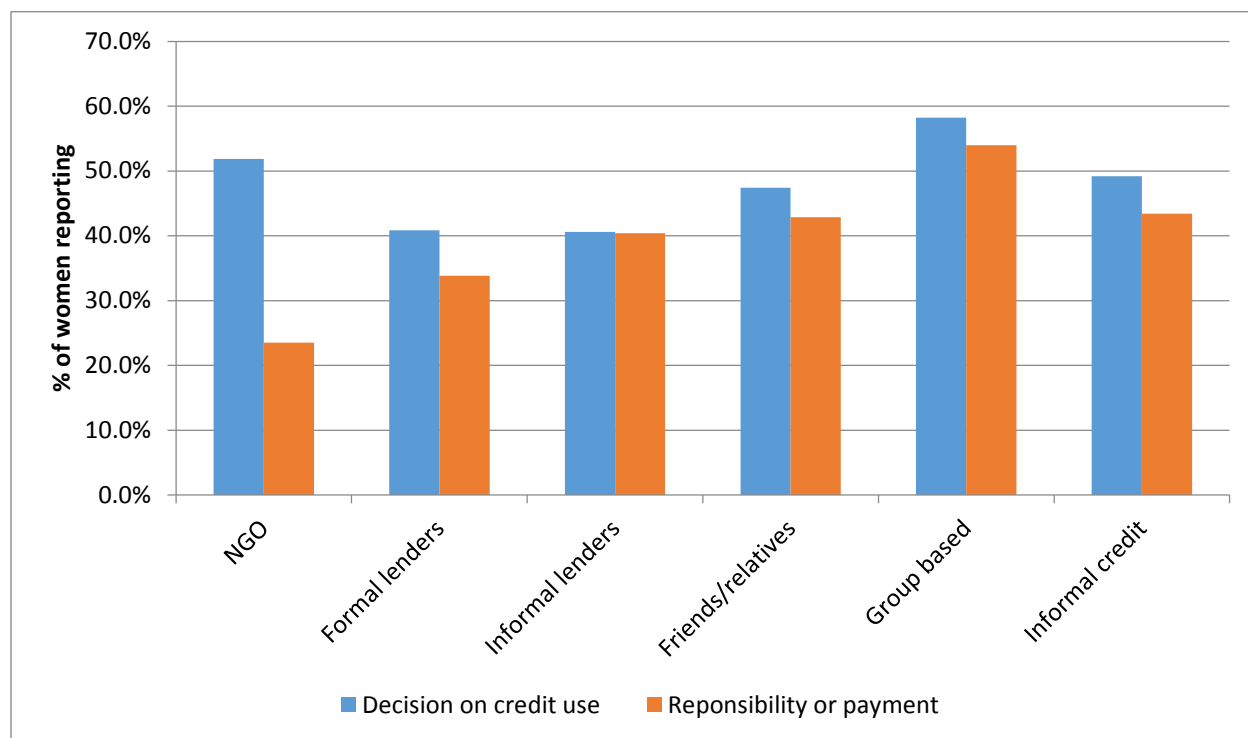
Figure 25: Who made the decision to take a loan for different sources of credit



In terms of decision on credit use and responsibility for payment, only in group based credit did a higher proportion of women than men make the decision on credit use and take responsibility for the payment of the credit (**Figure 26**). For most of the other sources of credit, a higher proportion of men than women were responsible for the payment of credit and for making decisions on the use of the credit.

Looking at the congruence between who made the decision on credit use and who was responsible for payment, for all sources of credit other than NGO and informal lenders, there was near congruence, i.e if men mainly made the decision on credit use, they were also mainly responsible for making the payments and vice versa. For credit from NGOs, while in 51.9% of the cases, women made the decision on the use of credit, they were responsible for payment of the credit in only 23.5% of the cases and men were responsible for payment in 76.5% of the cases.

Figure 26: Proportion of women reporting they made decisions on credit use and had responsibility for payment



3.3.2. Autonomy and efficacy

Autonomy in decision making

Autonomy in decision making was measured using vignettes to relate aspects of decision making to common practices within the community. Respondents were given scenarios of people within the community and asked whether they thought they were the same or different from those people. Four statements were used to depict a range from no autonomy to full autonomy (Table 19).

Table 19: Example of vignettes used to measure women's autonomy in decision making

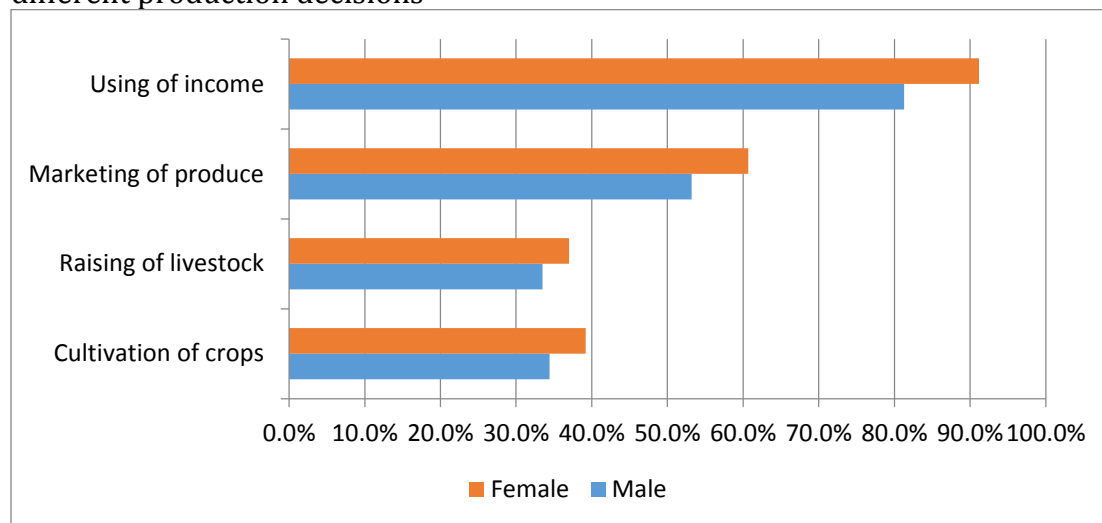
“XXXX cannot grow other types of crops for consumption and sale in market. Beans, sweet potato and maize are the only crops that grow here.”- No Autonomy
“XXXX is a farmer and grows beans, sweet potato, and maize because her spouse, or another person or group in her community tells her she must grow these crops. She does what they tell her to do.”- Little Autonomy
“XXXX grows the crops for agricultural production that her family or community expect. She wants them to approve of her as a good farmer.”- Some autonomy

“XXXX chooses the crops that she personally wants to grow for consumption and sale in market and thinks are best for herself and her family. She values growing these crops. If she changed her mind, she could act differently.”-*Full Autonomy*

The use of vignettes was quite confusing to respondents and this data needs to be taken with caution. A good illustration with the difficulty using vignettes was the large number of male respondents reporting they had no autonomy in making decisions while the more direct questions on decision making on activities and income reported high percentages of men making these decisions.

More women than men felt they had little or no autonomy to make decisions on production of crops, raising of livestock, how much produce to market and how to spend the income from produce marketed (**Figure 27**).

Figure 27: Proportion of male and female respondents reporting little of no autonomy on different production decisions



Both men and women had the least autonomy in decisions related to the use income from sale of produce, where 91.2% of women reported having little or no autonomy. Only 34.4% and 39.2% of male and female respondents respectively indicated having little or no autonomy on the types of crops to produce.

General self-efficacy

Men and women’s confidence to accomplish certain tasks was measured using a Likert scale. While more than 10% of women did not have confidence to undertake certain tasks (they disagreed or strongly disagreed with the statements about their ability), this percentage was only slightly higher than that for men (**Table 20**). The highest lack of confidence was in their ability to overcome challenges (25.3%) and to perform tasks efficiently compared to other people (18.7%).

Table 20: Men and women's general self-efficacy

	Strongly disagree or disagree		Strongly agree or agree	
	Female	Male	Female	Male
I will be able to achieve most of the goals that I have set for myself.	10.3%	11.4%	70.4%	69.8%
When facing difficult tasks, I am certain that I will accomplish them.	16.6%	13.9%	63.1%	70.0%
In general, I think that I can obtain outcomes that are important to me.	14.5%	12.2%	63.2%	67.2%
I believe I can succeed at most any endeavor to which I set my mind	11.6%	11.4%	69.1%	68.9%
I will be able to successfully overcome many challenges.	25.3%	22.1%	48.8%	47.8%
I am confident that I can perform effectively on many different tasks.	18.6%	15.7%	68.7%	72.3%
Compared to other people, I can do most tasks very well.	18.7%	16.5%	67.3%	71.8%
Even when things are tough, I can perform quite well.	15.5%	13.1%	71.8%	74.7%

There were some differences between women in male and women in female headed households with a higher proportion of women in male headed households having less confidence than then women in female headed households across all the tasks other than one, ability to achieve goals by themselves (**Figure 28**).

An additional measure of self-efficacy for women was their ability to ask their husbands to do household activities. Less than 40% of women indicated they would be able to ask their husbands to help with household tasks if the husbands were not doing anything else, if they needed to go an important meeting or to visit friends and family (**Figure 29**).

Figure 28: Proportion of women in male and female headed households who strongly disagree or disagree with confidence statements

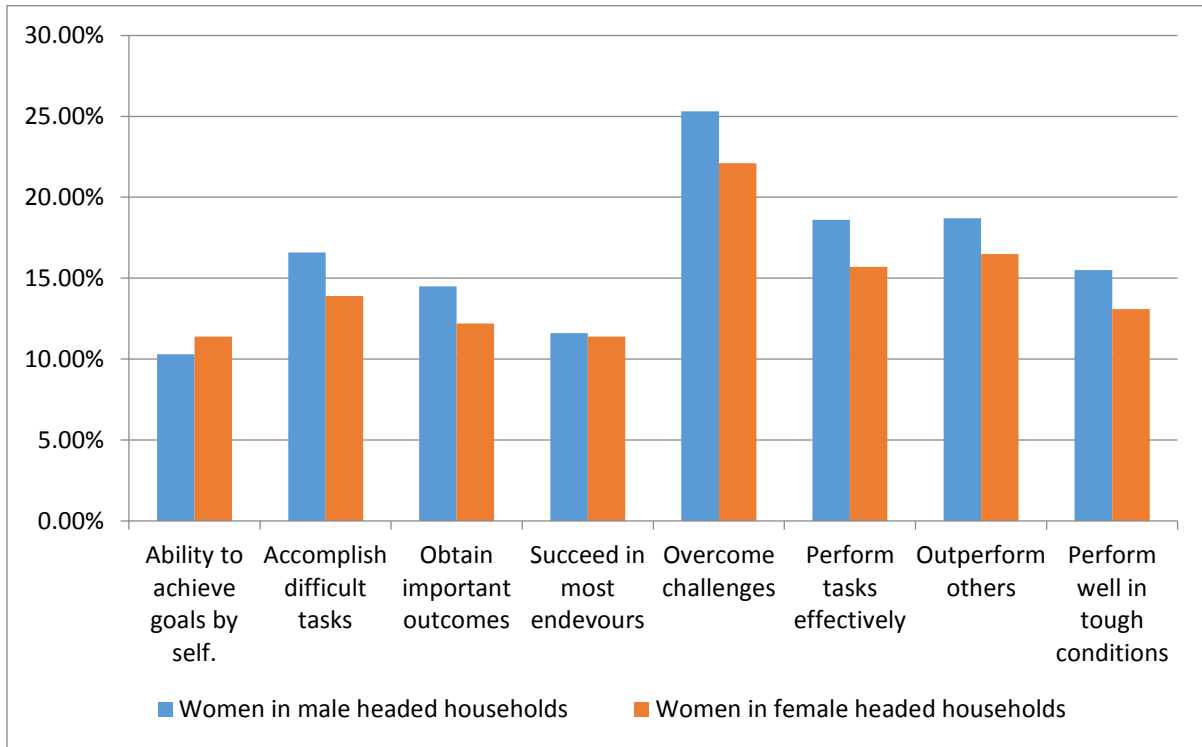
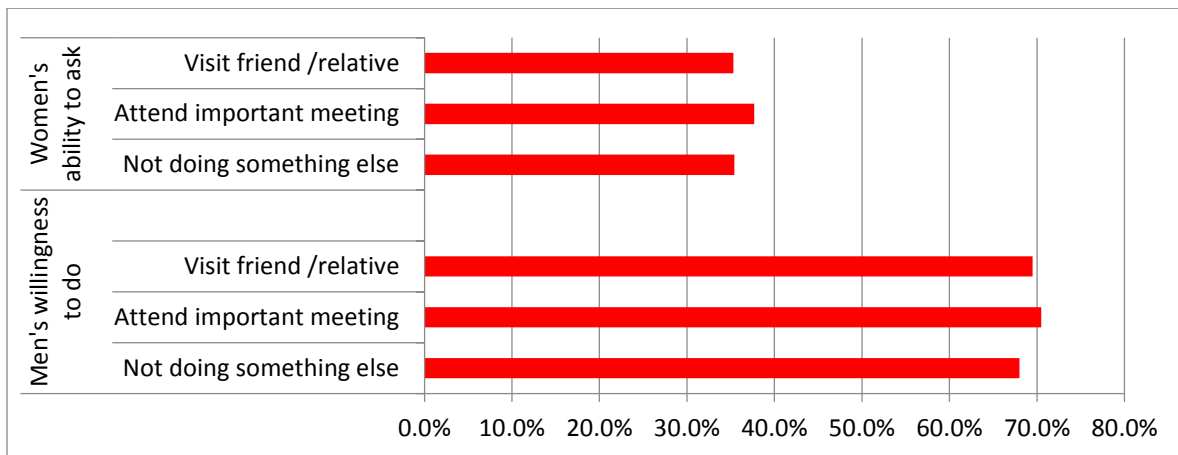


Figure 29: Proportion of women who would ask men to do household tasks vs proportion of men would be willing to do household tasks



More women (37.7%) would ask if they needed to go to an important meeting compared to 35.3% would ask so they could go visit a friend or a relative. In contrast, a higher proportion of men indicated they would help with household tasks if their wives asked and they were not doing anything else (68%), if their wives needed to attend an important meeting (70.5%) and if they needed to visit a friend or relative (69.5%).

Collective efficacy

Men and women were asked whether they had participated in different activities as a measure of their collective efficacy. More men than women participated in collective activities (**Table 21**). Over 50% of women and men joined together with other people in the community to address a problem or common issue. There was less participation in other activities such as demonstrations. Of note is that only 31.2% of women had spoken in public about a problem that affected them compared to 49.6% of the men.

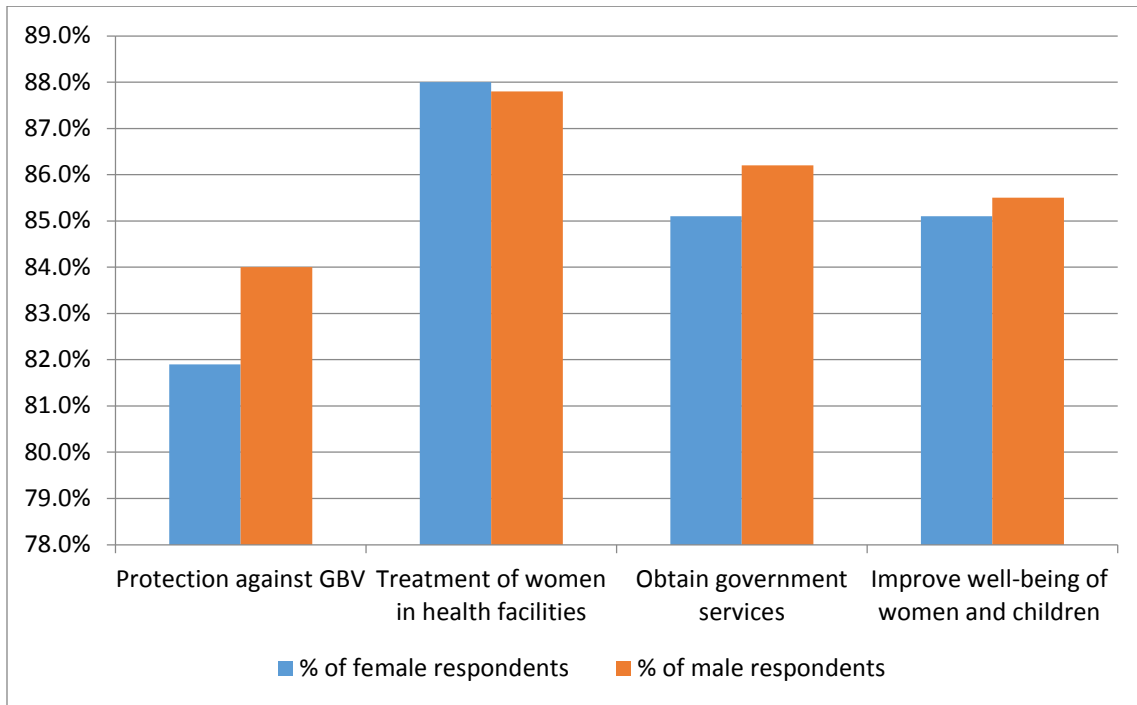
Table 21: Proportion of men and women participating in collective activities

	% of female respondents saying yes	% of male respondents saying yes
Have you joined together with other people in your community to address a problem or common issue?	53.5%	57.9%
Has your community carried out or organized activities with people from another community?	34.3%	38.5%
Have you spoken out in public about a problem that affects someone else?	31.2%	49.6%
Have you talked with local authorities or governmental organizations about problems in the community?	46.4%	53.8%
Have you attended a demonstration about a problem in your community?	22.9%	33.8%

Both men and women were equally sure that women in their community would help each other and work together to improve their lives.

Across board over 80% of both male and female respondents indicated they were either sure of completely sure what women would protect each other against gender based violence, they would improve the treatment of women in health facilities, they would support each other to obtain government services and other entitlements and would work together to improve the health and well-being of women and children in the community (**Figure 30**).

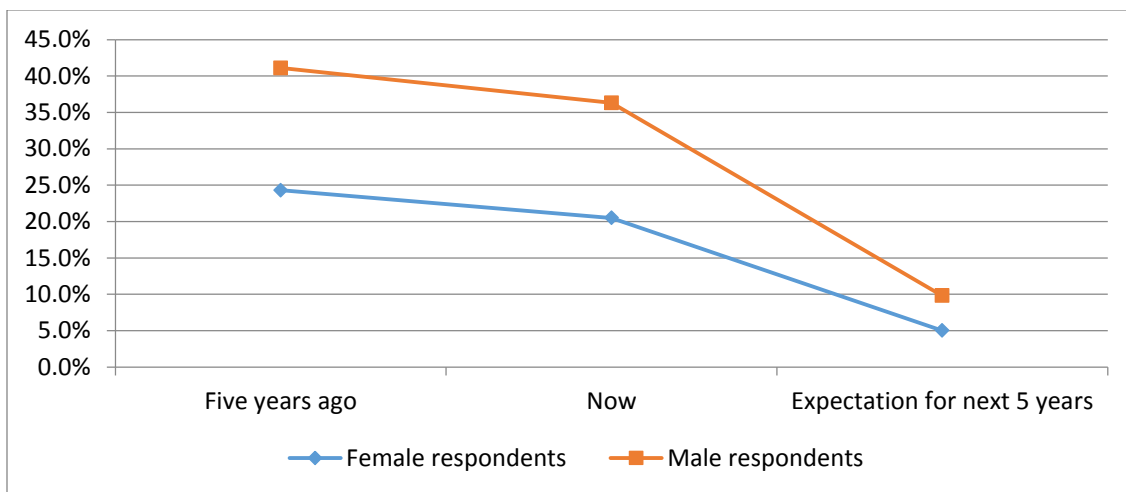
Figure 30: Attitudes towards gender based violence



General life satisfaction

More women than men felt dissatisfied with their lives, at the time of the survey and five years ago, although the proportion of both men and women dissatisfied with their lives had reduced over the five years (Figure 31).

Figure 31: Proportion of male and female respondents indicating they were very dissatisfied or dissatisfied with their lives



Physical mobility

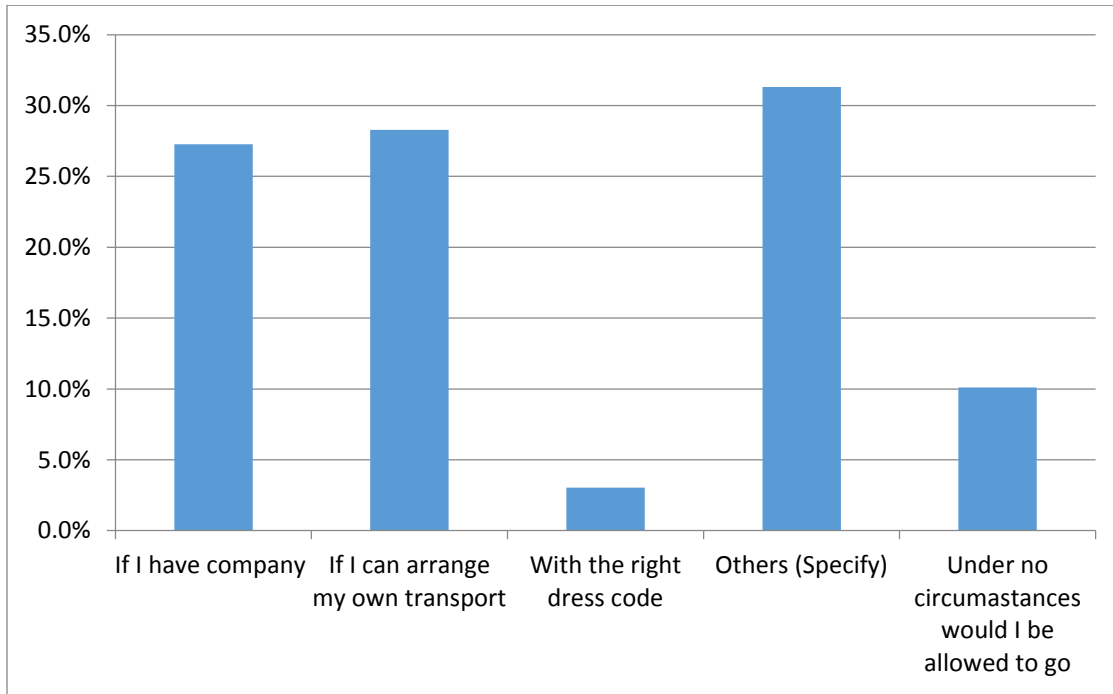
While visits to some places such as a hospital or clinic are based on need, there were some clear patterns in terms of mobility. Women were more likely to go to the market, visit friends or neighbors and to a public or community gathering every day or at least once a week compared to visits to family members or to the clinic (Table 22). The high frequency to public or community gatherings could be reflective of women’s attendance to group meetings. Men on the other hand were more likely to visit friends and neighbors and to go to the market every day or once every week. Attendance to public or community gatherings was less than that for women with almost half of the men (44.4%) reporting never having attended a community or public gathering compared to only 7.3% of women. There were no major differences across the treatment groups.

Table 22: Men and women's reported physical mobility

		Market	Family	Friend /neighbor	Hospital	Public /community gathering
Male	Everyday	11.4%	1.5%	39.7%	1.1%	.6%
	Once every week	42.9%	7.9%	28.0%	3.3%	24.0%
	Once every 2 weeks	9.1%	6.0%	6.5%	4.8%	3.5%
	Once a month	15.8%	19.0%	6.0%	18.5%	17.6%
	Less than once a month	18.0%	55.8%	16.3%	63.1%	9.8%
	Never	2.8%	9.8%	3.5%	9.3%	44.4%
Female	Everyday	5.8%	.8%	40.3%	.4%	.8%
	Once every week	43.5%	7.2%	31.4%	9.2%	74.2%
	Once every 2 weeks	11.1%	6.3%	6.5%	10.3%	3.2%
	Once a month	17.2%	25.9%	6.5%	34.6%	13.1%
	Less than once a month	21.0%	53.3%	13.1%	41.7%	1.5%
	Never	1.4%	6.4%	2.4%	3.8%	7.3%

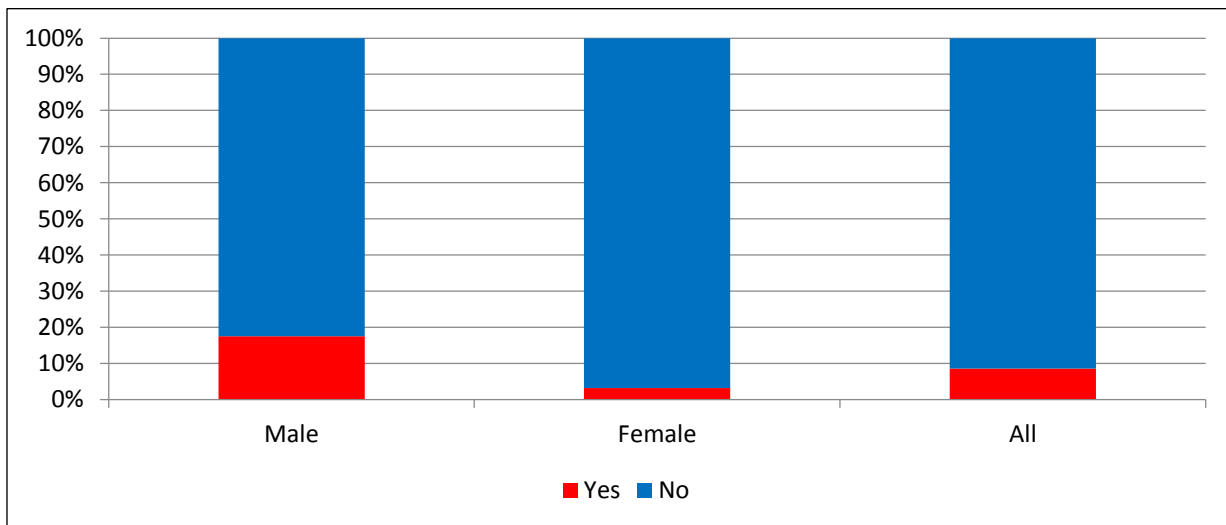
Asked whether their husbands or other family members objected to their going to these places, majority of the women (over 97%) indicated no (Figure 31). For those that would have objections, their husbands and other family members would however not object if she were accompanied by relatives or children (27.3%), if they could cover their own expenses such as transport (28.3%) and if they have the right dress code. 10% of them however indicated they would not be allowed to go under any circumstances.

Figure 32: Proportion of female respondents reporting different circumstances under which there would be no objection to their physical movement



Asked whether in the 12 months prior to the survey, they had spent more than a month away from home, more men (17.5%) than women (8.6%) said yes (**Figure 33**).

Figure 33: Proportion of respondents who spent time more than one month away from home

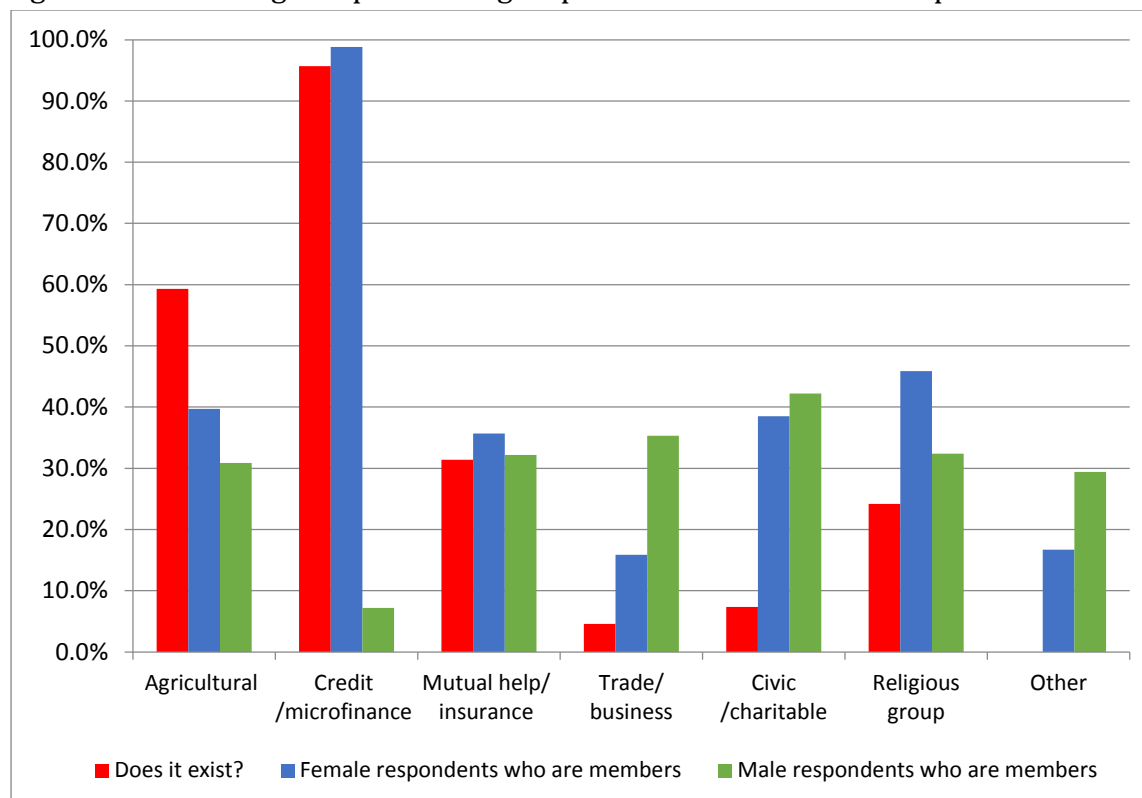


3.3.3. Group membership

Group existence and membership

The most prevalent types of groups in the surveyed sites were credit and microfinance groups, mainly village savings and loan associations while the least common were trade and business groups, and civic or charitable groups (**Figure 34**). Majority of the women (98.8%) were members of the village savings and loan associations. Women were least involved in the trade and business associations. For men, the most common membership was in civic/charitable groups (42.2%), trade and business groups (35.3%), and religious groups (32.4%). There were a higher proportion of men than women in trade and business groups as well as the civic and charitable groups while there a higher proportion of women than men reported being members of agricultural groups, credit and microfinance, mutual help and insurance and religious groups.

Figure 34: Percentage responses on group existence and membership

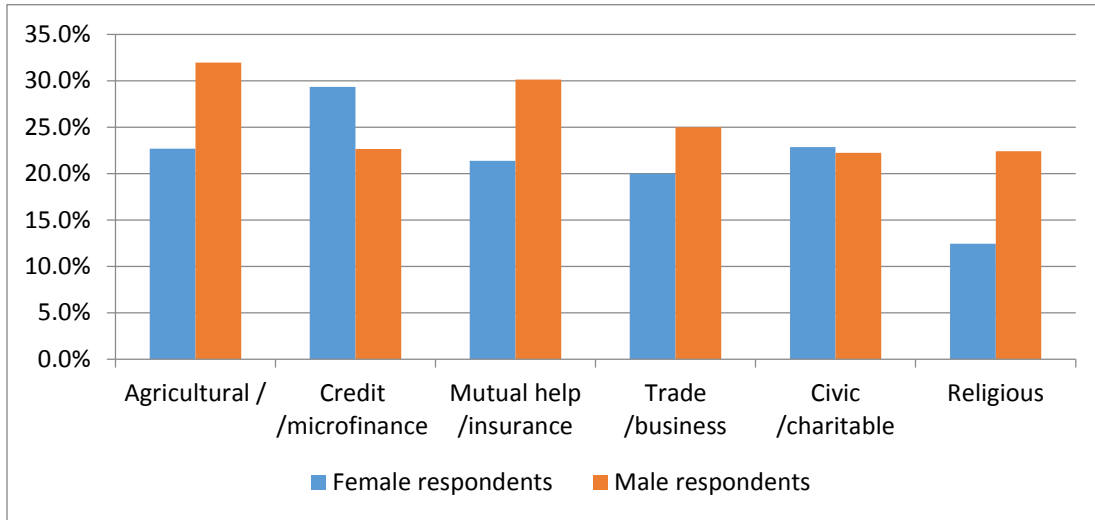


Ability to influence group decisions

Ability to influence decisions of the group varied between men and women and across types of groups. A higher proportion of women felt they could influence decisions of the credit /microfinance groups and the civic/charitable groups than men (**Figure 35**). These two were the only types of group where more women than men felt they could influence

group decisions. The proportion of men who could influence decisions was higher in all the other types of groups.

Figure 35: Proportion of male and female respondents who felt they had high influence on decisions of the group

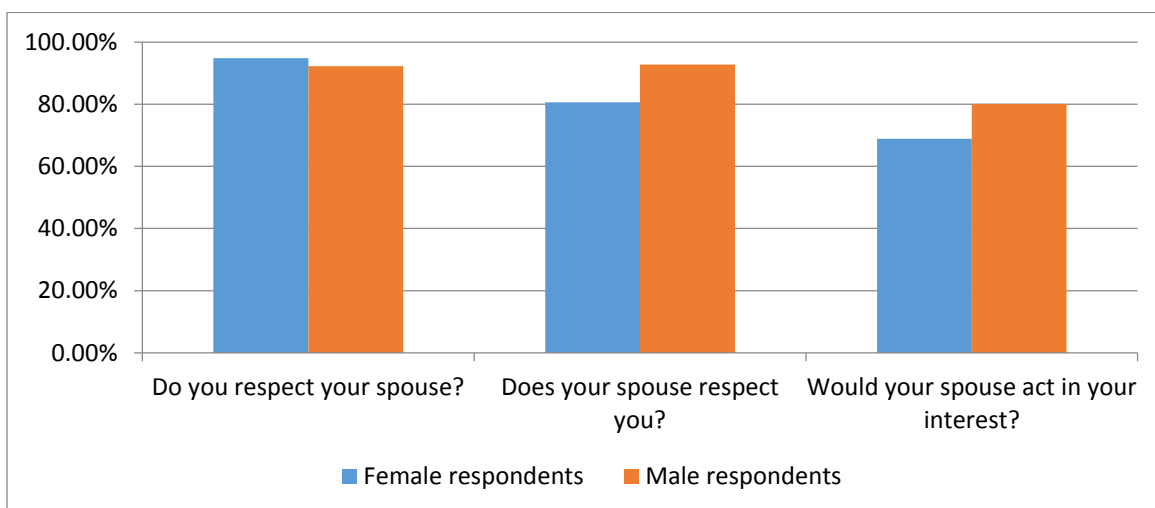


3.3.4. Social norms and practices

Intra-household relationships

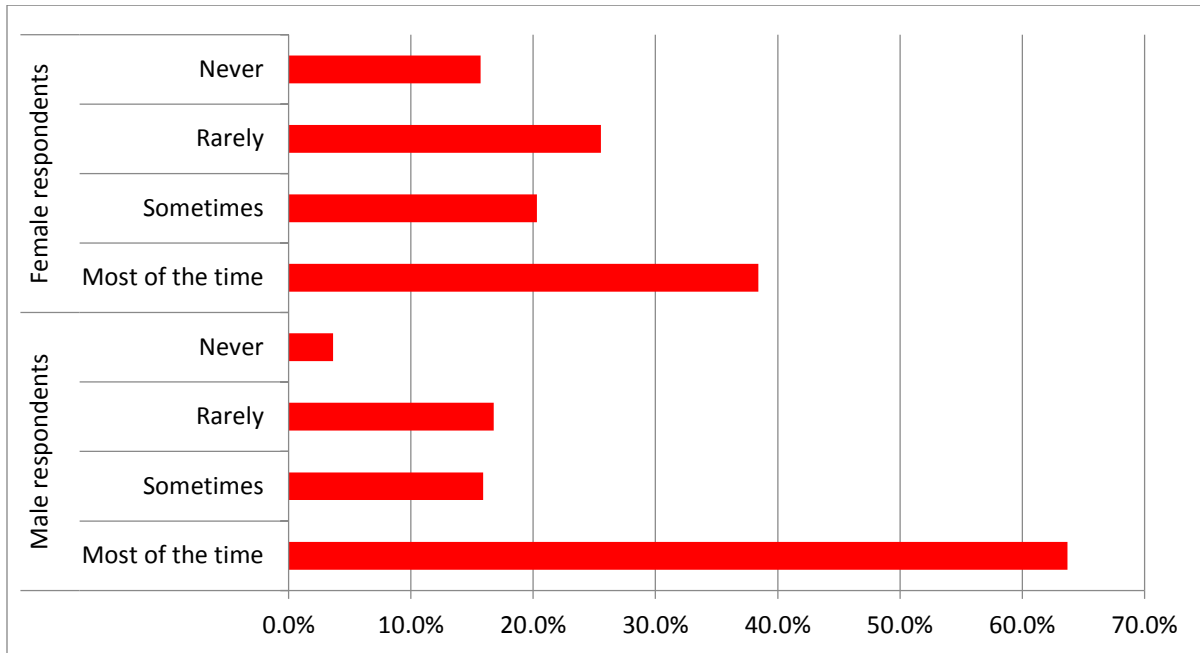
Over 90% of both male and female respondents reported that they respected their spouses most of the time (**Figure 36**).

Figure 36: Proportion of male and female respondents who respected their spouses most of the time vs those who felt their spouses respected them back



However, when asked if their spouses respected them, only 80.6% of the female respondents indicated their husbands respected them while 92.7% of the male respondents felt their wives reciprocated and respected them most of the time. Similarly 80.1% of men felt their wives would do things that were in their best interest while only 68.9% of women thought their husbands would do things that were in their best interest.

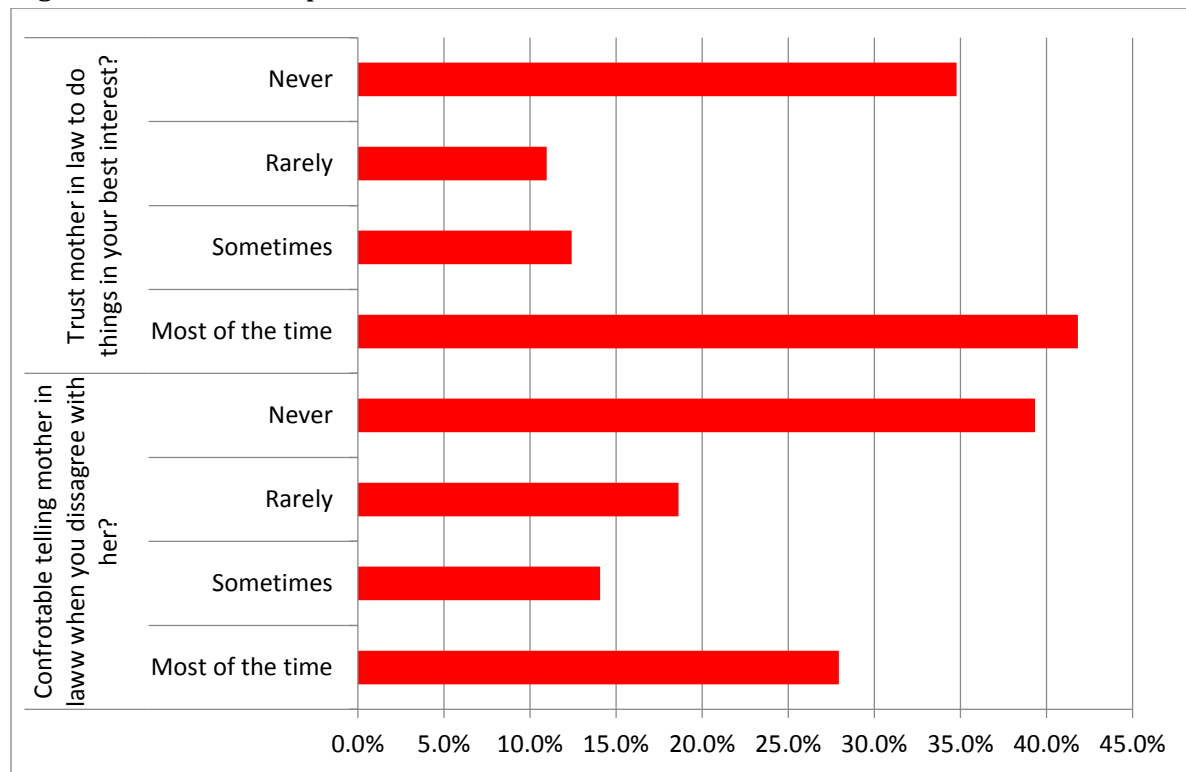
Figure 37: Proportion of male and female respondents and their level of comfort to inform their spouses when they disagree with them



In the event of a disagreement, only 38.4% of women felt they would be comfortable most of the time to tell their husbands they disagreed with them and 15.7% felt they would never be comfortable telling their husbands that they disagreed with them (**Figure 37**). On the other hand, 63.7% of the men felt they would be comfortable to tell their wives they disagreed with them and only 3.6% felt they would never be comfortable telling their wives they disagreed with them.

Women’s trust of their mother in laws followed a similar pattern. 34.8% of women in male headed households did not trust their mother in laws to ever do anything that is in their interest and another 39.3% would never be comfortable to tell their mothers in law when they disagree with them (Figure 38).

Figure 38: Female respondents' attitudes towards their mother in laws



Couple communication

An analysis of couple communications revealed differences in how men and women communicated. While 62.1% of men had been able to tell their partners most of the times or sometimes when they disagreed with them, only 38.3% of the women had been done that, while the other 61.7% rarely or never told their partners when they disagreed with them (**Table 23**).

Men had more say than their partners on important decisions that affected their relationship. Close to 90% of the men (88.1%) felt most times or sometimes they had a say in important decisions affecting their relationship, while only 32.2% of women felt the same. Close to 70% of women rarely or never have a say in important decisions to do with the relationships with their spouses.

Close to 60% of the women indicated most times or sometimes when there was an argument, their partners got their way. In terms of discussing expenses, 92.1% of the men indicated they most times or sometimes discussed with their partners, while only 64.7% of the women felt this way. 35.4% of women indicated they never or only rarely discussed most of the expenses with their partners before making any decisions.

Table 23: Experiences with couple communications in the last 12 months

	Most of the time /Sometimes		Rarely /Never	
	Female respondents	Male respondents	Female respondents	Male respondents
In the last 12 months, I have been able to tell my partner when I disagree with him/her?	38.3%	62.1%	61.7%	27.9%
In the last 12 months, I have had more say than my partner in important decisions that affect our relationship?	32.2%	88.1%	67.9%	21.9%
In the last 12 months, when me and my partner have an argument, my partner has got his/her way most of the time?	58.7%	49.5%	41.3%	50.5%
In the last 12 months, my partner and I have discussed most of our expenses before making them	64.7%	92.1%	35.4%	7.9%
In the last 12 months, my partner has made most of the decisions that affect my health	46.5%	53.3%	53.5%	46.7%

Attitudes towards gender based violence

From the data, more men had negative attitudes towards gender based violence compared to women. Over 40% of women felt it was justified for a man to beat his wife if she went out without telling him compared to 25.9% of men (Table 24).

If a woman refuses to have sex with her husband, 37.6% of women felt it was justified for the husband to beat her, while 63.4% of women indicated the husband was justified if the wife came home late at night. These results contradict the results on collective efficacy where a majority indicated they would advise their friends or neighbors against gender based violence and would support women to report if they were experiencing gender based violence. These results show a greater tolerance to gender based violence.

Despite these perceptions, over 97% of the respondents, both male and female indicated that if a friend was beating his wife, they would advise him to stop and over 96% of both male and female respondents indicated if a woman was experiencing violence at home, they would advise her to seek help.

Table 24: Responses and when is it justified for a man to beat his wife

	% Female respondents	% Male respondents
If she goes out without telling him?	42.2%	25.9%
If she neglects the children?	30.9%	16.1%
If she argues with him?	16.8%	10.1%
If she refuses to have sex with him?	37.6%	17.4%
If she burns the food?	12.3%	6.3%
If she comes home late at night	63.4%	40.3%
If she spends money without asking him	39.5%	24.3%
If she takes credit without his knowledge	33.6%	18.9%
If a friend was beating his wife, I would advise him to stop	97.4%	97.4%
If I knew a woman experiencing violence at home, I would advise her to seek help	96.2%	96.1%
When I see others speaking up about violence in the community, I want to join them	64.7%	67.5%
In the last 12 months, I have gotten involved with others who are promoting relationships between men and women that are free of violence	53.7%	58.4%

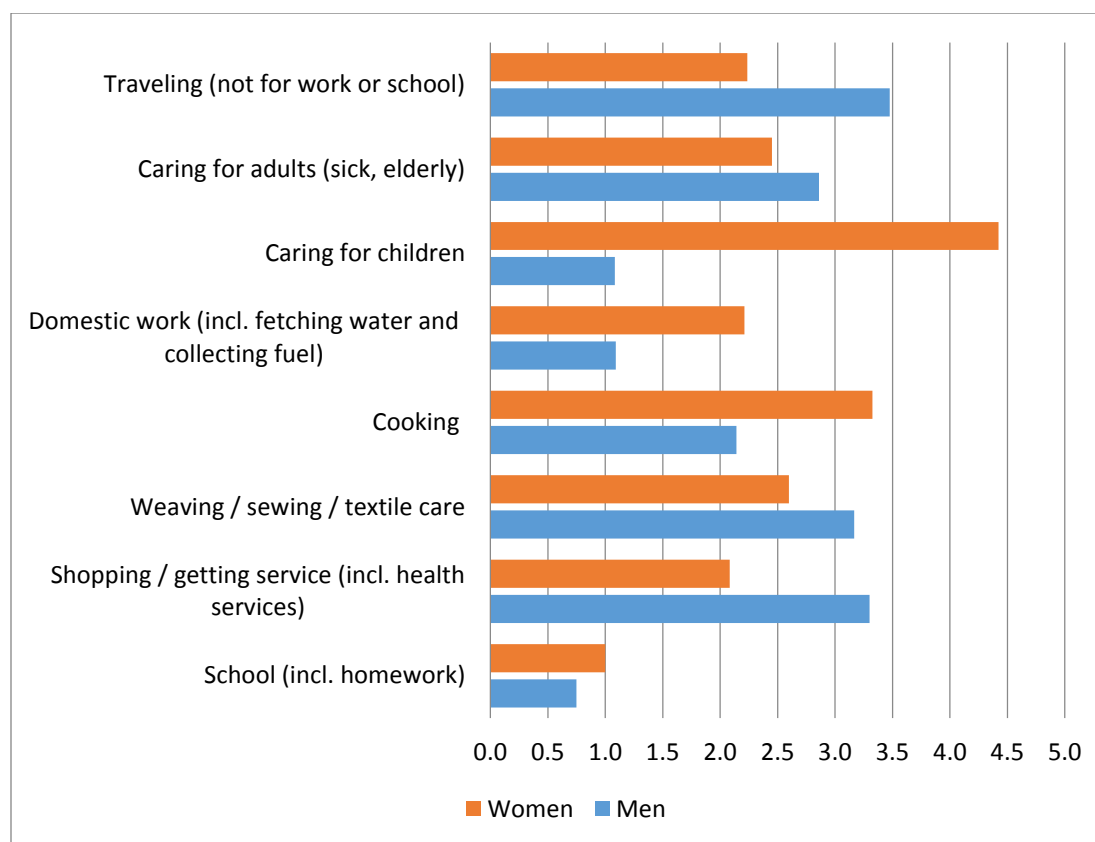
Over 60% (64.7% female respondents and 67.5% of the male respondents) indicated they would join others in the community to speak up about violence and over 50% (53.7% of female and 58.4% of male respondents) were already involved having joined others promoting relationships between men and women that are free of violence in the 12 months prior to the survey.

3.3.5 Women's time use

Analyzing men and women's time use, women spent more time than men in all domestic activities other than caring for adults, shopping and weaving (**Figure 39**).

On average, women spent 4.4 hours per day caring for children compared to men's 1.1 hours. They also spent 3.3 hours cooking compared to men's 2.1 hrs. Women spent 2.2 hours carrying out other domestic tasks such as fetching water and collecting firewood while men spent 1.1 hours on these tasks.

Figure 39: Women and men's time use in care work



While this data is illustrative of the higher burden of domestic work for women, what is even more illustrative of this burden is the small number of men who indicated working on these tasks in the 24 hours prior to the survey (**Table 25**).

Table 25: Number of men and women who reported engaging in different care and economic activities

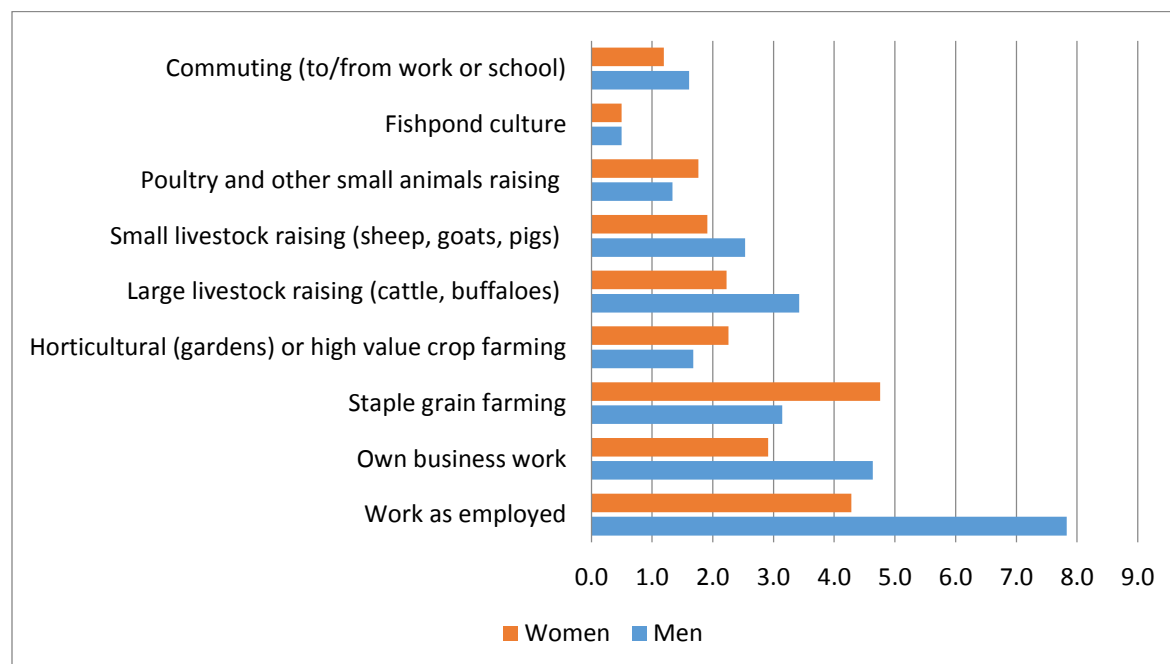
	Men	Women
Care and domestic tasks		
Traveling (not for work or school)	532	145
Caring for adults (sick, elderly)	25	42
Caring for children	24	276
Domestic work (incl. fetching water and collecting fuel)	11	877
Cooking	7	1,089
Weaving / sewing / textile care	6	102
Shopping / getting service (incl. health services)	20	199
Commuting (to/from work or school)	37	55

Economic and agricultural tasks		
Work as employed	85	50
Own business work	193	264
Staple grain farming	799	1,316
Horticultural (gardens) or high value crop farming	14	29
Large livestock raising (cattle, buffaloes)	129	95
Small livestock raising (sheep, goats, pigs)	157	177
Poultry and other small animals raising (chickens, ducks, turkeys)	18	23
Fishpond culture	2	2
Commuting (to/from work or school)	37	55

While 1,089 women reported having cooked, only 7 men reported having cooked and another 11 men reported having engaged in domestic work including fetching water and collective firewood compared to 877 women, who reported to have undertaken this task. Even for an activity such as weaving where men spent more time on average than women, more women reported undertaking the task (102) compared to men (6).

On the other hand, men spent more time than women in economic and agricultural activities other than raising poultry and staple grain production (**Figure 40**). Compared to women’s 4.3 hours, men spent 7.8 hours working in wage employment. Men spent 4.6 hours working on own business compared to women’s 2.9 hours.

Figure 40: Women and men’s time use in economic and agricultural activities



4. Summary and conclusions

The results in this baseline report provide a baseline situation of livelihood and gender opportunities and barriers that are important of the project to consider as they embark on implementation.

Across all sites selected for EKATA, Gender Light and Control interventions, livelihood options are limited with most households solely relying on agriculture –crop and livestock production –with limited off farm activities. Among the agricultural activities, cattle, rice and bananas constitute the most important sources of income, with Rice being the major source of income for households. The production of rice is however low, with limited opportunities to expand production area.

The use of improved inputs such as fertilizer, improved seed and pest and disease management strategies was extremely low across all sites. A strong emphasis on the optimizing productivity i.e. increasing production per unit area will be critical. This should focus on increasing access to better quality seed, training on good agronomic practices and improving input use for production. Increasing agricultural productivity can however often come at a cost in terms of labor and especially women’s labor and should be coupled with discussions on more equitable gender division of labor in both production and care work.

The dietary diversity score is comparable to that found in other studies in rural areas, which often average between 4 and 8 food groups consumed in the 24 hours prior to the survey (Torheim, 2004 found a dietary diversity of 7.8 in rural Mali; Agada and Igbokwe 2015 found a DDS 4.6 in Northern Central Nigeria). The proportion of women especially in female headed households who fall below the minimum diversity score for women is unusually high and specific targeting especially for nutrition education on the importance of consuming more diverse diets and specifically increasing consumption of foods such as milk, eggs and other proteins will be critical.

Women’s ownership of assets including agricultural assets was much lower than of men, both in terms of incidence and numbers, and women were less likely to own the assets solely. The ownership of assets by women has important implication for their empowerment and for their bargaining power in the household. Lack of ownership and access to resources can hinder them from economic participation and from making important decisions about their wellbeing and the well-being of their children. The data shows a high degree of joint ownership of assets including large assets. Various approaches have worked in building women’s assets including direct transfers. The lack of means of transportation has important implications for market development. In addition to building women’s incomes and supporting their acquisition of assets, linking them to information

and service provides that can provide these will facilitate their participation in markets. While a large proportion of women owned mobile phones, opening up opportunities to use these as payment options, or as conduits of information, women can often be limited in the use of these phones (especially for text based information) due to lower literacy levels. Adoption of mobile money or mobile information systems should take these into account, be simplified enough to enable women to use them easily, or be accompanied by strengthening women's capacity to make full use of them.

There were clear patterns of decision making with less than half of the women interviewed making input into some or most decisions to do with household expenditures (small and large), non-farm activities, wage and salaried employment etc., while a majority made the decisions on care work. The fact that there are women making decisions on some of these domains is important as these can be used as models for the rest of their group members. It is also important to take note of the differences in decision making on activities, and decision making on income from the activities.

There was high reporting of joint ownership of assets including large assets in addition to women's input into decision making. Yet these results are reported alongside results on women's inability and unwillingness, for various reasons, to voice their concerns when they disagree with their husbands. These kinds of contradictions in the results should be explored in qualitative studies.

For some selected activities, while a low proportion of women made the decision on the activity, a higher proportion of women made decisions on use of income from the activity. These results are centrally to what has been found in other studies where men dominant in decision making in the use of household income, even for women managed enterprises. For implementation, the engagement of men in discussion the importance of joint decision making for the benefit of themselves, women and their households needs to be strongly integrated in the implementation mechanisms for the EKATA groups and subsequently for the other groups in accordance with the research design principles of the research. Further qualitative studies to explore decision making on activities and income from those activities, especially in the face of women's inability to voice disagreements with their husband's decisions are needed.

Access to credit and other financial services can be a determinant of whether individuals engage in income generating activities, especially those that require initial capital. Other than from their groups, women had less access to all other sources of credit compare to men, and when they borrowed, they borrowed much lower amounts than men. Given the membership of women in village savings and loans, how can the project leverage this to increase access to appropriate credit by those that need it?

Women's autonomy is fundamental for their empowerment and wellbeing and their ability to exercise choice. Women had less autonomy than men in most production and household decisions, felt less capable of achieving their goals and objectives but had more belief in the power of community and the benefits that come from being members of a collective. Their physical mobility was less than men's and a small proportion indicated their spouses or other family members could block them from going to different places under certain circumstances or they did not fulfil certain conditions like being accompanied by another family member. This has implications for some of the planned project activities such as market development and will need to be addressed through community and household dialogues as well as building women's agency.

An interesting result was autonomy in relation to women's ability to ask their husbands to undertake household tasks, which was very low and women's comfort telling their husbands if they disagreed with them. This was not matched by men's willingness to undertake household chores, with a majority indicating they would indeed be willing to take undertake those tasks and a high proportion also indicating they would tell their wives if they disagreed with them. This is an important result to further explore in qualitative studies and to test in reality and indeed take advantage of and use as champions of change men who are willing to share domestic workloads with their spouses. It will also be critical to explore this further in qualitative studies.

While there have been programs on gender based violence in Burundi, we did find a surprisingly high proportion of women, than men who expressed positive attitudes towards gender based violence, again, this will be important to integrate in the interventions. It is likely that due to public awareness of gender based violence men might have given "appropriate" or "expected" answers, or they may indeed be more aware of efforts to address gender based violence than women are and this needs to be further explored in qualitative studies.

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