## FSP Resilience Learning Brief #01

# GENDERED WORKLOADS OF FARMERS IN SOUTH KIVU

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This brief examines five questions on the South Kivu Food Security Project (FSP) resilience monitoring agenda: (1) How much time do partnered and non-partnered female and male farmers in the intervention zone spend working in the field? (2) What types of workload help do non-partnered and partnered female and male farmers receive? (3) What, if any, relationship is there between reciprocate help and social bonding? (4) What evidence, if any, is there to suggest that FSP activities could be a time burden for FSP participants? The brief uses mixed methods data from FGDs conducted in September 2019 and the March 2020 round of the FSP Seasonal Farmer-based Recurrent Monitoring Survey (SFB-RMS).

The brief uncovers that agricultural workloads in the intervention zone are extremely heterogeneous. Gender dynamics appear to play a key role in workloads but are complemented by a wealth of other factors such as seasonality, reciprocal agriculture help, topography, field sizes, crop types, and proximity to economic zones. Non-partnered women are more prone to relying on reciprocate help, partially balancing a lack of support from family members. The analysis cannot confirm a relationship between reciprocal help and the bonding sub-index of social capital, though the construct of bonding is broader than the index itself. Non-married women appear to be more time-impoverished than other groups and are more likely to skip program activities sometimes, but do not skip more often. The brief cannot confirm that participants might perceive

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the time spent on program activities as too high. However, FSP should avoid conducting time-intensive activities in the seeding period, consult with participants to identify the most suitable timing for activities, and explore household and community-level opportunities to reduce women's time spend on caretaking, food preparation and household chores. The MEL and research community should review appropriate time allocation metrics, account for seasonality in time allocation, and examine contextual factors influencing heterogeneity in time allocation.

# Background

The South Kivu Food Security Project (FSP) is a five-year USAID/FFP-funded Development Food Security Activity (DFSA) aimed at increasing the food security, nutritional status and economic wellbeing of 210,000 participants in the three health zones of Kalehe, Katana and Miti-Murhesa in South Kivu, DR Congo. FSP works across three purposes: (1) Agriculture and value chain development, (2) nutrition, health and WASH and (3) governance and conflict resolution. The three purposes are supported by a cross-cutting gender and youth approach and apply a resilience lens for sustainable maximum impact despite shocks and stresses.

# Design and methodology

This learning brief utilizes, first, mixed methods data from 18 focus group discussions (FGDs) collected by FSP MEL and program teams with farmers in the Kabare and Kalehe territories in the FSP intervention zone in South Kivu in September 2019, designed to reach 80% thematic saturation across three demographic groups and health zones. FGDs were conducted with three demographic groups: (A) adult females living without a partner participating in FSP (B) adult females living with spouse/partner participating in FSP, and (C) males not participating in FSP but whose wives/partners are participating in FSP. Six FGD sites were selected, stratified by the three health zones Kalehe, Katana and Miti-Murhesa. The sample selection was based on six factors: principal livelihood strategies, access to main roads, proximity to the provincial capital Bukavu, topography, religious orientation (as a proxy for food taboos) and the presence of large enterprises.

The FGDs were designed as semi-structured interviews with a mixed methods component. FGD participants explored the types of help received in the field and at home, their experiences in FSP agriculture activities and their agriculture-related communication and knowledge sharing with other persons. In addition, upon arrival to the FGD, every participant was asked to describe the typical number of hours per day, days per week, and weeks per period spent on fieldwork during the four periods of land preparation, seeding, maintenance and harvesting period (see annex 1). Analysis themes were identified through abductive reasoning with FGD facilitators and note takers who submitted daily summaries and interpretations of the themes uncovered. Qualitative data was analyzed using comparative content analyses. The qualitative data was corroborated with exploratory summary statistics and visualizations of the quantitative data.

Second, the learning brief utilizes quantitative survey data collected through the 2020 Season A follow-up round of the FSP Seasonal Farmer-based Recurrent Monitoring Survey (SFB-RMS) to corroborate hypotheses from the FGD analysis and provide complementary answers to learning questions 3 and 4.

# Limitations and possibilities of measurement error

(1) The FGD data collected uncovered a very high degree of variance. This is useful to identify factors that influence variances but puts strains on our ability to interpret findings for the general farmer population in

FSP. (2) Summary statistics were used to illustrate both the complexity of the data and to uncover general tendencies for hypothesis building. They should however be interpreted very carefully since the sampling strategy was built around thematic saturation not statistical precision. (3) Since data was collected at the beginning of the seeding phase, recall biases are possible for questions related to the field maintenance and harvest. (4) Some measurement error may have been introduced regarding to the number of weeks worked per period. The FGD facilitators did not clearly mention which season they referred to, but different crops are harvested during the two seasons and season B is around 4 weeks shorter than season A.

# Findings

## 1. How much time do partnered and non-partnered female and male farmers in the intervention zone spend working in the field?

**1.1 Work hours tending to fields vary strongly based on seasonality, the topography of fields, plot sizes, crop types and diversity, demographic characteristics, and help received from community members**. Strong variance was visible both within and between FGDs (see annex 2). While we could uncover important exploratory findings for hypothesis building, the high degree of variance and the large number of intervening variables that may influence work hours raise some concerns over frequently used methods to understand (female) farmers' workloads in project contexts, such as the Women's Empowerment in Agriculture Index (WEAI).

**1.2 Weekly work hours disaggregated by seasonal period appear to yield the highest construct validity to measure the intensiveness of agriculture workloads and design project interventions.** We found that the commonly used method to examine hours worked per day may produce ecologically invalid observations about participants' time. For instance, we could validate the common claim that farmers work the longest days during harvest (9.2hrs for non-partnered women, 9.3hrs/day for partnered women and 9.4 hrs/day for partnered men). However, farmers in the intervention zone also work the fewest days per week during that period (3.6, 3.8 and 4.2 days/week), thus leaving time for off-farm activities. A combination of questions about the number of workhours per workday and the number of workdays per week, disaggregated by seasonal period, better accounts for days when participants do not work in the field (see annex 3).

**1.2 Total estimated work hours per season could be a promising metric to understand the extensiveness of agriculture workloads.** We found that generalized statements about time allocation and time poverty may lose nuance when reduced to work hours per day or week because the number of weeks of active field work may vary from one farmer to another. Where generalized statements are demanded, we recommend estimating total work hours throughout the season, either through well-facilitated surveys or through consensus-oriented qualitative methods (see annex 3).

**1.3 Seeding is the most labor-intensive period.** Measured by workhours per week, seeding is the most labor-intensive phase (41hrs/wk for non-partnered women, 34hrs/wk for partnered women and 34hrs/wk for partnered men). It should be noted that partnered male farmers' weekly work hours remain relatively stable throughout all periods (31-34 hrs/wk), despite changes in the number of hours and days worked per period. On the contrary, non-partnered female farmers' weekly workhours fluctuate more substantially, with "lows" during land preparation (32 hrs/wk), maintenance (35hrs/wk) and harvest (33 hrs/wk) and a peak during seeding (41 hrs/wk). Partnered female farmers' workloads vary between 22 and 35 hours per week, with

lows during land preparation (28 hrs/wk) and maintenance (22hrs/wk), and with peaks during seeding (34 hrs/wk) and harvest (35 hrs/wk) (see annex 3).

**1.4 Women without a partner spend the most hours tending to fields** (417hrs), followed by men with a partner (367hrs) and women with a partner (317hrs) throughout the agricultural season. Interestingly, non-partnered women in FSP appear to spend substantially less time on harvest than partnered women or men. One likely hypothesis for this may be that non-partnered female farmers rarely own land plots themselves, but much rather work on the plots of family members or as day laborers. At the same time, non-partnered women receive substantially more help during harvest than the other groups. One possible explanation could be that they receive help in exchange for a share of their harvest (see annex 3).

**1.5 Partnered women spend more time on land preparation than men** (122hrs against 109hrs), contrary to anecdotes from technical teams and community representatives. Even though men work more during land preparation than any other period, and even though they tend to work more days per week than partnered women during land preparation, they work fewer weeks, fewer days and fewer hours in total. Instead, we found that partnered men tend to engage in fieldwork they consider heavy and thus feel responsible for, such as tillage, and then leave any lighter but more time-intensive work to their partner (see annex 3).

**1.6 Women tend to start agriculture works about 0.5 to 1.5 hours later than men and finish between 0 and 4 hours later than men**. This appears to be the case especially for partnered women. We have insufficient qualitative data to better understand possible explanations, but it appears plausible that women engage in housework and caregiving in the early morning (see annex 3).

## 2. What types of agriculture and non-agriculture related help do non-partnered and partnered female and male farmers receive?

**2.1 Four categories of agriculture help could be identified in the FGDs: no help, reciprocate help, family help and paid labor.** Participants who received no help are either missing the social connections or the financial resources to obtain help. Participants who receive reciprocate help from community members either provide agriculture help in return or provide food or a share of their harvest to the persons who help them. Participants who receive family help receive support from child or adult family members inside or outside their household. By the fact that families tend to share financial, human and physical capital between members, family help is inherently reciprocated. Participants who rely on reciprocate help from neighbors in addition to family help are counted towards family help, which tends to be preferable to be more cost-effective as family members provide help as part of their family responsibilities without expecting a direct return. Participants who receive support through paid labor may rely either exclusively on paid help or on a mixture of reciprocate and/or family help in addition to paid labor. All these combinations are counted towards paid labor, as being able to hire daily workers tends to be a sign of socioeconomic status in the FSP intervention zone. No clear geographic tendencies were detectable in the distribution of help types across the three health zones where FSP intervenes.

**2.2 Almost all partnered male farmers receive support from their wives, but almost no partnered female farmers receive support from their husbands.** This contrast is so pervasive that we are confident to interpret it as a generalizable tendency for the FSP intervention zone. The finding also applies to all seasonal periods, though several FGDs reported the land preparation period as an exception. In Cinjoma (Miti-Murhesa), some male and female FGD participants expressed that agriculture was “primarily a woman’s job”, and that “husband’s help by paying for daily labor if they have the money”.

**2.3 Being a partnered man is associated with receiving help. Having large plots, sloped fields or cash crops is not.** To understand potential confounding variables of the FGDs, we triangulated the FGD data with quantitative data from the SFBS. The only significant association we found with agriculture help received was the sex of the participant. Other potentially confounding variables such as the plot size, plot topography or crop types were not significantly associated with receiving help.

**2.4 Non-partnered female farmers predominantly receive family or family and reciprocate help or no help at all.** While there was consensus in all FGDs that they received help during harvest, 3 out of 6 FGDs established consensus that non-partnered women received no help during the land preparation, seeding and maintenance periods.

**2.5 Partnered female farmers predominantly receive family or family and reciprocate help, or paid labor, with some exceptions.** In all but one village (Bukenke), all partnered female farmers receive some type of help during harvest. Two out of 6 FGDs established consensus that partnered women received no help during land preparation. Globally however, from the qualitative discussion data it appears that receiving no help is an exception for partnered female farmers throughout all seasons.

**2.6 Partnered male farmers predominantly receive family or family and reciprocate help, or paid labor, with no exceptions.** While some limited variation was noted, no FGD established a consensus that men did not receive agriculture help. The type of help received in each village was also much more consistent among male than among female farmers.

**2.7 Patterns of agricultural help received by participants vary across geographic locations.** As noted above, the FGD results revealed that patterns of help varied across villages. At the health zone level, the quantitative results confirmed that participants within Kahale, Katana, and Miti Murhesa experience statistically significantly different levels of agricultural help (see Annex 4).

## 3. What, if any, relationship is there between reciprocate help and social bonding?

**3.1 Reciprocate help serves as a positive coping strategy to counter the lack of family support.** Reciprocate help is more pervasive among non-partnered women than among partnered men or women. Partnered women on the other hand only receive reciprocate help during the harvesting period, with the exception of Nyamukubi (Kalehe) where reciprocate help was prevalent across all FGDs. We interpret from this that reciprocate agriculture help is a positive coping strategy used by non-partnered women to counter the lack of family members to provide unpaid help.

**3.2 We found no evidence that reciprocate help is associated with the bonding sub-index of social capital.** When analyzing whether caregiving or agriculture help given or received was associated with the bonding sub-index of social capital (part of FFP indicator M36), we found no statistically significant association. It should be noted that the usefulness of the bonding sub-index for stand-alone statistical analysis is limited because the construct of bonding is much broader than the index itself. However, based on currently available program data, we would caution against the notion that reciprocate help may reinforce social bonding.

## 4. What evidence, if any, is there to suggest that FSP activities could be a time burden for FSP participants?

**4.1 We found formative evidence that women are substantially more time-impoverished than men, which may be a barrier to activity participation.** On average, participants spend 4:30h (non-partnered women), 3:34 (partnered women) and 1:40h (partnered men) per day on commuting, livestock keeping, agriculture help and housework tasks, depending on their demographic group. Assuming a five-day schedule for the former three work-related tasks and a seven-day schedule for housework tasks, the total weekly time allocation for these tasks adds up to 34.8hrs/wk (non-partnered women), 23.2hrs/wk (partnered women) and 10.6hrs/wk (partnered men). In the most time-intensive period, the planting period, if accepting the premise that FGD data and survey data may be integrated, this adds up to 75.8hrs/wk (non-partnered women), 57.2hrs/wk (partnered women) and 44.6hrs/wk (partnered men). Accordingly, in this period, non-partnered women spend 70% more time on livelihood and housework activities than partnered men. We can thus hypothesize that women's time poverty may pose a barrier to participation in FSP activities.

**4.2 Non-partnered women are more likely to skip program activities sometimes but do not skip with greater frequency.** 54.3% of non-partnered women reported having to skip FSP activities sometimes, compared to 39.6% of partnered women and 51.9% of partnered men, according to SFB-RMS data from March 2020. Note that we found no significant differences in the self-reported depth of non-attendance.

**4.3 The majority of FSP participants sees their time spent on program activities as appropriate, but more participants find it too much than too little.** Data from the 2020 Season A round of the SFB-RMS shows that 53.9% of participants stated that their time spent on FSP activities was appropriate, while 12.4% perceived is as too little and 33.7% perceived it as too much. Interestingly, the proportion of respondents who perceived it as too much was 30.9% among non-partnered women as opposed to 40.7% among partnered women and 33.4% among partnered men. This finding illustrates that while non-partnered women bear the most intensive workload, they have generally fewer concerns with time required to participate in FSP activities.

**4.4 Willingness to participate in FSP activities should be interpreted in the light of perceived financial, economic and human capital cost-benefit relationships.** The FGDs did not probe specifically whether the opportunity cost of participating in FSP activities outweighed the benefits. Yet, no FGD participant mentioned negative consequences of participating in FSP activities, while at the same time several participants mentioned a need for more agriculture-related training. These statements should be contextualized with respect to the fact that FSP participants often receive transport reimbursements and meals during trainings, in addition to being able to increase their social status and human capital through participation in FSP activities. Consultations with program teams suggest that all these factors may play a role in a participants' decision to attend activities, and that they would simply not attend activities if they felt that the monetary and time participation cost was not worth the benefit.

**4.5 Up to 3:51h/day of women's time could be saved if community and household-level solutions were identified for caretaking, food preparation and household chores.** Contrary to assumptions from team members that time savings for women could be achieved by motivating men to fetch water and collect firewood, quantitative data from the March 2020 SFB-RMS shows that these tasks take 23 minutes and 36 minutes per day on average. Much rather, time savings could be achieved by identifying household and community-level solutions to reduce the daily time women spend on caretaking (1:25h/day), preparing food (1:26h/day) and household chores (1:00h/day) (see annex 5). Particularly considering non-partnered

women's assumed time poverty, it could be beneficial to explore community-level caretaking and collectivized food preparation as a means of removing barriers to program participation.

# Implications

## Implications for FSP

**FSP should avoid conducting labor-intensive program activities such as Food For Assets (FFA) during the time of seeding.** Considering the intensiveness of agriculture works during the seeding period, particularly for partnered and non-partnered women, labor-intensive activities that add on top of participation in regular program activities such as weekly trainings should be avoided.

**To the extent possible, program teams should consult with participants in each activity group and agree on the most suitable timing for regular meetings and trainings.** The extreme and largely unexplained heterogeneity in daily agriculture work start and end hours implies that it no assumptions should be made about the timing of project activities with a given group. Instead, multiple options for activities on diverse days and at diverse times should be given for a given group to decide on if possible within the time and budget constraints of the program.

**The FSP Gender, Youth and SBCC teams should explore household and community-level opportunities to reduce women's time spent on caretaking, food preparation and household chores.** Given our current state of knowledge, we would not recommend investing additional resources into promoting the uptake of water fetching and firewood collection by men, given that this would not result in substantial time savings but require large-scale behavioral change. Instead, we recommend exploring what household chores men could be willing to support at home. Additionally, we recommend that program teams explore if there is a potential to collectivize food preparation and caretaking at the neighborhood or community level.

## Implications for monitoring, evaluation, research and learning

**The MERL community should make a concerted effort to further review the usefulness and construct validity of existing time allocation metrics in rural development.** Arguably, the most common time allocation metric in rural evaluations and research is the number of daily hours spent on a set of activities, usually based on a 24h recall such as in the Women's Empowerment in Agriculture (WEIA) Index. We found this metric to be problematic because it accounts neither for the number of days per week and weeks per period worked, nor for variability between seasonal periods. We suggest that future MERL teams use hours per week disaggregated by seasonal period and total work hours throughout a whole season, as key metrics. We also suggest that MERL teams triangulate between different metrics and methods to provide further evidence on how time allocation in rural development can be best measured.

**The MERL community should account for seasonality in rural time allocation analyses.** As suggested above, variability between seasonal periods is a key determinant of variability in time allocation. Since variations in time allocation between different demographic groups do not appear to be consistent throughout the different periods of a season, we strongly suggest that all periods are accounted for in time allocation analyses in order to render them useful for program design and adaptation. Since this approach could result in measurement error through faulty recall, we propose using methodological triangulation between surveys and focus groups for this type of analysis.

**The MERL community should conduct formative research to understand factors other than demographic and geographical ones that may influence farmers' time allocation more comprehensively.** Through the FGDs, we were able to identify a range of potential intervening variables that may explain variance in gendered time allocation. However, given the sampling strategy for our FGDs, these variables identified through abductive reasoning only. More rigorous research needs to be conducted to gain a clearer impression of these and other variables.

**The DFSA MERL community should integrate barriers to activity attendance and proposed solutions into the Refine and Implement phase.** By identifying what other activities and chores might reduce a person's ability to join and stay in a program activity during program set-up, development programs may be able to accommodate complementary interventions in the program design. Proposed interventions could for instance include incentivizing communities to collectivize caretaking and cooking at the neighborhood or community level if desired by female participants.

# Annexes

## Annex 1: Example of a seasonal workload chart

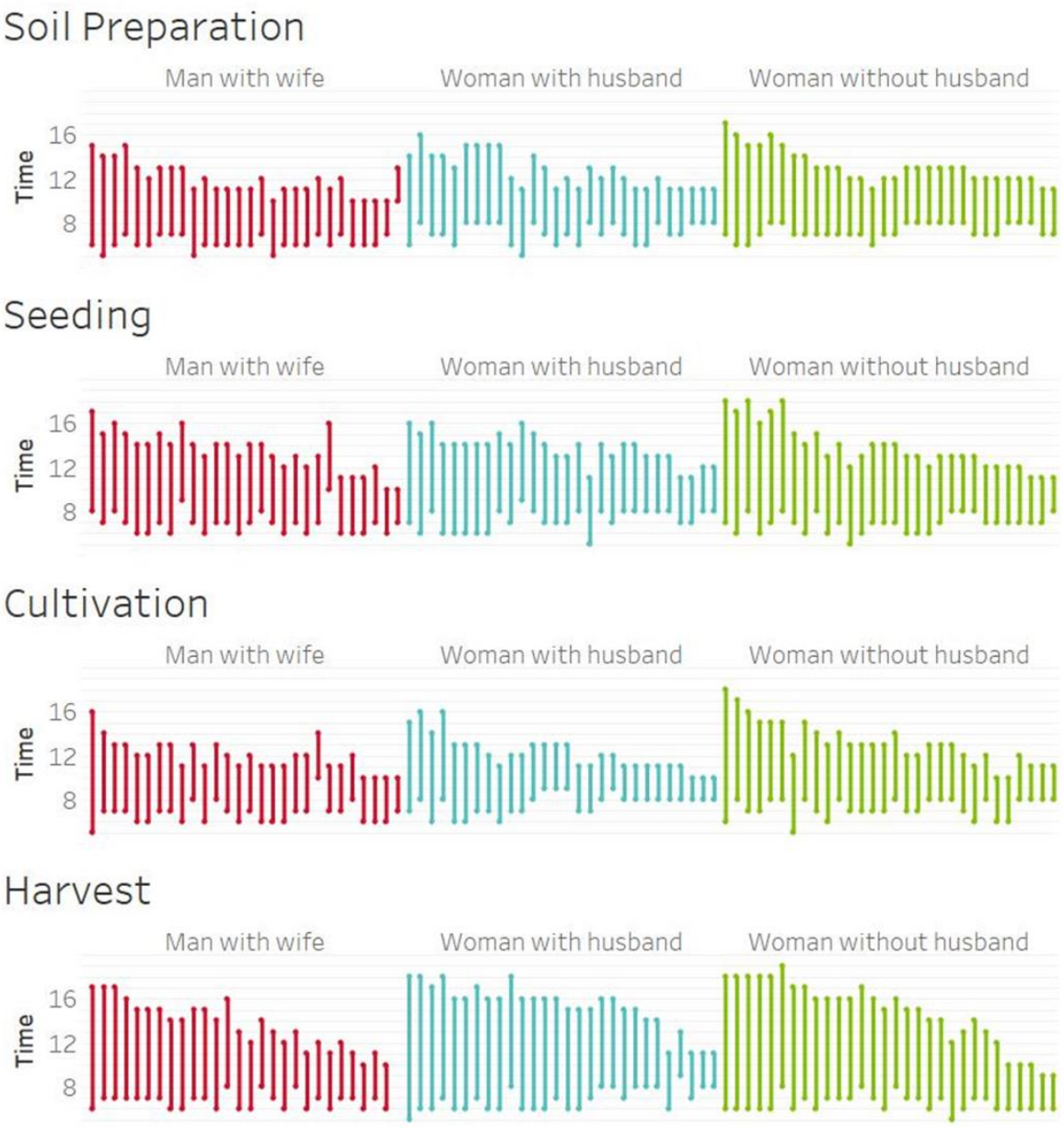
Upon arrival at the site selected for the FGD, each participant was asked to describe a typical day, the typical number of days per week and the typical number of weeks per period for each agricultural period (land preparation, seeding/planting, maintenance/weeding and harvest. Together, the note taker and the participant then filled out the chart below. “Hill” indicates whether the person cultivates on a sloped surface. One chart was produced for each FGD. All charts were then combined into an analytic dataset to corroborate the qualitative data collected in the FGD.

| Village | Prepare land | | | | | Seed/Plant | | | | | Maintain/weed | | | | | Harvest | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Group | person 1 | person 2 | person 3 | person 4 | person 5 | person 1 | person 2 | person 3 | person 4 | person 5 | person 1 | person 2 | person 3 | person 4 | person 5 | person 1 | person 2 | person 3 | person 4 | person 5 |
| 5am | | Hill | Hill | | Hill | | Hill | Hill | | Hill | | Hill | Hill | | Hill | | Hill | Hill | | Hill |
| 6am | | | | | | | | | | | | | | | | | | | | |
| 7am | | | | | | | | | | | | | | | | | | | | |
| 8am | | | | | | | | | | | | | | | | | | | | |
| 9am | | | | | | | | | | | | | | | | | | | | |
| 10am | | | | | | | | | | | | | | | | | | | | |
| 11am | | | | | | | | | | | | | | | | | | | | |
| 12 noon | | | | | | | | | | | | | | | | | | | | |
| 1pm | | | | | | | | | | | | | | | | | | | | |
| 2pm | | | | | | | | | | | | | | | | | | | | |
| 3pm | | | | | | | | | | | | | | | | | | | | |
| 4pm | | | | | | | | | | | | | | | | | | | | |
| 5pm | | | | | | | | | | | | | | | | | | | | |
| 6pm | | | | | | | | | | | | | | | | | | | | |
| 7pm | | | | | | | | | | | | | | | | | | | | |
| 8pm | | | | | | | | | | | | | | | | | | | | |
| 9pm | | | | | | | | | | | | | | | | | | | | |
| Days/wk | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 3 | 2 | 4 | 3 | 4 |
| Weeks | 4 | 4 | 4 | 2 | 9 | 4 | 6 | 2 | 3 | 4 | 4 | 3 | 3 | 4 | 2 | 2 | 3 | 2 | 2 | 1 |

## Annex 2: Daily work hours at a glance

The below graphic displays daily work hours tending to fields throughout the four periods of the agricultural season. Each colored line represents the daily start and end hours of one FGD participant. Each horizontal grey reference line represents one hour. The results are sorted by the three demographic groups interviewed and by the number of hours worked for better readability. The graph does allow for conclusions about average work hours per day or per week, or about total time spent tending to fields.

The graph shows that daily work hours are the lowest during seeding and the highest during harvest. Women generally tend to work longer hours per day than men. During harvest, women with a husband work the longest hours. Women without a husband tend to start their field work much later (one possible explanation could be their caregiving responsibilities). The visualization also displays a large degree of heterogeneity.



## Annex 3: Work Hours Summary Table

The tables below displays the summary of hours worked across each agricultural phase for each group. Group A consists of female participants who do not have domestic partners. Group B includes female participants who have domestic partners. Group C includes male partners of participants. Table 1 facilitates a comparison of within group trends across agricultural phases while table 2 facilitates comparison between groups during each period.

| Table 1: Workload | | | | |
|---|---|---|---|---|
| **Group A** | **prep land** | **plant/seed** | **weed/maintain** | **harvest** |
| avg hrs/day (avg min -max) | **6.9** (6.0 - 8.5) | **8.0** (6.3 - 9.2) | **6.7** (4.2 - 7.3) | **9.6** (6.8 - 9.0) |
| avg hrs/wk | 33.8 | 40.8 | 34.7 | 32.2 |
| avg wks | 4.2 | 2.9 | 3.6 | 1.2 |
| avg hrs/period | 131 | 129 | 122 | 35 |
| range hrs/day | 5 - 11 | 4 - 12 | 4 - 13 | 4 - 13 |
| avg working day | 7am-2pm | 6:30am-1pm | 8am-1pm | 7am-4pm |
| | | | | |
| **Group B** | **prep land** | **plant/seed** | **weed/maintain** | **harvest** |
| avg hrs/day (avg min -max) | **6.5** (5.8 - 7.2) | **7.4** (6.7 - 8.5) | **5.4** (4.5 - 6.3) | **9.1** (7.7 - 10.8) |
| avg hrs/wk | 28.5 | 28.9 | 21.8 | 33.8 |
| avg wks | 4.4 | 2.2 | 2.8 | 1.6 |
| avg hrs/period | 134 | 67 | 59 | 52 |
| range hrs/day | 4 - 9 | 5 - 10 | 3 - 9 | 4 - 14 |
| avg working day | 7am-1:30pm | 7:30am-2:30pm | 8am-1:30pm | 7am-4pm |
| | | | | |
| **Group C** | **prep land** | **plant/seed** | **weed/maintain** | **harvest** |
| avg hrs/day (avg min -max) | **6.5** (5.2 - 7.8) | **7.5** (6.3 - 8.7) | **6.1** (5.0 - 7.7) | **7.7** (6.3 - 9.0) |
| avg hrs/wk | 31.1 | 33.7 | 32.6 | 32.7 |
| avg wks | 3.6 | 2.2 | 3.3 | 2.5 |
| avg hrs/period | 112 | 75 | 107 | 92 |
| range hrs/day | 4 - 10 | 4 - 10 | 4 - 12 | 5 - 12 |
| avg working day | 6am-12pm | 7am-2pm | 6:30am-12pm | 6:30am-1:30pm |

| Table 2 | Prep Gp A | Prep Gp B | Prep Gp C | Weed Gp A | Weed Gp B | Weed Gp C |
|---|---|---|---|---|---|---|
| avg hrs/day | 6.9 | 6.5 | 6.6 | 6.7 | 5.5 | 6.1 |
| avg days/wk | 4.7 | 4.3 | 4.8 | 5.1 | 3.8 | 5.3 |
| avg hrs/wk | 34 | 29 | 31 | 35 | 22 | 33 |
| avg wks | 4.2 | 4.4 | 3.6 | 3.6 | 2.8 | 3.3 |
| avg hrs/period | 131 | 134 | 112 | 122 | 59 | 107 |
| avg max hrs/day | 8.5 | 7.2 | 7.8 | 7.3 | 6.3 | 7.7 |

| Workload | Plant Gp A | Plant Gp B | Plant Gp C | Harvest Gp A | Harvest Gp B | Harvest Gp C |
|---|---|---|---|---|---|---|
| avg hrs/day | 8.0 | 7.4 | 7.5 | 9.6 | 9.2 | 7.7 |
| avg days/wk | 4.9 | 4.5 | 4.5 | 3.5 | 3.9 | 4.3 |
| avg hrs/wk | 41 | 29 | 34 | 32 | 34 | 33 |
| avg wks | 2.9 | 2.2 | 2.2 | 1.2 | 1.6 | 2.5 |
| avg hrs/period | 129 | 67 | 75 | 35 | 52 | 92 |
| avg max hrs/day | 9.2 | 8.5 | 8.7 | 9.0 | 10.8 | 9.0 |

## Annex 4: Agricultural Help Received Varies Across Geographies

The chart below displays probit model results that identify the relationship between agricultural help received and the health zones (Kalehe, Katana, Miti Murhesa). Agricultural help is identified as (1) help received from any source (2) help received from household members (children, partner, other household members) and (3) help received from individuals external to the home (paid workers, community members).

The results indicate that respondents experience statistically significantly different levels of help in the field in each health zone with respondents in Katana more frequently receiving help than respondents in Kalehe. When exploring help received from household members, there is no statistically significant difference between the level of help received in each health zone. For help received from individuals external to the household individuals in Katana receive statistically significantly more help than respondents from Kalehe and there is no statistically significant difference between the help received in Kalehe and the help received in Miti Murhesa. However, when compared to Katana, respondents in both Kalehe and Miti Murhesa receive less help (p<0.000).

**Probit Coefficient**

| | Recieves Ag Help | Recieves Intra-HH Ag Help | Recieves Extra-HH Ag Help |
|---|---|---|---|
| Kalehe | 0 | 0 | 0 |
| | (.) | (.) | (.) |
| Katana | 0.528** | 0.053 | 1.031*** |
| | (0.17) | (0.16) | (0.21) |
| Miti Murhesa | 0.388 | 0.195 | 0.408 |
| | (0.21) | (0.2) | (0.22) |
| Constant | -0.005 | -0.131 | -1.148*** |
| | (0.15) | (0.15) | (0.2) |

* p<0.05, ** p<0.01, *** p<0.001

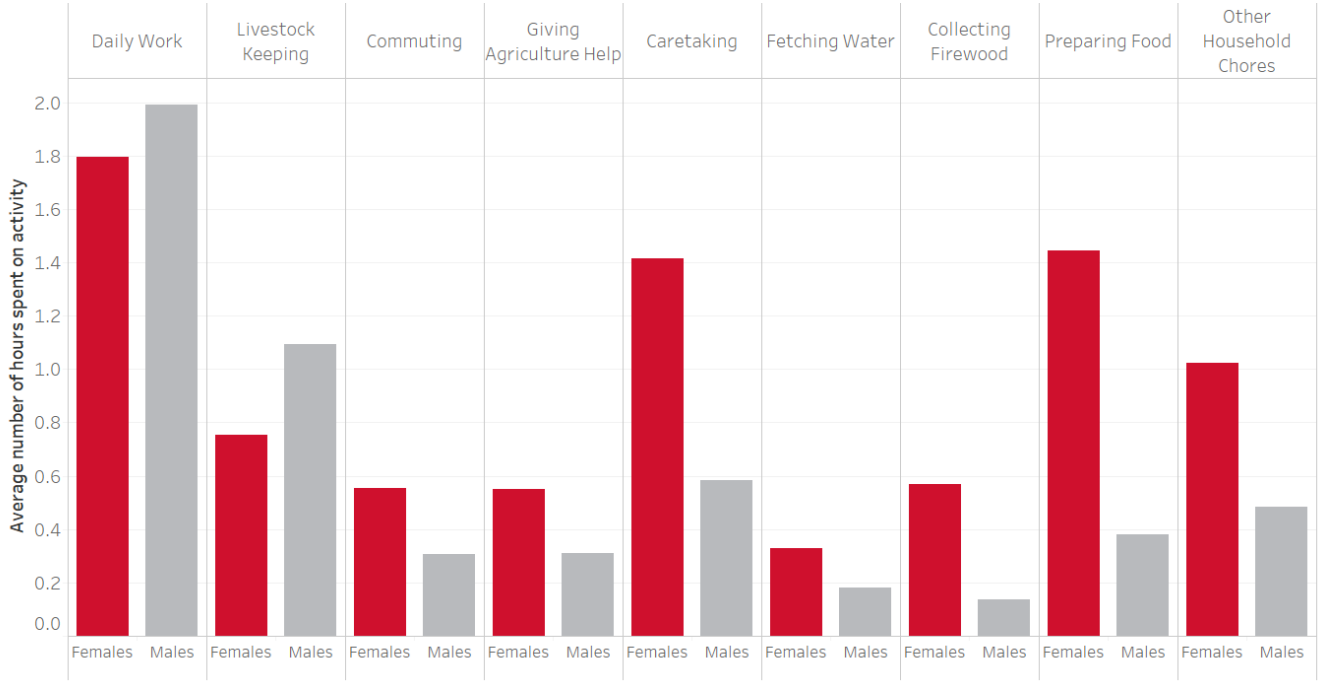
**Marginal Effects**

| | Recieves Ag Help | Recieves Intra-HH Ag Help | Recieves Extra-HH Ag Help |
|---|---|---|---|
| Kalehe | 0.498*** | 0.448*** | 0.126** |
| | (8.09) | (7.63) | (3.10) |
| Katana | 0.700*** | 0.469*** | 0.454*** |
| | (25.26) | (17.42) | (13.61) |
| Miti Murhesa | 0.649*** | 0.525*** | 0.230*** |
| | (12.96) | (10.03) | (7.06) |

* p<0.05, ** p<0.01, *** p<0.001

## Annex 5: Off-Farm Work Hours by Activity and Sex

The chart below displays the average number of off-farm work hours (i.e. work hours not spent tending to a participants' own crops and fields). The data is based on a 24h recall from the Seasonal Farmer-based Recurrent Monitoring Survey (SFB-RMS). The sample size is 380 (276 females, 104 males). On average, men are more likely to spend more time on daily work (2h/day) and livestock keeping (1.1h/day) than women (1.8h/day and 0.75h/day). Besides daily work, the most time-intensive daily activities for women are caretaking (1.5h/day), preparing food (1.4h/day) and other household chores (1.0h/day). Perhaps little surprisingly, domestic workloads are substantially more time-intensive than men's workloads. Interestingly however, activities anticipated to cost significant amounts of women's time, such as fetching water and collecting firewood, are less time-intensive, such that gender-transformative change in these heavy responsibilities are unlikely to yield substantial time gains.



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