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Pathways to Women's Empowerment in the Promotion of Climate Smart Agriculture in the Philippines, Myanmar, and Cambodia

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Abstract

Climate change is not gender neutral. Women are a vulnerable population within a vulnerable population. Far from an equalizing event, climate change risks and disasters often magnify and aggravate existing inequalities in society, including gender inequality. National governments and the international development community recognized that in order to strengthen and accelerate their goals for agricultural development, economic growth and food security they need to build the contributions that women make and take steps to alleviate barriers to women empowerment. A quantitative-qualitative study has been undertaken to investigate how the promotion of climate smart agriculture is contributing to women empowerment within the climate smart villages (CSVs) in Myanmar, Cambodia and the Philippines. The analysis of survey results (n=121) showed that the majority of the women farmers opt to make decisions jointly with their husbands in activities related to agriculture production. Women's participation in the decision-making process are related to decisions on what crops or crop varieties to plant. Women are more engaged in the decision making related to small livestock such as goats, pigs and chickens, they have gained more experience and knowledge and are able to provide good suggestions regarding livestock. Increased income is a powerful measure of women's economic empowerment. Across the six CSVs, there is a significant difference in the perceived increase in incomes. The impact of women's increased income has been equally positive at both the household and community level, with increased involvement in household and production decision-making and increased and more active participation in community activities. Household borrowing and saving have traditionally been the normative responsibility of women. This finding is supported by focus group discussions (n=113) in the CSVs where women are designated as budget planner and keeper of the household income. The study also indicated that the promotion of homestead gardens and small livestock buffered the negative impacts of the COVID-19 pandemic to the households as these activities provided them with food, enabled them to share or sell vegetables to their neighbors, and reserved food for extended lockdowns.

Keywords

Women economic empowerment, gender, climate smart agriculture, climate smart villages

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Acronyms

A-WEAI	Abbreviated Women's Empowerment in Agriculture Index
CCAFS	Climate Change, Agriculture and Food Security
CSA	Climate Smart Agriculture
CSV	Climate Smart Village
FGD	Focus Group Discussions
IDRC	International Development Research Centre
IIRR	International Institute for Rural Reconstruction
KII	Key Informant Interviews
WEE	Women Economic Empowerment



Background

Gender and agriculture

Empowering women and advancing women's role in agriculture are critical in responding to the challenges of food security, poverty reduction, and climate change. In many developing countries including Myanmar, Cambodia and the Philippines, women's essential economic contributions in agriculture have remained largely invisible, even as women comprise 43 percent of agricultural labor force globally, and ranges from about 35 percent in South Asia to almost 50 percent in East and Southeast Asia. Agriculture is, relative to manufacturing and services, the most important source of employment for women (FAO, 2011).

Women's participation in the rural economy varies considerably across regions, but invariably women are overrepresented in unpaid, seasonal, and part-time work. The available empirical evidence in this report and other gender studies suggest that women are often paid less than men, for the same work. Overall, the labor burden of women in agriculture exceeds that of men and includes a higher proportion of reproductive household responsibilities related to food provisioning and care work for family members. (Verzosa, 2020). Social norms also play a role in exacerbating gender inequality that reinforce the low status and lack of agency of women, and the dominance of men in the various dimensions of women's empowerment, including decision-making, access to resources, ownership of assets, control over income and division of labor and workload.

Women's activities typically include producing agricultural crops, livestock-raising, food provisioning, care work for family members, wage work in agricultural or other rural enterprises, collecting water and fuel, marketing and trading, and other home-based work. Many of these activities are not defined as "economically active employment" in national accounts but they are essential to the wellbeing of rural households.

The current gender debate in agriculture that has received much attention in the literature is that the agricultural sector in many developing countries is underperforming, in part because women, who represent a crucial resource in agriculture and the rural economy through their roles as farmers, laborers and entrepreneurs, almost everywhere face more severe constraints than men in access to productive resources. And that efforts by national governments and the international community to achieve their goals for agricultural development, economic growth and food security will be strengthened and accelerated if they build on the contributions that women make and take steps to alleviate these constraints.(FAO, 2011).

In delivering outcomes around women's empowerment, gender equality and broader social inclusion in agriculture and food systems, there is a need to better understand the constraints, gaps and barriers to women's empowerment, how they can be addressed, and what specific domains of change need to be targeted to foster greater inclusivity within the agricultural sector.

Climate change and gender in agriculture

Climate change is not gender neutral. Women are a vulnerable population within a vulnerable population. Far from an equalizing event, climate change risks and disasters often magnify and aggravate existing inequalities in society, and one that intersects with other forms of inequality based on age, ethnicity, race, disability, religion, sexual orientation, or geographical location. Extreme weather events such as droughts and floods have a greater impact on the poor and most vulnerable. Climate variability such as excessive rainfall has adverse impacts on agricultural production resulting in low yield, damage to crops and prevalence of pests and diseases.

Despite women being disproportionately affected by climate change, they play a crucial role in climate change adaptation. Women have the knowledge and understanding of what is

needed to adapt to changing environmental conditions and to come up with practical solutions. Women are building climate resilience and enhancing the livelihoods and well-being of their families by investing in climate-smart agriculture (CSA). Women are often responsible not only for producing food, but also for managing and distributing food within their families and larger communities. But, despite all these, women are still a largely untapped resource.

Development practitioners and research organizations have increasingly focused on gender and climate change, including issues of equity and inclusiveness arising from the differential impacts on men and women, and challenges that women face, such as entrenched discriminatory social and cultural norms about gender norms, and unequal access to land rights, lack of access to financial resources and opportunities, training and technology. Gender issues in agriculture and livelihoods are also related to inequalities in the status and conditions of female and male members of rural households, including access to education, and services to improve their production capacity and balance their reproductive workload. As such, gender affects the use, and management of resources that may impact on agricultural and development outcomes. (Dayo, et al, 2021)

In support of women economic empowerment in the Climate-Smart Villages and associated Climate-Smart Agriculture, the International Institute of Rural Reconstruction (IIRR) embarked on a two-year research project called “Climate Smart Villages as Platforms for Resilience Building, Women Empowerment, Equity, and Sustainable Food Systems.” This IDRC-funded research project is being implemented from June 2020 to August 2022 in climate smart village (CSV) sites in the Philippines, Myanmar and Cambodia. The research study aims to generate evidence and new knowledge on the role of local platforms such as CSVs in supporting climate change adaptation in agriculture. One of its four objectives is a quantitative and qualitative assessment to “test pathways towards women economic empowerment at household level through the promotion of climate smart agriculture.”

Women’s empowerment is about the process by which those who have been denied the ability to make strategic life choices acquire such ability. (Kabeer, 2002). It is a dynamic process: resources enable women to have agency, or the ability to make decisions, through which women can achieve outcomes. Women’s economic empowerment (WEE) is the

capacity to generate income for themselves and their families, to make and act on decisions that involve control over economic and financial resources. WEE is important because of gender inequalities in the division of labor between paid and unpaid work, and in access to valued resources and opportunities.

Climate Smart Villages (CSV) and Climate Smart Agriculture (CSA)

A CSV is a participatory platform for community-based adaptation that helps address climate change impacts on agriculture in smallholder agriculture communities, and CSA options which are ecologically, culturally and gender-responsive. With a strong emphasis on inclusion, climate-smart village approaches recognize the differential effects of climate change on women and men. This may lead to the identification of more appropriate CSA responses and outcomes, based on the gendered differences of women and men, their knowledge and beliefs of their environment, as well as their respective needs, and, constraints in the access and control of productive resources. (Barbon, 2021).

The CSV design provides a portfolio of CSA practices, technologies and innovations that address food security, adaptation and mitigation and support services that are tailored to the unique contexts of the participating communities. IIRR promotes a “portfolio” or “basket of options” approach” to CSA adoption by rural communities. This menu of socially inclusive options for all household contexts (with large land areas, in homesteads, women-headed, and very poor) can include:

- technological options, such as promoting stress-tolerant varieties of primary crops,
- new platforms for agriculture production, such as integrating and improving small livestock production and vegetable production in homesteads (the patch of land around the household dwelling, which, in Southeast Asia, can sometimes comprise up to 200–400 square meters of land).
- use of green manure to reduce the footprint of fertilizer use, improving soil health
- integrating trees into the existing farming system to generate new sources of income, and

- creating micro-climates around the farm to protect farms against strong winds during storms. (Hanley, et al, 2021).

In 2019 and 2020, IIRR provided a small grant facility (termed the CSV Adaptation Fund) to support the implementation and trials of the identified options for two annual production seasons. Alongside the implementation of these CSA options in each of the CSVs, IIRR also supported capacity development, awareness building, and community-based nutrition education activities to maximize the potential of CSA to generate development outcomes. (Hanley, et al, 2021).

This gender research covers six CSVs in the three countries – Agmalobo and Malocloc Sur in the Philippines, Htee Pu and Taungkhamauk in Myanmar, and Koki Chrum and Me Pai in Cambodia. These villages were selected from among 12 CSVs that have been established by the International Institute of Rural Reconstruction (IIRR), with support from the International Research and Development (IDRC), Canada and the CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS).

The CSV approach was implemented in the Philippines in 2015, and IIRR’s CSVs in the Philippines are now part of the network of CSVs in 17 regions in the Philippines (Barbon et al., 2017). The CSVs in Myanmar were introduced in 2016 through CGIAR-CCAFS and IIRR in support of the Myanmar Climate Smart Agriculture Strategy (MCSAS). The MCSAS laid out the long and short-term strategies and priorities to promote climate change adaptation in Myanmar agriculture (Barbon, 2021a). The CSA in Cambodia was started in 2015, but the CSVs were established in 2018.

Considering that most of the CSVs/CSAs have been operating for more than five years, a gender study to assess the contribution of the CSV approach in empowering women in agriculture is a significant and important endeavor to recognize women’s economic contributions, increase women’s agency, and guide future CSV program strategies.

Research questions

The key research question is: “How and to what extent does the promotion and practice of CSA options lead to women economic empowerment?” The development hypothesis of this gender study is: “IF women farmers adopt and practice CSA options and earn income to

contribute to the household, gain increased knowledge, skills and experience about agricultural production, increase participation and have more inputs in decision-making at the household and at the community, THEN women farmers can be empowered, with the ability to make decisions and act on them, even within the landscape of restrictive social norms.”

To support this postulation, the gender study analyzed the A-WEAI dimensions of women empowerment -- inputs to productive decision-making, access and control over resources, use of income, group membership/leadership, time use and workload. In addition, the study examined the experiences of women who actively participated in the CSV/CSA activities to understand in what ways their participation has led to positive or negative outcomes in relation to their productive and reproductive roles in the farm and in household. These dimensions were considered in formulating the following survey research questions:

1. Decision-making:
 - a. Who makes decisions over productive farm activities?
 - b. What are the roles (who does what) and relationships (who decides) of women and men in agricultural production?
2. Resources:
 - a. Who has ownership of assets?
 - b. Who has access to and control over resources (land, labor, capital, credit, assets)?
3. Income:
 - a. Who has control over the use of income?
 - b. On a scale, how would you compare your income before and during the CSV?
4. Leadership:
 - a. How do women participate in community groups?
 - b. What leadership opportunities are available for women?
5. Time use:
 - a. What is the workload of women and men?

The above survey questions are supplemented by interview guides for the Focus Group

Discussion and Key Informant Interview:

1. Biggest problems faced by women as a woman farmer/producer/farm worker of (dominant crop in the CSV); how are the problems addressed.
2. Comparison of experience of women and men before the CSV and during the CSV/CSA implementation; what positive and negative changes have been observed in the situation of women farmers.
3. Benefits from women's participation in CSV/CSA activities; perceived increase in the income of women farmers; how women's economic contribution impacts on household relationships (men-women, parents-children, husband-wife relationships), and on community participation (e.g., in village meetings); and how women's increase income affects their ability to contribute to decision-making in the household.
4. Perceived drivers (those that encourage) and barriers (those that prevent) to women's participation.
5. Good practices in the CSV/CSA program that helped address the barriers to women's participation; opportunities for women's participation.
6. How women spend the money that they earned or receive on credit; spending patterns for women and men farmers.
7. Wage equality for men and women for similar farm work.
8. How men can help reduce or balance the workload of women.
9. Enabling conditions and capacity-building activities needed to prepare rural/ethnic women for membership (and leadership) in group associations; lessons learned.
10. Impact of the pandemic on the CSV; adaptation strategies are being done by women and men in response to Covid-19.

Methodology

Framework of the study

The gender study was guided by the Abbreviated Women's Empowerment in Agriculture Index (A-WEAI) domains of empowerment as the framework for analysis and for formulating the above research questions. The A-WEAI was developed by the International Food Policy Research Institute. The A-WEAI domains include the following:

1. Production, including input into productive decisions. This dimension concerns participation in decisions about agricultural production (sole or joint decisions).
2. Resources, including ownership of assets, access to and decisions on credit and productive resources such as land, livestock, agricultural equipment, consumer durables, technology and credit.
3. Income, including control over use of income. This dimension concerns sole or joint control over the use of income and expenditures.
4. Leadership, including group leadership. This dimension concerns leadership in the community, measured by membership in economic or social groups, business associations and networks.
5. Time, including workload burdens. This dimension concerns the allocation of time to productive and domestic tasks, including unpaid reproductive work.

Data collection

A mixed method of quantitative and qualitative data collection was adopted for the gender study. The quantitative method used Abbreviated Women Empowerment in Agriculture Index (AWEIA) questions for the women's survey, and the qualitative methods consisted of desk review, focus group discussions (FGD) and key informant interviews (KIIs). The desk review was conducted to compare and confirm the findings of this gender study with related research initiatives. The FGDs and KIIs sought to obtain more in-depth information to help explain findings from the survey.

1. A-WEAI survey. A total of 121 respondents consisted of 20 married female farmers from each of the six CSVs. The sampling method is purposive; the respondents were chosen on the basis of their role as women farmers participating in the IIRR programs and practicing CSA in the CSVs. For ease of completion, A-WEAI survey was simplified, by using checkmarks for responses that can be self-administered with guidance from the field research teams.
2. Focus Group Discussion. Twelve FGDs with 7-13 participants per group were conducted separately for female and male farmers, totaling 113 participants for the 6 CSVs. The FGDs were designed to capture the separate perspectives of the husbands and wives on gender and women's empowerment issues. The female FGDs participants were selected from the A-WEAI survey respondents, and the male FGD participants were the farmer husbands of the female participants. The female FGD was facilitated by a female facilitator with a female documenter; the same was done for the male FGD.
3. Key Informant Interviews. Eighteen KIIs using an interview guide was conducted with three selected informants from the six CSVs, consisting of the village heads, male gender champions, and community leaders of local organizations (water users organizations, savings associations, women leaders, youth leaders, and female heads of households). The KII sought to gather more in-depth information and complement the primary data collected through the FGDs, and fill in gender data gaps from the Desk Review.

Considering the nature of the methods, data collection was conducted face-to face, with pen and paper. The team observed the required health protocols in light of COVID-19 pandemic. All data collection instruments were translated into the local dialects/languages by the field research teams. Prior to the field data collection, an orientation training with a module on gender awareness was conducted for the field research team. The training was based on the field data collection guide with templates for note-taking, data consolidation and analysis.

Data processing and analysis

Data processing was done using frequency distribution, analysis of means, and selected correlation analysis to determine the level of significance of the survey findings. The method

for data analysis is triangulation of quantitative and qualitative data from the survey, FGD and KII to validate common findings that emerged in the analysis. Content analysis was done by identifying the themes from the FGDs and KIIs, which were analyzed based on the number of times the themes were mentioned in the discussions. For the KIIs, the data collection focused on capturing the comparative experience and knowledge of the informants on the village situation before the CSV started and the present.

Summary tables and cross-tabulations were prepared by the Country Teams and the IIRR staff, who participated in the collaborative report preparation for each country study.

Risk mitigation and informed consent

To mitigate risks in primary data collection, an Informed Consent Form that was translated into local language that explains the nature of the research was signed by the participants, with assurance of confidentiality of all information provided.

Limitations of the study

The gender study is principally focused on women farmers in the six CSVs in the Philippines, Myanmar and Cambodia. Only the 121 women farmers participated in the A-WEAI survey, hence all the survey data referring to men are from the perceptions or perspective of the women. The study seeks to add to the dearth of research on women empowerment in small farm holdings. Its main objective is to understand how the dimensions of women's empowerment, as measured in the A-WEAI, are demonstrated based on the experiences and knowledge gained by the women farmers in the climate smart villages supported by IIRR over the years. Another limitation is the small sample size of 20 women per CSV hence the findings cannot be generalized across the CSVs in these countries. While there are no male participants in the survey, their perspectives on the women farmers' roles, responsibilities and challenges were captured in the qualitative methods used in this study.

The other potential limitation relates to the multiple translations from English to the primary language of the country and then to the dialects used in the village and the translation of the content back to the English language. The richness of the discussions may not have been fully reflected in this report as some may have been lost along the translation pathway.

Profile of respondents

Profile of survey respondents

Across the six CSVs, most of the women farmers in this study are between 40-49 years old, with a mean age of 44. About 70 percent of the 121 respondents are 49 years old and below (Figure 1b). The youngest respondent was 24 and the oldest was 80. Among the CSVs, the younger women farmers are in Taungkhamauk, Myanmar with a mean age of 39.4 and the older farmers are in Agmalobo, Philippines, with a mean age of 50.7, and where more than half are in the 50 and above age groups. This profile shows a relatively younger age group of farmers compared to other countries with an aging farmer population.

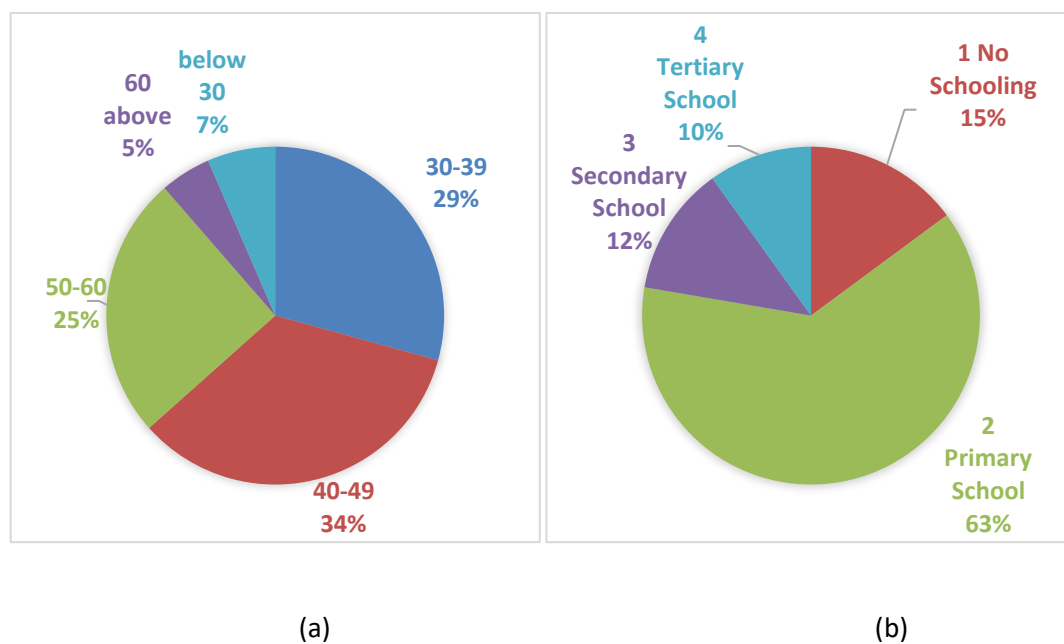


Figure 1. Age (a) and Education (b) profiles of women farmers

The educational profile (Figure 1a) showed that the level of education is at the primary level for more than half (63 percent) of 121 women farmers, with the majority in Taungkhamauk (90 percent) and Htee Pu (80 percent). About 15 percent have no schooling, with the majority (78 percent) in Korki Chrum and Me Pai. Of the total, 12 percent have secondary and 10 percent have tertiary level of education. Compared to other CSVs, the Philippine CSVs have the majority of those with tertiary and secondary education, which is reflective of the basic adult literacy rate at the national level— 96 percent for women and 95 percent for men. (World Bank, 2019). Those with tertiary education are mostly college graduates, such

as former teachers and government employees who have taken farming as their occupation. Most of them also served as leaders of organizations in their communities.

In terms of marital status, all the women farmers are currently married, except for 14 percent of Cambodia respondents and 15 percent in the Philippines who are widows. All the women are non-heads of households except for two respondents from the Korki Chrum and the Philippines who are single parents, and heads of their households. In terms of ethnicity, the women farmers from Htee and Taungkhamauk in Myanmar are Burman and Pa-O, and those from Korki Chrum and Me Pai in Cambodia are Khmer and Pnong, respectively.

All the 121 women respondents in this study were pre-qualified as farmers in the CSVs, however only 76 percent are self-declared women farmers; 11 percent are farm workers, traders, teachers and village secretaries; and 13 percent recorded their occupation as housewives. The latter somehow reflects the mindset that some rural women perceive themselves as non-farmers who perform more reproductive roles in the household and less production roles in the farm.

Profile of FGD and KII participants

Among the 113 participants in the 12 FGDs with an almost equal distribution of women and men, about 92 percent are farmers, and the others were traders and farmer workers. More than half (48 percent) have primary schooling; 12 percent have secondary and 6 percent have tertiary level of education. Majority belong to the 30-60 age group.

The 18 informants in the KIIs consisted of 12 women and 6 men. Among the women are 8 women leaders (2 are heads of farmers' associations), 2 female heads of household, a youth leader and a teacher. Among the men are 3 village chiefs, 2 male gender champions and a savings group head.



Summary of findings across CSVs

Across the Philippines, Myanmar and Cambodia, small farm holdings continue to contribute mainly to the national food supply, with 2.0 hectares as the average agricultural holding size. In contrast, the average homestead garden is 200-400 sq.m. in the CSVs. At the same time, as shown in the profile of climate risks, these countries are highly vulnerable to extreme weather events (typhoons and floods, among others) and climate variability e.g., irregular, too much or too little rainfall, later onset of monsoon, and high temperatures that severely impact on agricultural production.

This study examined the challenges and constraints that women and men in the six CSVs face related to the impact of climate change, and their CSA adaptation strategies; the social and cultural norms that impact on the dimensions of women's empowerment; and the comparison of women and men's positive and negative experiences in the six CSVs in response to the research question on how and to what extent the promotion and practice of CSA options lead to women economic empowerment.

Constraints faced by women and men in the CSVs

Climate change impacts

Several common interrelated problems were identified by the farmers across the six CSVs, based on the number of female and male FGD participants who cited these constraints in the group discussions. Foremost among the problems identified by the majority of the women

farmers in the Myanmar and Cambodia FGDs is the low yield of agricultural production resulting from a confluence of factors, which include the prevalence of diseases and pests, weeds and poor-quality seeds. (Figure 2). These factors are exacerbated by climate variability where too much rainfall damages crops and contributes to the growth of too many weeds. The increase in temperature was cited as the cause of pest and disease outbreaks, including Armyworm in corn, stem borer in rice and blight in tomato. The irregular rainfall and climate variability (late or early onset and withdrawal of monsoon) were also cited as shifting the sowing season and poor germination of seeds.

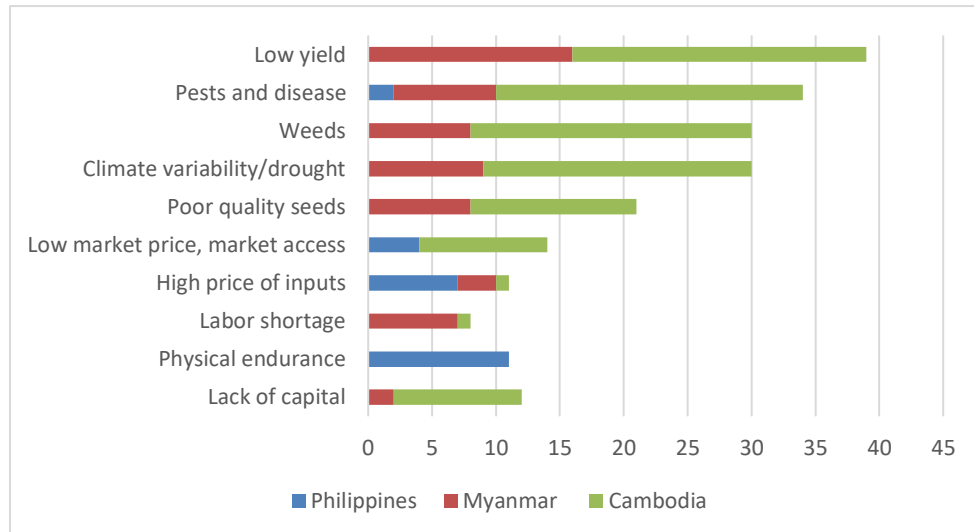


Figure 2. Biggest problems of women and men farmers

Low yield also meant lack of capital to buy good quality seeds, production inputs (fertilizers and pesticides) and to invest in high value crops. This was cited by the majority of the men in all the FGDs with no capital to buy good quality seeds, the farmers use left-over seeds from the past seasons and local varieties (with less pods and smaller seeds) of groundnut, resulting in low quality products, and lower market prices. The high cost of inputs were also cited (Agmalobo, Taungkhamauk and Korki Chrum), mainly caused by the pandemic lock down. Another problem cited related to low yield is the practice of male farmers to put in more chemical fertilizers to try to increase the yield, and to apply pesticides and herbicides to eliminate pests and weeds, even if they are aware that these chemical applications will lead to land and soil degradation. (Htee Pu).

The female FGDs (Korki Chrum and Me Pai) cited the lack of technology and their reliance on the use of their own traditional knowledge and experience as the causes of the low demand and quality of their products. Also cited were low prices offered to them by a handful of collectors, taken often with no other choice. The male FGD in Korki Chrum cited that only one buyer comes to buy fruit products which were paid at a low price. The same FGD cited the lack of skills on agricultural production, due to their low education and requested for more technical training on agriculture. Other constraints cited were labor shortage due to migration (Korki Chrum) and competition for labor during sowing and weeding. One solution cited in the FGD (HTee Pu) was the use of herbicide because of its reduced labor requirement for manual weeding. Only the Agmalobo and Malocloc Sur FGDs cited physical

endurance as a constraint of women farmers who claimed that they cannot lift heavy objects, do heavy work in the field and climb coconut trees, noting that these villages are based on coconut farming and men are the ones expected to do the heavy work.

In response to the above constraints, the women and men farmers in the FGD cited several CSA practices that have been adapted to increase yield and eliminate pests and diseases. Some options cited in the FGDs include multi and mixed cropping, use of climate and drought-resilient crops, use plants that repel pests, use of good quality seeds provided by IIRR, small irrigation systems and application of proper agriculture technology gained from the training conducted by IIRR and government agriculture offices.

Social and cultural norms on gender equality and women's empowerment

Social norms are shared standards of acceptable behavior in society which can be both informal and formally codified into rules and laws, and are driven by shared expectations. The social norms are expressed in cultural beliefs and gender stereotypes about appropriate qualities, life goals, and aspirations for males and females. Understanding these norms are important in analyzing the dimensions of women's empowerment. In the following section are country specific presentations on social norms:

Philippines

The agriculture sector employed 9.72 million or 23 percent of the population in 2019. Of these 28.5 percent were women and 71.5 percent were men. (PSA, 2016). Majority of these women are unpaid family workers. Despite the unpaid character of their labor, they are left in charge of finance related activities, the accessing of production capital and marketing the farm's produce.

Social expectations of women and men create a productive-reproductive divide in the roles of men and women. Production is mainly men's responsibility and reproductive and care work is women's household responsibility. In farming communities, the notion of a farmer is male, hence women's actual contribution to food and agricultural production remains undervalued if not invisible. Below are some normative practices that affect rural women in the Philippines. (Verzosa, 2021).

- Access to land, technology, extension services, capital, and infrastructure support tend to favor rural men.
- Women manage, control and own fewer resources than men. Thus, when harvests collapse either because of floods or droughts, women have fewer assets to sell to cope with the situation.
- In 2015, 33.6 percent of women compared to 66.4 percent of men own Certificate of Land Ownership. Equalizing land ownership is a critical issue for women. Ownership of this asset is a form of economic power, which can be transformed into bargaining power of women within the household.
- While women have high participation in decision-making, these are being made under conditions of scarce resources and with little access to services, i.e. only around 33% of women in agriculture have access to farm animals, only 19% have access to seeds, only 13% have access to calamity assistance and pest management, 17% have access to social services, and less than half have access to water and electricity.
- When food shortages arise from poor harvests linked to weather problems, women are the last to eat in their households, prioritizing the food needs of male household members and children over their own.
- Women are the main borrowers in agricultural households because they have greater access to micro-credit and are under strong pressure to bridge resource gaps. Hence, more women than men fall into chronic indebtedness related to climate-induced crop failures.

Myanmar

The agriculture sector employed 44 percent of women in Myanmar. (ILO, 2021). However, the notion of a farmer, similar to the Philippines, is a male. Traditional notions of farming in Myanmar most commonly consider farming as a male function, which stems from practices such as registering farm land under the name of the head of household. Gender stereotypes reinforced by strong social norms define men's and women's roles in the house. Women and

girls are socially obligated and expected to be in charge of the household and unpaid care work. Cultural norms often restrict women's mobility and therefore their ability to travel to nearby areas to buy and sell goods, due to their responsibilities around the home, which limits their access to economic opportunities. Below are some normative beliefs: (GEN, 2015).

- Strong social norms vest a considerable amount of authority in the head of household. Men are considered the head of the household, and are therefore largely expected to make most decisions. (ADB-UN, 2016) Patriarchal cultural values related to women's roles and responsibilities influence family relationships, limiting women's participation in decision-making. (ADB, 2018).
- Gender inequality in Myanmar has historically not been acknowledged as an issue of concern. Generally, most people, even government leaders, are not aware of gender inequality in the country, not only from the male, but also from the female side. Women are regarded as 'bearers or protectors of culture' and male superiority is assumed to be a natural and abstract quality that gives higher authority and status to men. Men as household heads are vested with considerable authority and are largely expected to make most decisions.
- Leadership in Myanmar is closely associated with "maleness." The preference for male leadership and authority affects not only the number of women and men in leadership positions, but also the quality of their participation. The expectation that males are leaders, combined with the social expectation that women play supportive roles, is entrenched in daily Myanmar life.
- Unequal opportunities to inherit are among the key issues that are derived from norms of unequal worth and that impact negatively on women's ability to own land. Different inheritance laws exist for ethnic groups. Bamar women have rights to inheritance and women can own land legally. Other ethnic groups have no rights to inheritance.

Cambodia

Agriculture employs 82 percent of Cambodians, at least half of them are women. (CCAFS, 2017). Women are the primary labor force in farm work with the exception of work related to irrigation, field management and the care of farm animals. Yet, the active role of women in the agricultural sector is largely unrecognized. Social attitudes in Cambodia favor men in every aspect of life, while negatively impacting women's lives. Traditional norms for masculinity which state that men should be strong leaders and protectors still prevail and are deeply rooted in Cambodian society. Women have less access than men to the resources necessary to expand their businesses because of traditional stereotypes that assign women less power than men in decision-making processes. (MWA, 2014).

Approximately 15% of the rural households, many of whom are female-headed, do not have land to till. Land rights of women, especially for women-headed households are often ignored, partly owing to lack of knowledge of land rights and of land titling procedures. Land is registered not as a joint property of husband and wife. In general, land registration is usually in the name of the husband especially in rural areas. Even where the names of both wife and husband appear on the land title, men still make the major decisions in relation to the use of the land. (JICA, 2007).

Impact of COVID-19

Across the six CSVs, the major impact of the pandemic is all encompassing – reduced income caused by the lockdowns reduced mobility and closed markets, which made the selling of products and buying of inputs difficult; increased prices of food (due to food shortage) and cost of agricultural inputs; loss of income from supplemental work outside the home; children who are not able to go to school; and difficulty in accessing health care due to the shortage of health workers. Several adaptation strategies were cited in the FGDs – other than the prescribed health protocols, including restricting visitors into the village and travel of villagers outside, and spraying disinfectants, the respondents cited consuming products from homestead gardens instead of selling; reserving food for the longer term lockdowns, stocking more seeds, fertilizers and other inputs; increasing animal raising, and maintaining good relationship with the buyers. Hence, no major household food security issues were

faced by the CSVs, as the severe impact of food shortage was alleviated by vegetable gardening, a CSA option which proved to be an effective strategy during the pandemic.

This is congruent with the findings from another study on COVID-19 impact on local food systems in CSVs in the same countries. Results showed that rural and traditional food systems of agriculture-based villages continued to operate with minimal adjustments during the course of COVID-19 restrictions, despite significant perceived changes in the availability and prices of certain food groups. Complementary and diverse food production, together with access to informal food outlets, were vital parts of the local food systems and played critical roles in supplying food commodities to the population during the COVID-19 pandemic (Espino, et al, 2021).

Roles of women and men in agricultural production

The small landholdings in the six CSVs are operated as family farms, with a gender-based division of labor in crop cultivation. Agricultural tasks are distributed among the members of the household, hiring outside labor only during peak activities, such as planting, weeding, harvesting and threshing.

Depending on each country's contexts, many of the tasks in the family farm are done jointly by men and women with varying degrees of participation. Some tasks are predominantly done by men which are the more

physically heavy work and often related to the main crop; by women which are often the less physically demanding farm work.

Table 1 below is a heat map using shades of color to depict the intensity of involvement of men and women farmers in the production of dominant crops – rice in Myanmar and Cambodia and vegetables in the Philippines. The darker color of "red" indicates that women are highly involved, and the lighter shades of red show lesser involvement. Yellow reflects minimal involvement and green depicts almost no involvement. Comparing across the countries, Myanmar CSVs have the most number of agricultural activities that are performed by women and men, with many done jointly. Cambodia has significantly more men dominating farm work, even if other studies show that Cambodian women are the primary labor force in farm activities. (MWA, 2014). Compared with Myanmar and Cambodia CSVs,

the Philippine CSVs show more farm activities being done by men, and jointly by men and women, noting that the Philippine CSVs data below are mainly from vegetable production. Culturally, women in the Philippines are generally less involved in heavy agricultural work, and this is supported by both male and female FGDs citing the challenges of physical endurance and strength for women. The data below however, shows that women in the CSVs work jointly with men in planting, weeding, harvesting and purchasing seeds.

Table 1. Heat map of who DOES what activity in agriculture in six CSVs

Activity	Myanmar			Philippines			Cambodia		
	No. of Men	No. of Women	Joint	No. of Men	No. of Women	Joint	No. of Men	No. of Women	Joint
Land preparation, ploughing, clearing	33	36	29	11	3	24	26	5	7
Purchasing seeds	21	25	7	11	7	20	11	8	19
Creating seedbeds	18	22	14	0	0	0	17	5	7
Making bunds (in sloping lands)	11	5	2	0	0	0	7	0	1
Nursery preparation	15	9	7	14	1	8	14	4	8
Building fencing	34	13	11	32	0	6	21	0	4
Transplanting	20	21	18	9	0	12	0	3	8
Planting	28	36	28	6	3	29	9	5	25
Thinning	16	15	8	0	0	0	7	5	18
Weeding	6	41	7	4	10	24	15	7	18
Irrigation	7	7	3	0	0	0	19	3	7
Fertilization application	31	18	10	13	5	13	0	1	0
Purchasing pesticides	33	5	0	0	0	0	18	6	5
Applying / spraying pesticide	35	4	2	17	0	3	19	5	3
Harvesting (picking, reaping)	26	37	25	7	6	25	27	3	1
Threshing	23	33	20	0	0	0	11	5	22
Post – harvesting / drying	13	35	12	7	1	17	2	2	6
Processing (grading, sorting, packing)	17	35	14	0	0	0	3	2	9
Storage	15	34	13	0	0	0	2	6	9
a. Selling to collector	7	4	2	0	0	0	3	7	12
b. Selling to wholesaler at market	14	13	3	0	0	0	8	11	11
c. Selling by producer at retail market	5	9	2	2	10	10	10	9	5

*The mostly green shades for the Philippines are data from vegetable production and do not include activities such as making bunds, irrigation, threshing and processing.

Figure 3 below shows that across the CSVs, the main bulk of men’s tasks consists of purchasing and applying pesticides, building fencing, making bunds, irrigation and land preparation. For the women, their biggest farm tasks are weeding (46%), post-harvesting (40%), processing (46%), storage and drying (50%), and selling (40%). Joint activities are done frequently when planting and transplanting, harvesting and post-harvesting, purchasing seeds, among others. Among all the women farmers in the six CSVs, only the Taungkhamauk’s women farmers are directly involved in land preparation.

The specific country-level analyses are presented in another section of this report which provides more detailed information on women’s farm activities.

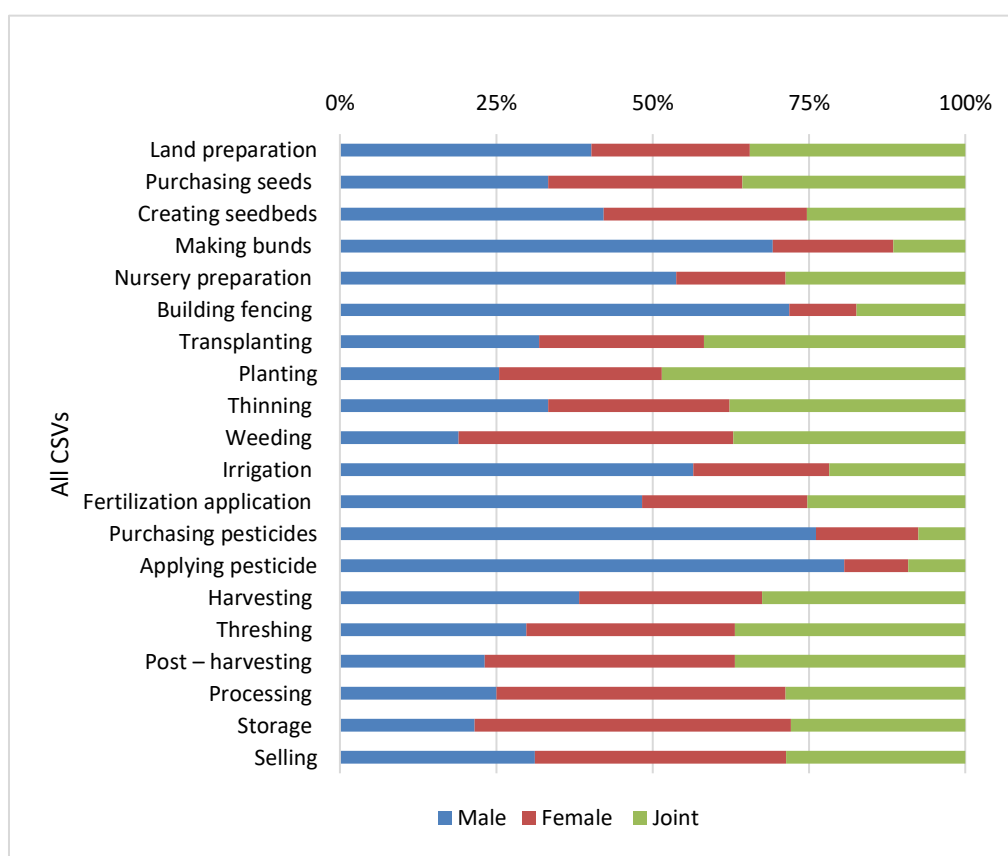


Figure 3. Roles in agricultural production

Decisions on agricultural production

Decisions on farm activities

Decision-making is a critical dimension of women’s economic empowerment. Another Heat Map (Table 2) presents the pattern of decision-making in the six CSVs that mirrors the data presented in Table 1. The data shows that decisions are task-based, and depends on who is

doing the task. The darker red shade indicates that women are highly involved in making decisions related to agriculture activities in Myanmar compared to the Philippines and Cambodia. A positive picture that emerges is that more joint decision-making by women and men farmers is being done in all the CSVs. The mostly green shades for the Philippines is because the data included in the table are mainly from vegetable production activities which do not necessarily include the other steps like making bunds, irrigation, threshing and processing.

Table 2. Heat map of who DECIDES for what activity in agriculture (6 CSVs)

Activity	Myanmar			Philippines*			Cambodia		
	No. of Men	No. of Women	Joint	No. of Men	No. of Women	Joint	No. of Men	No. of Women	Joint
Land preparation, ploughing, clearing	30	32	21	6	6	25	5	7	26
Purchasing seeds	30	33	24	7	10	21	5	9	26
Creating seedbeds	17	22	10	0	0	0	8	7	15
Making bunds (in sloping lands)	10	9	5	0	0	0	4	2	2
Nursery preparation	13	11	6	9	1	11	6	4	15
Building fencing	28	20	12	22	4	11	11	3	12
Transplanting	19	17	13	9	1	12	1	3	7
Planting	25	33	21	4	6	28	3	9	27
Thinning	15	21	12	0	0	0	5	6	19
Weeding	14	38	13	2	13	23	10	9	17
Irrigation	8	9	5	0	0	0	13	3	13
Fertilization application	27	26	12	7	8	15	5	8	14
Purchasing pesticides	31	19	10	0	0	0	7	8	14
Applying / spraying pesticide	32	16	9	11	3	6	12	3	14
Harvesting (picking, reaping)	24	37	21	4	11	23	3	8	26
Threshing	24	32	19	0	0	0	2	2	6
Post – harvesting / drying	18	30	13	7	2	16	0	2	10
Processing (grading, sorting, packing)	17	36	15	0	0	0	2	3	12
Storage	18	33	15	0	0	0	1	6	14
a. Selling to collector	6	4	1	0	0	0	1	9	20
b. Selling to wholesaler at market	20	21	17	0	0	0	2	6	11
c. Selling by producer at retail market	2	11	1	0	9	13	0	8	9

*The mostly green shades for the Philippines are data from vegetable production and do not include activities such as making bunds, irrigation, threshing and processing.

Role in decision-making

Critical in the process of decision-making is identifying who is making the decision. The highest score using the analysis of means is “6” (decision is made exclusively by the women farmer), and the lowest “1” (decision is done by a non-household member). Highlighted below are the means of responses where decisions are made mostly by women farmers.

The Myanmar CSVs have the highest mean scores of 5.18 and 5.36 for Htee Pu and Taungkhamauk respectively, which show that women farmers have a greater role in decision-making, compared to other CSVs. Among the CSVs, Taungkhamauk has shown a consistently high level of decision-making in activities pertaining to types of crops to grow and taking crops to the market; deciding on one’s own wage or salary from outside employment, going to training and the use of new techniques/practices. Korke Chrum and Me Pai show low inputs in the decision-making which means that their husbands make most of the decisions. For Malocloc Sur, women farmers get to provide more inputs on the use of new technologies and practices. Across all CSVs, the decisions on minor household expenditures (daily food/household needs)] over the past 12 months were made by all the women farmers, with a high mean average of 5.43 (Table 3).

Table 3. When decisions are made regarding the activities below, who normally makes the decision?

Decision on Activities	Means of the Responses (a)						Mean
	Htee Pu	Taung Khamauk	Agmalobo	Malocloc Sur	Koki Chrum	Mepai	
Getting inputs for agricultural production	4.80	4.70	4.50	4.15	2.35	3.65	3.66
Types of crops to grow	4.90	5.50	4.85	4.95	2.35	2.85	3.75
Taking crops to the market or not	4.85	5.50	5.10	4.95	2.53	3.67	4.06
Your own wage or salary employment elsewhere	5.45	5.45	5.15	5.30	4.00	4.89	4.84
Going to training (in agriculture/ extension services)	5.65	5.85	5.10	5.30	3.20	3.35	4.24
Major household expenditure (large appliances like refrigerator)	4.75	4.94	4.89	5.15	2.05	3.90	4.00
Minor household expenditures (daily food/household needs) over the past 12 months	5.85	5.60	5.20	5.45	5.47	5.60	5.43
Use of new techniques/practices	5.05	5.19	4.80	5.35	3.39	3.15	4.17
Means	5.18	5.36	4.97	5.04	3.14	3.99	

(a) Responses are ordinal data presented as:

6- Exclusively Self

5- Any combination of SELF + the other responses (self+husband, self+other HH member, self+husband+other HH member, etc)

4- Husband/Partner

3- Other Household Member

2- Any combination of other responses that DOES NOT include SELF (husband+other HH member, other household member+other non HH member, etc

1- Other Non-Household Member NA- No response, excluded from analysis

Perceived ability to make own personal decisions

This ability is an important dimension of women’s agency and empowerment. The perception of one’s agency (ability to make choices and act on them) is measured using a hypothetical question –if women farmers can make their own personal decisions if they wanted to. The highest score in this measure is “4” (own self), “3” is jointly with the husband, “2” is with other household members, and the lowest is “1” (husband). Highlighted

in the table are the means above “3.0” which indicates that decisions are mostly made together by the woman and the husband. Those that are closer to “4.0”, such as decision on own wage, going to training and minor expenditures indicate that women farmers are more able to decide on their own. The data showed that minor household expenditures are still the domain of decision-making for women, mean score of 3.34. Decisions related to agriculture production are the least of the domain of decision-making for women with mean score at 2.85. (Table 4).

The analysis of means across the CSVs showed that despite the hypothetical question that allows women to make their own decisions, majority of the women farmers seems more confident to make decisions jointly with their husbands and not on their own in the listed activities, as shown by the mean scores hovering around 3.0-3.5 for almost all production activities, with a few exceptions, such as Htee Pu for going to training (3.80), deciding on wage (3.60), and minor household expenditures (3.70), indicating a higher degree of women’s decision making.

Table 4. To what extent do you feel you can make your own personal decisions regarding the activities below if you wanted to?

Activities	Means of the Responses (a)						Mean
	Htee Pu	Taung Khamauk	Agmalobo	Malocloc Sur	Korki Chrum	Mepai	
Getting inputs for agricultural production	2.50	2.86	2.75	2.70	3.15	3.15	2.85
Types of crops to grow	2.90	3.19	2.80	2.60	3.45	3.20	3.02
Taking crops to the market or not	2.50	3.50	2.93	3.05	3.15	3.39	3.09
Your own wage or salary employment elsewhere	3.60	3.25	3.15	3.00	2.91	3.00	3.15
Going to training (in agriculture/ extension services)	3.80	3.38	3.15	3.35	2.75	3.45	3.31
Major household expenditure (large appliances like refrigerator)	2.90	3.00	3.05	3.00	2.90	3.25	3.02
Minor household expenditures (daily food or household needs) over the past 12 mos	3.70	3.80	3.30	3.35	2.45	3.45	3.34
Means	3.13	3.28	3.02	3.01	2.97	3.27	

(a) Responses are ordinal data presented as:

4- Always, own self

3- Jointly with Husband/Partner

2- With other household member

1- Husband/Partner Only

Actual inputs of women to productive decisions

The analysis of means seeks to measure the perceived actual inputs to decision-making by women farmers in the activities below. The highest mean score is “4” (most or all inputs mean the women makes most of the decisions), followed by “3” (some inputs mean there is joint decision-making), “2” (few inputs mean the husband mainly decides) and “1” (no decisions mean only the husband decides). Highlighted below are the means with “some inputs” which indicate that women farmers are able to contribute some knowledge, experience or opinions in joint productive decisions.

In contrast to the above hypothetical question in the above table, the mean scores are higher for both Me Pai (3.39), and Taungkhamauk (3.31), followed by Agmalobo (3.15) and

Htee Pu (3.13) in the listed activities below. This data is supported by the FGDs findings that as the women farmers become more confident after gaining new CSA knowledge and experience in agricultural production (vegetable farming and small scale animal husbandry), and as they contribute income into the family, they play a stronger role in problem solving and decision-making in the household. Women participants also cited that there is more shared decision-making on farming activities compared to before CSV.

In the Myanmar CSVs, participation of women in productive decision-making was defined as providing advice in the planting of different varieties of peanut cultivars with some early growing short duration variety, long duration variety, and late season sowing variety. Farmers have to decide which variety will be cultivated depending on their own experience, knowledge and weather forecast, and women's thoughts and opinions are valuable in sustaining production. In addition, as women are more engaged in small livestock such as goats, pigs and chickens, they have gained more experience and knowledge and are able to provide good suggestions regarding livestock (Table 5).

Table 5. How much input did you have in making decisions about the activities listed below?

Activities	Means of the Responses (a)						Mean
	Htee Pu	Taung Khamauk	Agmalobo	Malocloc Sur	Korki Chrum	Me Pai	
Food crop farming (household consumption)	3.75	3.35	3.25	2.26	3.20	3.50	3.22
Cash crop farming (for sale in the market)	3.00	3.24	3.33	2.47	3.30	3.55	3.15
Selling the product at the market	2.80	3.44	3.58	2.60	3.20	3.40	3.17
Retailing or trading (small-business) at home or market	3.30	3.33	2.82	2.47	2.60	3.25	2.96
Wage/salary employment (both in agriculture or other wage work)	3.15	3.25	3.17	2.50	2.25	3.40	2.95
Use of new techniques/practices	2.80	3.22	2.75	2.56	3.00	3.21	2.92
Means	3.13	3.31	3.15	2.48	2.93	3.39	

(a) Responses are ordinal data presented as:

4- Always, own self

3- Jointly with Husband/Partner

2- With other household member

1- Husband/Partner Only

Income: Use and control

Input on income use

Following the same analysis of means and scoring in Table 5 above with “4” (most or all inputs) as the highest score and “1” (no decisions), Table 6 below shows that the majority of decisions related to the income derived from the activities listed below are decided by the husband (the means that are below 3.5. although there are some exceptions) across all CSVs. FGD findings show that women’s inputs are higher in food crop farming (such as in Htee Pu with a mean of 3.75 and Me Pai with 3.65) as they are the ones mainly responsible for homestead gardens for household consumption and selling of surplus to the market. Women farmers in Malocloc Sur have the lowest inputs on wage/salary employment as the husbands are the ones who engage in paid labor and have more say on how the money will be spent. (Table 6).

Table 6. How much input did you have in decisions on the use of INCOME generated from the activities listed below?

Activities	Means of the Responses (a)						Mean
	Htee Pu	Taung Khamauk	Agmalobo	Malocloc Sur	Korki Chrum	Me Pai	
Food crop farming (household consumption)	3.75	3.44	3.42	2.21	3.25	3.65	3.29
Cash crop farming (for sale in the market)	3.00	3.65	3.00	2.41	3.30	3.55	3.15
Selling the product at the market	2.80	3.43	3.50	2.72	3.10	3.35	3.15
Retailing or trading (small-business) at home or market	3.35	3.46	3.27	2.72	3.10	3.35	3.21
Wage/salary employment (both in agriculture or other wage work)	3.25	3.00	3.17	2.29	2.05	3.60	2.89
Means	3.23	3.40	3.27	2.47	2.96	3.50	

(a) Responses are ordinal data presented as:

4- Always, own self

3- Jointly with Husband/Partner

2- With other household member

1- Husband/Partner Only

Increase income of women and decision-making

The female and male FGDs showed that women’s increased income from vegetable and small livestock production (chicken, native pigs and goats) helped increase women’s ability to contribute to decisions on major expenditures such as the purchase of cattle (Taungkhamauk) and goats, agricultural tools and equipment, motorbike, and others.

Increased income among Myanmar women farmers were due to the increase in groundnut yields from the use of better seeds. The female FGDs in Me Pai cited that women farmers have “become stronger and lead in family decisions and in implementing CSA, and that unlike before where females always kept quiet and depended on their husbands, the women are now very active in discussing problems and making decisions in the household.” This FGD finding supports the data showing the higher mean scores of Me Pai in Tables 4, 5, and 6 on decision-making. The female and male FGDs in the Philippines cited vegetable production and native pig raising as the source of their increase in income, and that “the one

who earned the income has control over its use.” They also stated that the “women budgets and keeps the money.”

Spending patterns of women and men farmers

Across the 12 female and male FGDs, similarities and differences showed in the spending patterns of women and men. Similarities are found in spending for production inputs (fertilizers) for the next season, including the purchase of tools, small livestock and cattle (Taungkhamauk only), and payment of labor wages. All agreed that the women are the budget planners and keepers of the household incomes. Both the female FGDs for Korki Chrum and Me Pai cited that incomes are turned over to the wives.

Majority of the FGDs cited that women farmers spend money for household needs (food provisioning, power), health care, children’s education, social affairs/ceremonies in the community, and home appliances. Savings by buying gold (jewelry) was cited in Myanmar CSVs which can easily be sold or mortgaged at time of need. The Taungkhamauk female and male FGDs stated that there are no differences in their spending patterns, as all spending for household maintenance and family business is discussed jointly by women and men. Income in Taungkhamauk comes mainly from vegetable and fruit production.

Men have a different spending pattern compared to women. In addition to buying farm inputs, they also cited spending for farm equipment (milling machine, corn harvester, groundnut crushing, water pump, tractor, cattle) and house improvement. Men also cited spending for leisure (gathering of friends), cigarettes, liquor (also mentioned in the Philippine FGDs) and betel nut, and having no saving or spending plan as incomes are managed and controlled by the women (Korki Chrum and Me Pai).

Wage inequality

In terms of wages for similar farm work, women and men farmers are not paid equally, as cited in all men and women FGDs across the six CSVs, The higher paid men and women farmers are in Cambodia, in the midpoint is the Philippines and the lowest paid are in Myanmar where the daily wages of men are almost double of the wages for women. The reasons for the disparity of wages are the same in all countries, despite similar work to rationalize the wage inequality – the men do heavier farm work that requires physical strength and the women do the lighter work, such as weeding, harvesting, post-harvesting,

processing, and selling; men use more energy compared to women; men are faster and can do multiple work. Women are said to have little capacity or physical endurance for farm work; women labor is used only if they can handle the work, such as picking tomatoes. The Htee Pu female FGD cited that “some men don’t want to work if wages are paid the same as the women.” Below are comparative wages in the CSVs across the countries which have been found to be about 30 percent less for women . The CSV wage data from Myanmar and Cambodia were from the FGDs. (Table 7).

Table 7. Daily wages of men and women farmers in CSVs

CSVs	Men	Women
Philippines Agmalobo, Malocloc Sur (USD=50 PhP)	Pesos 287.40 (USD 5.74)	Pesos 251.55 (USD 5.03)
Myanmar* Htee Pu, Taungkhamauk (USD=Kyat 1,785.41)	Kyats 7,000 (USD 3.92) Kyats 7,000 (USD 3.92)	Kyats 3,000 (USD 1.68) Kyats 4,000-5,000 (USD 2.24 - 2.80)
Cambodia* Korki Crum, Me Pai	USD 10.00 USD 7.55	USD 7.55 USD 6.25

* Sources: FGDs, 2021 and PSA, 2019.

Resources: Access and control over resources

Ownership of assets

Access to and control over resources, as measured by ownership of assets is one of the critical dimensions of women’s empowerment. Land which is mainly owned by the husbands enables them to borrow bigger loans from formal lenders. Having no similar assets often disadvantages women farmers and limits their opportunities for expansion. Following the same analysis of means and scoring, the highest mean in asset ownership in this study is “6” (exclusively owned by the women farmer), and the lowest is “1” (owned by a non-household member). The data below from the A-WEAI survey shows that most assets are still jointly-owned by women with other members of the household, including the husband and other household members.

Compared to other CSVs, higher ownership by women of agricultural land is in Korki Chrum with a mean of 5.21. The FGD participants in Agmalobo (3.30) and Malocloc Sur (1.75) have

the lowest means, as the majority of the farmers are tenants and the use of the agricultural land is under an undocumented verbal tenant agreement with a landowner. The women farmers in Taungkhamauk showed higher ownership of assets, not only of their livestock but also of their houses, farm equipment and large consumables. Asset ownership by women is highest in small livestock in Taungkhamauk (5.19), Agmalobo (5.11) and Malocloc Sur (5.0). Land ownership by men remains the norm across CSVs, as shown by the total means of 3.98 (Table 8).

Table 8. Who owns the following assets?

Assets (Properties Owned)	Means of the Responses (a)						
	Htee Pu	Taung Khamauk	Agmalobo	Malocloc Sur	Korki Chrum	Me Pai	Means
Agricultural land	4.00	4.81	3.30	1.75	5.21	4.82	3.98
Large livestock	4.53	4.67	4.88	5.00		4.25	4.67
Small livestock, chicken/ducks/turkey	4.79	5.19	5.11	5.00	4.69	5.00	4.96
Fish pond				5.00	5.00	2.00	4.00
Farm equipment (mechanized and animal drawn)	4.44	5.33	2.33	4.17	5.00	5.00	4.38
House	4.55	5.10	4.75	4.79	4.79	4.76	4.79
Cellphone	4.35	3.41	5.00	4.72	5.20	4.44	4.52
Large consumer durables (refrigerator, TV, washing machine)	4.62	5.00	4.90	4.75	4.80	4.14	4.70
Vehicles (bicycle, motorcycle, car, truck)	3.84	4.00	4.63	3.55	4.50	4.41	4.16
Means	4.39	4.69	4.36	4.30	4.90	4.31	

(a) Responses are ordinal data presented as:

6- Exclusively Self

5- Any combination of SELF +husband,+other HH members

4- Husband/Partner

3- Other Household Member

2- Any combination that DOES NOT include SELF (husband+other HH member, other household member+other non HH member)

1- Other Non-Household Member

Decision to borrow loans

Household borrowing and saving have traditionally been the normative responsibility of women. This finding is supported by the FGDs in the CSVs where women are designated as budget planner and keeper of the household income. Among the borrowers, 20 percent are from Taungkhamauk, 18 percent each from Malocloc Sur, Korki Chrum and Me Pai, 13 percent from Agmalobo and 12 percent from Htee Pu. Women farmers often borrow on their own from friends and relatives (27 percent), savings and loan associations (17%), and formal lenders (23%). Women cited that their husbands borrow from banks (17%). This is supported by FGD findings where women farmers cited borrowing loans or selling their gold jewelry when they lack capital for inputs and household needs. Buying gold is the saving option in the CSVs in Myanmar. Majority of the borrowers are in the younger age group (30-39 years old) from Taungkhamauk, followed by those in the 40-49 age group, where the majority are in Malocloc Sur. (Figure 4).

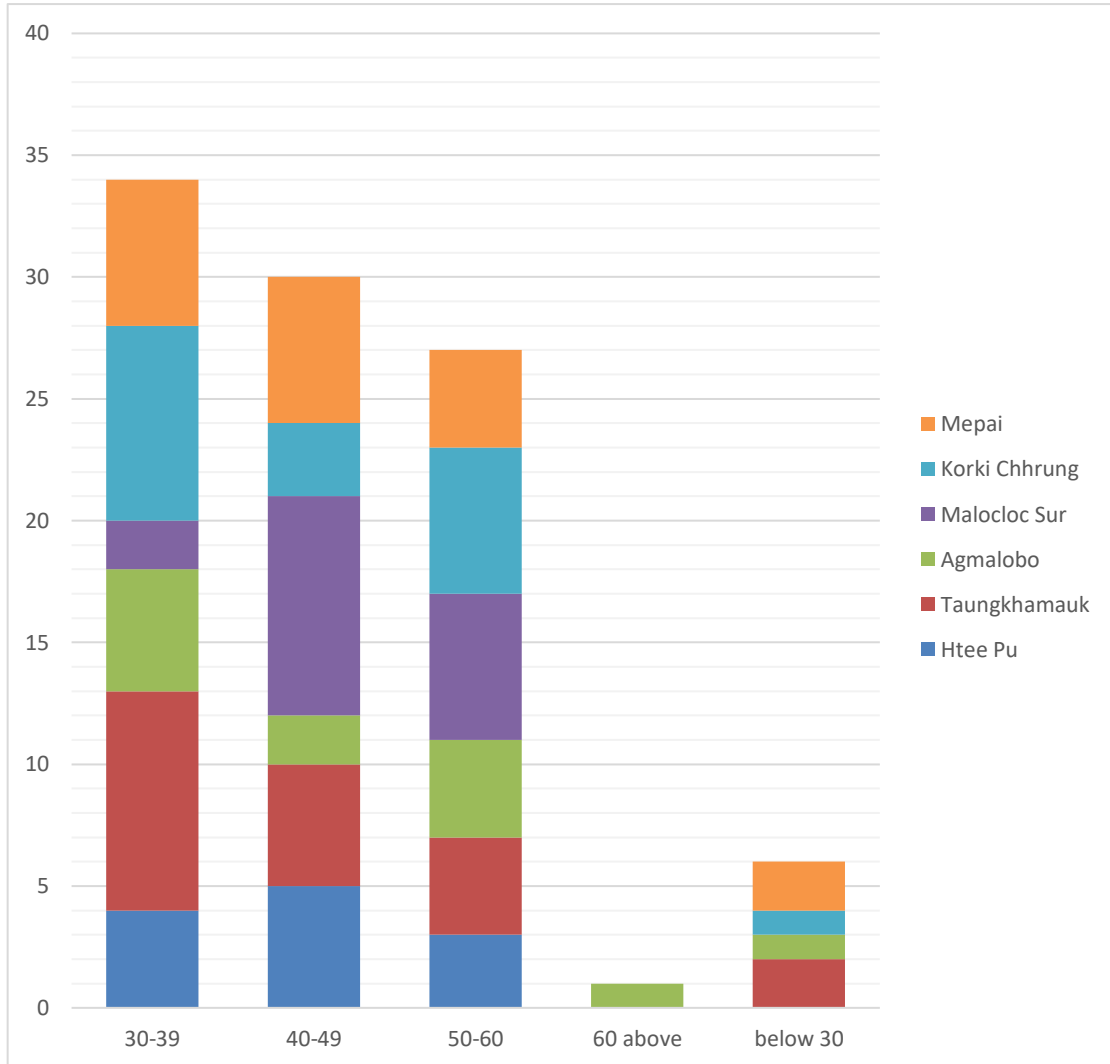


Figure 4. Distribution of respondents accessing loans, N=121

Group membership/leadership

Membership in associations by women is an important dimension of women's empowerment. It opens leadership opportunities for women and allows them to gain more knowledge and experience in building relationships outside the home environment. Across the CSVs, the majority of the women farmers, except for Htee Pu, are active members of an agricultural cooperative, producers group, savings group and non-government organizations.

In the Philippine CSVs, 84 percent of the survey respondents who are members of various organizations are active members, with 12 percent in leadership positions. Women who have higher levels of education in Agmalobo hold the leadership positions. Most FGD and KII respondents in the Philippines cite "increased women participation in the program, in leadership and decision-making" among the key benefits experienced by women

from their participation in the CSV/CSA activities. In Myanmar, 86 percent are members of the women self-reliance group organized by IIRR. Taungkhamauk women farmers are members of 10 associations, while Htee Pu does not have group associations, except for one charity group, involving four women farmers as members. In Cambodia CSVs, 80 percent of the women farmers in Korke Chrum are members of an agricultural association. In Me Pai, 10 women farmers are members of agricultural association and 70 percent are members of other organizations.

Increasing women's ability to participate

Enabling conditions were identified in the KIIs and FGDs to advance women's ability to participate. Key informants in the Philippine CSVs cited capacity building to increase their ability to trust themselves; support of the husband/partner, and support of peers and fellow women to prepare themselves to actively participate. In developing leadership capacity, the same informants stated that leadership training, character building, financial literacy, ability to deal with people, and time management are important skills to learn. In the FGDs, the perceived drivers to women's participation include the opportunity to gain additional knowledge and experience, socialize with others in seminars and similar activities, and access to inputs and capital. One barrier cited to women's participation in addition to Covid-19 pandemic, was women's time use and workload, hence the need to have proper/early scheduling to allow them to participate.

In the Myanmar KIIs, informants cited inviting, encouraging and allowing women to participate in community activities and attend meetings; training women to be confident to lead and take responsibility over any assigned roles in the organization, and to be trusted and respected by others, especially if given financial responsibilities. Also cited was the need for men to encourage and support women to talk in public. Other informants mentioned the need for time adjustment for women to participate, such as organizing and scheduling meetings when most women are available. In the FGDs, perceived drivers are the support provided by the IIRR project for the field crops (groundnut, pigeon pea, sesame, green gram for the field crops and vegetable seeds and fruit trees for home garden), knowledge about CSA practices in seeds, trees and livestock raising (piglets, chickens, goats), and benefits from homestead gardens. Barriers include time use ("not enough time to participate"), not

getting information and missing meetings. Others cited that those who have already increased income become less interested to participate.

In the Cambodia KII, the informants emphasized the need for literacy, the ability to read and write, in order to become leaders and be promoted to positions of authority and membership in committees. Also emphasized was the need for support and motivation by the husbands and community members. In the FGDs, drivers include the support of their husbands and working together with them, increase in family income, and obtaining more information from other group members. Barriers cited include time use and work load, and limited knowledge of agriculture. Others cited negative experiences with savings groups where some members did not pay their loans which led to the dissolution of the group, resulting in women not wanting to join similar groups or taking leadership positions.

It is worth noting that across the three CSVs, women's time use and workload are consistently identified among barriers to women's ability to participate, as cited in CSVs in the Philippines and Cambodia. Data in the next section about women's Time use further support this observation.

Time use and work load of women farmers

Findings from gender studies show that women experience a greater degree of time poverty than men. Being less burdened with work and having greater control over one's own time could allow women the time needed to improve their skills in agricultural production as well as the time needed to invest in participating in community organizations. Table 9 and Figure 5 show that women farmers across the CSVs averaged 15.2 hours of work per day doing housework, farm work and wage employment. The longest work hours are in Taungkhamauk, followed by Malocloc Sur, Korke Chrum and Agmalobo. In the Myanmar and Cambodia CSVs, women farmers work more hours doing farm work, compared to women farmers in the Philippine CSVs, who spend the most number of hours doing housework, as most of the women have no paid labor engagements.

Table 9. Time use and work load of women farmers in CSVs

Activities	Myanmar		Philippines		Cambodia	
	Htee Pu	Taung Kha mauk	Agmalobo	Malocloc Sur	Korki Chrum	Me Pai
Housework (cooking cleaning, taking care children, washing clothes, fetching water, home gardening for food)	4.1	3.2	6.8	7.6	3.7	3.45
Farm work, cash crops for sale, post-harvest	5.1	7.6	3.4	4.7	5.45	5.5
Livestock raising work	2.9	1.6				
Wage employment for non-farm work	1.2	6.2	4.1	4.0	5.45	0.5
Others (please specify), e.g. retailing (small business at home), cleaning the seeds	0.4	0.2	0.7	1.0	1	1.5
Total working hours	13.6	18.8	15.0	17.2	15.6	11.0

Average: 15.2 hours

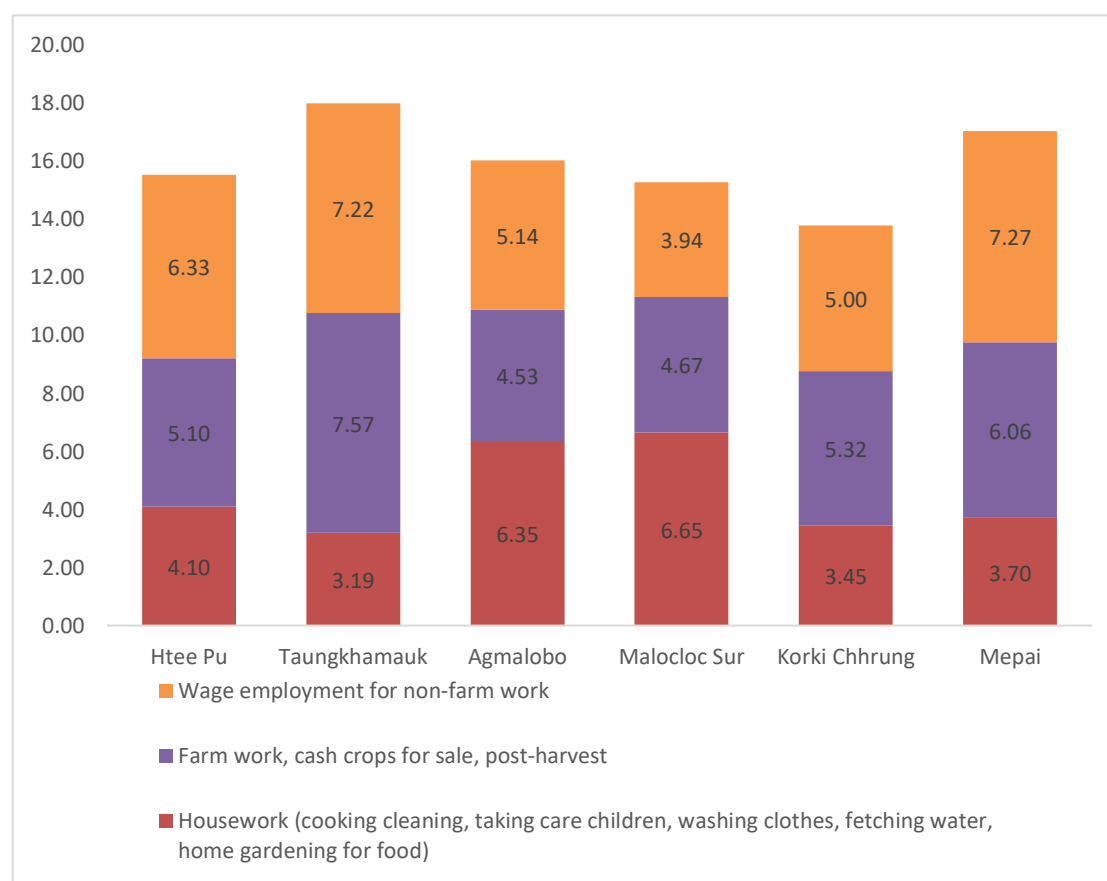


Figure 5. Mean number of hours women spend for activities

Balancing the workload of women farmers

The FGDs and KIIs offered some working approaches to balance the workload of women farmers in the farms and households. In the Philippine CSVs, the male FGDs cited an equal division of chores to help each other and initiate own actions to help the wives. The KIIs stated that women can ask their husbands/partners for help and to tell them what to do (as some have not even tried to ask for help, and men think that housework can wait if the women are tired); that men can help by encouraging their peers to be “diligent, flexible, considerate to their wives and do multi-tasking.” A female informant suggested listening to radio programs on awareness raising, as men “don’t like attending meetings.”

In the Myanmar CSVs, the female and male FGDs stated that there is no separation of tasks in the household, as both husband and wife help in house chores, such as cooking and feeding animals. However, men’s help is provided only if the wives are not available. Domestic work is a normative responsibility of women; hence men’s assistance is conditional on women’s availability to do the work. To reduce women’s work load, the men cited that they can take the responsibility for livestock activities, such as grazing, feeding and watering. In the KIIs, balancing the workload of women farmers meant reducing farm work done by women such as weeding and seeding; helping in housework after finishing the farm work, such as gathering firewood, fetching water, feeding the pigs and other livestock; and asking the children after school by engaging them in light farm work, such as weeding, sowing and drying products.

In the Cambodia CSVs, the female and male FGDs cited that “there should be no specific house chores for men and women because everybody can do the same, if the wife is busy or cannot do it.” This is a similar perspective to the Myanmar FGD; however, there is more emphasis on sharing the work not only in the household – cleaning the house, taking care of the children, washing dishes and cooking, but also in farm work – selling agricultural products and completing the remaining work. The FGDs also mentioned encouraging men to have health check up, to be tolerant, understanding, listening more between husband and wives. The KIIs reiterated the findings from the FGD.

Perceived income levels before CSV and the present

Increased income is a powerful measure of women's economic empowerment, hence the study included a comparison of the perceived change in income levels of the survey respondents. The study used a 10-point scale to compare the women farmer's incomes before the CSVs started and where they are at present time, with 10 as the highest point. Across the six CSVs, there is a significant difference in the perceived increase in incomes, by as much as 32-135 percent among the CSVs.

In Me Pai, the increase of perceived income of women farmers has more than doubled, from a mean of 2.55 points before CSV to 6.00 points at present. In Korki Chrum, the increase is from a mean 4.4 to 6.55 points; Malocloc Sur increased from a mean of 4.40 to 6.55; Agmalobo from 4.85 to 8.15, Taungkhamauk from 3.14 to 5.14, and Htee Pu from 3.70 to 6.35. (Table 10). These figures show that the CSVs have been largely instrumental in providing income sources, where there was previously minimal or none. This is congruent with the results of two other studies conducted by IIRR in the Philippines and Cambodia. A Cost-Benefit Analysis of Native Pigs as a Climate-Smart Agriculture Option in the Philippines showed that the majority of the surveyed households in CSVs generated positive net income in raising native pigs. (Manilay, et al, 2021). Meanwhile, a Financial Analysis of Homestead Native Chicken Raising: A Climate-Smart Agriculture Option Adopted in the Province of Koh Kong, Cambodia revealed that the intervention was gender fair and of special relevance to women in the communes. Results showed that when native chickens were raised for meat purposes (broiler production), the total net income received by the households amounted to USD 6,286.00 and USD 8,003.00 in 2019 and 2020, respectively." (Manilay AA, et al, 2021).

Figure 6 provides a more graphic picture of the differences before and during CSV. In order to gain a deeper view and understanding of the impact of increased income on women farmers, the study also gathered FGD and KII data comparing the experiences before the CSVs and the present, the benefits derived by the women and men farmers from the CSA/CSV programs; the impact of increased income of women farmers on relationships between the husband and wife, within the household and within the community from the perspective of both men and women farmers in the FGDs; and good practices in empowering women farmers in agricultural communities to gauge the impact, both positive and negative, of their participation in the CSVs.

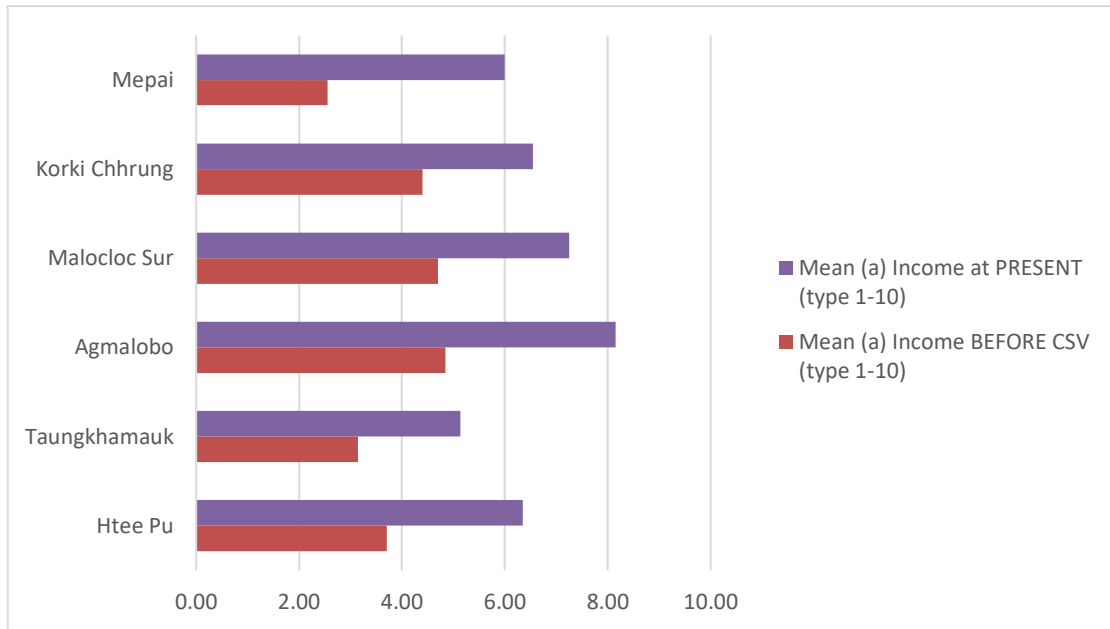


Figure 6. Perceived levels of income before and present time

Table 10. Mean perceived income levels (1-10) before CSV and the present

Village	Mean (a)	
	Income BEFORE CSV (type 1-10)	Income at PRESENT (type 1-10)
Htee Pu	3.70	6.35
Taungkhamauk	3.14	5.14
Agmalobo	4.85	8.15
Malocloc Sur	4.70	7.25
Korki Chhrung	4.40	6.55
Mepai	2.55	6.00

Delving deeper into the analysis of findings, the perceived income levels (before and at present) were correlated with the level of education and age of the respondents. (Table 11). Correlation analysis, using Pearsons, Spearman and Kendall, shows no statistical significance but the the direction of the relationship of variables (either + or -) is worth noting as well As the correlation is positive for the perceived level of income and education, the direction indicates that among the respondents (N=121) -- as the level of education increases (from 1- no schooling to 4-tertiary education), there is a high tendency that the perceived income also increases.

In the case of age and perceived level of income, as the correlation is negative, this means that as the age increases, the perceived income change decreases. A plausible explanation could be that as the women farmers grow older, their ability to earn more income could decrease, especially when women are not provided access to gainful income generating activities as a result of being viewed as less productive due to age.

In terms of age and level of education, the correlation is negative which means that as the age increases, the level of education decreases among the respondents. This may be explained by the fact that the generation of older women farmers are mostly at the primary level and the younger ones (30 and below) may have better access to education, with more children going to school as household income increases.

Table 12 provides another correlation analysis which focuses on the present income levels. The correlation shows that the present perceived income levels are positively correlated with level of education (with high statistical significance) and age. This means that as the

level of education increases, the perceived level of income also increases. The same finding also applies to age, that as ages increases, the perceived level of income also increases. In terms of age correlated with education, the result shows a negative correlation, which means that the women with higher education tend to belong to the younger age groups.

Table 11. Correlations of perceived change in income with education and age

		Level of Education coded	POINTS CHANGE INCOME	Age
Level of Education coded	Pearson's r	—		
	Spearman's rho	—		
	Kendall's Tau B	—		
POINTS CHANGE INCOME	Pearson's r	0.068	—	
	Spearman's rho	0.091	—	
	Kendall's Tau B	0.080	—	
Age	Pearson's r	-0.035	-0.021	—
	Spearman's rho	-0.049	-0.007	—
	Kendall's Tau B	-0.038	-0.007	—

Note. * p < .05, ** p < .01, *** p < .001

Table 12. Correlation matrix vis-a-vis perceived levels of income at present

		Income at PRESENT (type 1-10)	Level of Education coded	Age
Income at PRESENT (type 1-10)	Pearson's r	—	—	—
	Spearman's rho	—	—	—
	Kendall's Tau B	—	—	—
Level of Education coded	Pearson's r	0.424***	—	—
	Spearman's rho	0.432***	—	—
	Kendall's Tau B	0.359***	—	—
Age	Pearson's r	0.215*	-0.035	—
	Spearman's rho	0.168	-0.049	—
	Kendall's Tau B	0.122	-0.038	—

Note. * p < .05, ** p < .01, *** p < .001

Comparison of experiences in CSVs before and present time

Data from the FGDs and KIIs provide comparative data on the experience of men and women farmers in the CSVs. On the whole, the data have been highly positive with a few negative feedback on production, mainly pertaining to small livestock. Foremost among the benefits are the new knowledge and experiences that they have gained from CSA, and the increase in income from better yields with the application of their learning. The impact of women's increased income has been equally positive at both the household and community level, with increased involvement in household and production decision-making and increased and more active participation in community activities. The findings of the gender study provides clear evidence that the adoption of CSA practices have contributed to women's economic empowerment, as shown by the following summary table. (Table 13).

Table 13. Comparison of benefits and experiences of men and women farmers in CSVs

Philippine CSVs	Myanmar CSVs	Cambodia CSVs
Positive Experiences and Benefits		
<p>Additional income from raising native pigs</p> <p>Additional knowledge (organic farming, vegetable gardening, livestock, preparation of organic concoctions/ fertilizers).</p> <p>Increase women participation and membership in organization, and leadership opportunity.</p> <p>Additional resources/inputs (organic pigs, goat, native chicken, vegetable seeds.)</p>	<ol style="list-style-type: none"> 1. Gained knowledge of systematic growing – intercropping,, integrated pest management, technology to reduce seed rate, selecting good seeds, climate resilient crops, shift from broadcasting to line sowing, use of organic fertilizer (farmyard manure), small-scale livestock raising (pigs, chicken and goat) and agro-forestry practices. 2. Increased income from better yield from good quality seeds from IIRR and locally adaptable varieties - groundnut, sesame, pigeon pea, green gram; income from livestock (goat raising and fast-growing pigs with good breeding quality from IIRR. 3. Homestead gardens for home consumption reducing the cost of food. 4. Correct and safe use of fertilizers and pesticides. 5. Fruits trees like mango for long term income. 6. Women's savings groups provide loans for inputs, savings opportunities and sharing of community information. 	<ol style="list-style-type: none"> 1. Gained new knowledge on CSA - drip irrigation, techniques in land preparation, seeds and seedlings, soil improvement by bed budding, vegetable growing, small irrigation system, tree nursery. 2. Increased yield and income. 3. Fast access to loans from savings groups. 4. Establishment of the producer group helped in market assessment. 5. Increased participation in meetings, and sharing of experiences on CSA with other farmers. 6. Women have more self-confidence with new knowledge and experience with CSA, and stronger decision to participate in farming and decision-making. 6.Children are able to go to school with more income and more parents' awareness of the importance of education.
Negative Experiences		
<p>Increased workload - women now have vegetable gardens</p>	<p>1) Disease problem in chicken raising (especially Chicken flu (H1N1), which is</p>	<p>1) Women farmers are busy in farms, training and meetings,</p>

Philippine CSVs	Myanmar CSVs	Cambodia CSVs
<p>or small livestock like native pig and ducks to tend as a result of inputs provided by the project, in addition to their domestic chores.</p> <p>Time use-- conflict of farm, meetings or trainings and housework</p>	<p>getting worse and becoming seasonal nationwide), causing decrease in income. 2) Chemical residues in homestead crops (of neighbors) are poisonous to chicken, causing chicken death.</p> <p>3) Feed shortage problem for pigs, and slow growth rate of local breeds, especially during cold weather.</p>	<p>with less time for family, resulting in family conflicts.</p> <p>2) Because of the high commitment of wives to participate in a group, husbands need to accept what the wife decides, which could result in lost time for husbands to earn daily income.</p> <p>2) More debt from savings groups and NGO (Micro Finance Institute)</p>
Impact of Women's Increased Income on Household Relationships (men-women, husband-wife, family)		
<p>Stronger family relations</p> <p>Children learned vegetable gardening</p>	<p>Better relationship in family, as the increase in income can help cover family needs.</p> <p>Having increased income helps women to contribute to decision -making in household decisions, especially for health care, buying inputs such as seeds and fertilizer, and major household expenditures like cattle.</p> <p>Women have more control over the use of household income.</p>	<p>More respect for each other, more shared decision-making on farming activities and family work.</p> <p>Women contribute more actively to problem solving in the household (unlike before) and family decisions (buy large items including family property like agriculture tools, motorbike.</p> <p>Women do not have much time for family, and in some cases, husbands are not happy.</p>
Impact of Women's Increased Income on Community Participation		
<p>Increased/improved participation in community activities.</p> <p>Sharing of vegetables and planting materials to neighbors and community members</p>	<p>Increased participation in meetings and more involvement in community activities.</p> <p>Becoming more vocal in village meetings of women saving groups, and more confident to speak, and more sociable.</p> <p>Women are able to help more in religious and social affairs than before.</p>	<p>Women have good relationships with other members and villagers.</p> <p>Increased active participation of women in meetings or training conducted by IIRR.</p>

Younger average age of farmers in CSVs

Most of the women farmers across the six CSVs are between 40-49 years old, with a mean age of 44. About 70 percent of the 121 respondents are 49 years old and below. In another study conducted by IIRR in Himbubulo Weste Climate-Smart Village in Guinayangan Province, Philippines, the mean age of farmers is 49.6 years old (Espino, et al, 2021). These are lower than the typical age of farmers across Southeast Asia observed from previous studies which ranges from 50s and 60s (ILO-APYouthnet, 2014).

On one hand, this result is congruent with other studies which show that relatively younger farmers have a higher probability of adopting new farming practices like climate-smart agriculture practices. On another note, this also supports the point raised by the International Fund for Agricultural Development (IFAD) that many of the previous data sources only collect information at the household level; the age of the household head is used as a proxy for the age of the farmer (Arslan, 2019). When the analysis was focused on the overall average age of those who work for wages on others' farms, the average is 43. This suggests that younger individuals are more likely to work for wages on the farm. These and the results of the current study support the merit of collecting more nuanced information to actually determine the average age of farmers in South-East Asia.

Summary of Findings: Country Analysis (Philippines)

Profile of Philippine CSVs: Agmalobo and Malocloc Sur (Table 14)

Both Agmalobo and Malocloc Sur are farming villages located close to Ivisan, a fourth class and smallest municipality in the Province of Capiz, Panay Island with a population of 31,278 and land area of 5,420 hectares. Agmalobo and Malocloc Sur represent 3.2 percent and 5.6 percent of Ivisan's population respectively, where there are more females than males. Majority are coconut and rice farmers. A total of 587 farmers/fisherfolks raised carabao, cattle, goats, swine and native pigs while approximately 951 farmers and fisherfolks raised poultry, native chicken, ducks and turkeys in backyards. (IIRR, 2020).

The profile of survey respondents showed that Agmalobo has the highest mean age of 50.7, with ages ranging from 25-80; 40 percent reached or finished highschool, 30 percent had elementary (primary and intermediate) education, and 30 percent reached or graduated from college. Malocloc Sur has a younger age group with a mean age of 47.6; 70 percent in primary/intermediate level, 25 percent reached or graduated from college, and 5 percent graduated from highschool. The Philippine CSVs have the highest level of education among the six CSVs. As mentioned earlier in the report, the education levels reflect higher levels of literacy in the Philippines compared to Myanmar and Cambodia. Among the women farmers in the two CSVs, 30 percent identified being a housewife as their occupation. None of the women farmers are heads of households.

Table 14. Profile of Agmalobo and Malocloc Sur

Profile	Agmalobo	Malocloc Sur
Agro-ecology	Coastal	Upland
Major Crops	Coconut and rice (irrigated and mostly rainfed). Other crops are corn, vegetables, fruits including mango, banana, rambutan, lansones, pineapple, calamansi and dragon fruit	
Township	Ivisan	
Province/State/Region	Capiz, Panay Island	
Total households	255 (2015 Census)	369 (2015 Census)
Total Population	1,023	1,775
Female	603	215
Male	577	190
Distance from nearest center	2.3 kms	2.9 kms
Ethnic Group	Ilongo	Ilongo
Climate risks	Typhoon, storm surge, flood, landslide, drought, saline intrusion	

The CSA practices in the CSVs include native pig production, native chicken and duck raising, intensive forage gardens, organic rice and vegetable production and coconut agroforestry and multi-story cropping.

Dimensions of women’s empowerment: Agmalobo and Malocloc Sur

Livelihoods in CSVs

The agricultural livelihoods in the CSVs consist of rice, coconut, vegetable and livestock production, and fishing. The most dominant livelihoods for men in the CSVs are coconut (91 percent) and rice farming (92 percent), which are both physically demanding compared to the other livelihoods. Productive decisions are also mostly made by men for coconut and rice farming. Livestock raising (82 percent) and vegetable production (80 percent) are also done by the majority of men, but the percentage of women who decide on these activities are higher than men’s. Even as the men do the heavy work, the majority of farm work is done jointly by men and women farmers (Table 15).

The FGDs in both CSVs cited that the challenges of women in agriculture include physical strength and endurance hence the work done by women are comparatively lighter in nature such as weeding, selling, storage and drying and income management. For livestock

production, women’s activities involve planting of forages, administration of vitamins, cleaning of pens, farrowing, and selection of stock for slaughter.

Table 15. Roles in agricultural production by livelihood, Philippines, 2021

Livelihood	Percentage**			
	Done by		Decided by	
	Men	Women	Men	Women
Rice farming	91%	44%	84%	57%
Coconut farming	92%	42%	84%	52%
Livestock raising	82%	66%	76%	80%
Vegetable farming	80%	74%	74%	84%
Average	86%	56%	79%	68%

Roles in agricultural production

The Heat Map in Table 1 (Section V) shows that the women have minimal involvement in rice and coconut production (green shades). Looking at the primary data for vegetable production in the two CSVs in Figure 7, women’s participation is higher in selling and weeding, and in purchasing seeds, applying fertilizer and harvesting. Men have the highest participation in the application of pesticides, possibly for rice production. Men also have higher participation in most of the production activities compared to the women in these two CSVs. Evident in all the production activities is the joint participation of men and women farmers in planting, harvesting, weeding, land preparation of the homestead garden, purchasing seeds except for the application of pesticides.

From the FGDs and KIIs, vegetable farming in homestead gardens and the raising of livestock (native pigs) provided an important contribution in the increase of women’s income, and the attendant positive impacts of income contribution of women in the household. Frequently cited was the stronger and closer family (husband-wife) relationship, and more couple decision-making and working together. Other impacts include children learning about vegetable gardening, and sharing seeds, cuttings, and vegetable products with neighbors. During the pandemic, vegetable farming was cited as an adaptation strategy for food provisioning for the family, and for income generation by selling the surplus vegetables to neighbors and to middlemen.

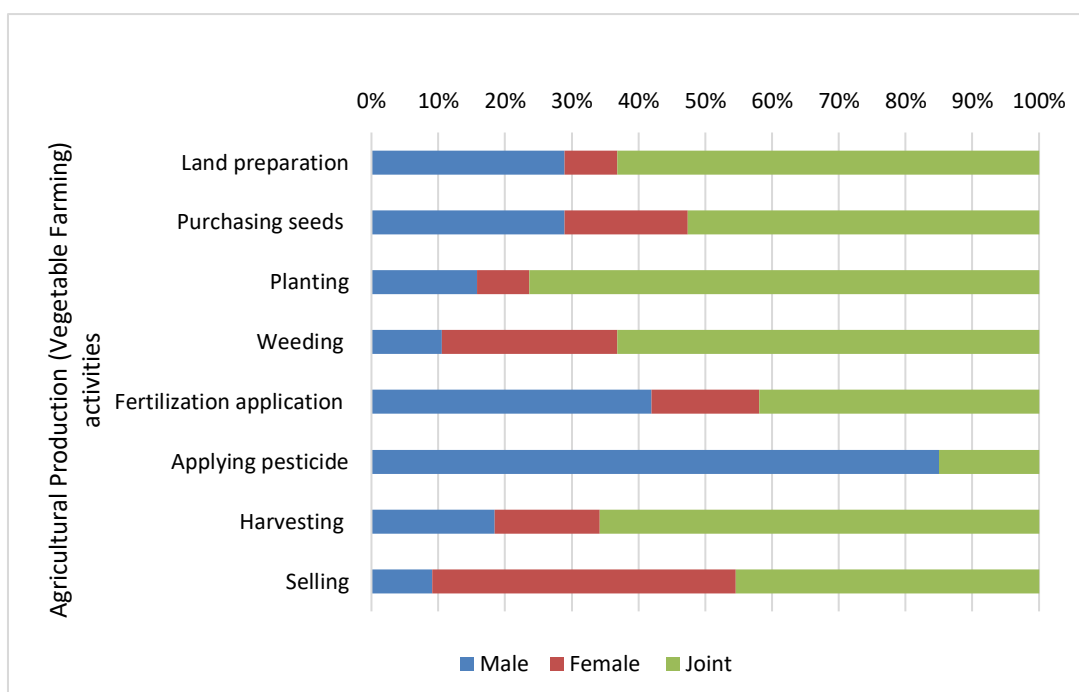


Figure 7. Roles in agricultural production (Vegetable farming, Philippines)

Decisions: Inputs to productive decisions

The measures of women's empowerment in decision-making includes four questions: 1) who decides on the roles (who does what) in agricultural production; 2) who decides on specific farm production and non-farm activities; 3) the extent a woman farmer can make her own personal decision on the activities if she wanted to, and 4) how much input women farmers have on household decision-making around production.

1. Decision on the roles (who does what) in agricultural production. Table 2 (Heat Map of Who Decides) shows that in Agmalobo and Malocloc Sur, the pattern from the survey data is joint decision-making in agricultural activities that involve planting, land preparation, weeding, harvesting, purchasing seeds and post-harvesting. Women farmers perceive that they have more decisions on weeding, harvesting, purchasing of seeds and selling. Table 15 above shows that men make most of the decisions in rice and coconut production, but women have higher participation in vegetable farming and livestock raising.
2. Decision on specific farm production and non-farm activities. Women farmers' perceptions on decisions on the activities below showed that men predominate in decisions involving getting inputs for agricultural production and types of crops to

grow. For the rest of the activities, women farmers perceived that they have more decisions than men on minor expenditures (as part of her reproductive work), going to training, and their own wage. The pattern of joint decision-making is also evident in major household expenditures and taking crops to market. (Figure 8).

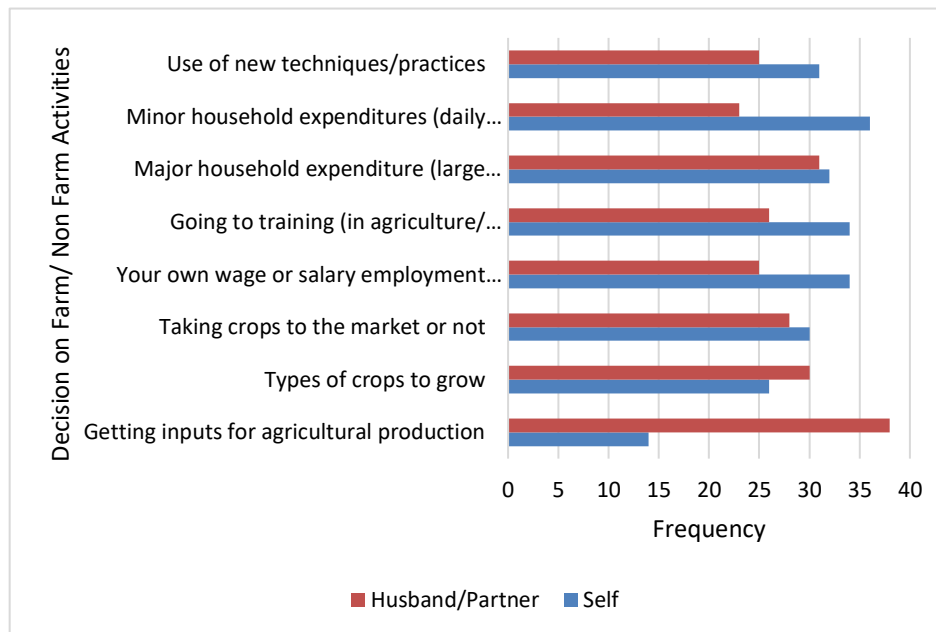


Figure 8. Decisions on farm/non-farm activities (Philippines)

- Extent of the ability of a woman farmer to make own personal decisions on the activities if she wanted to. The question is about the ability of a woman farmer to make her own decisions under a hypothetical condition. Women in the survey showed minimal ability to make their own decisions, except for the minor household expenditures, and going to training. Even if this is a conditional decision, most women in the two CSVs prefer to decide jointly with the husband. (Figure 9). In the means analysis in Table 4, both CSVs also have the lowest means for this question which is similar for both villages. This may be explained by the cultural practice that wives are expected to defer to their husbands for decisions.

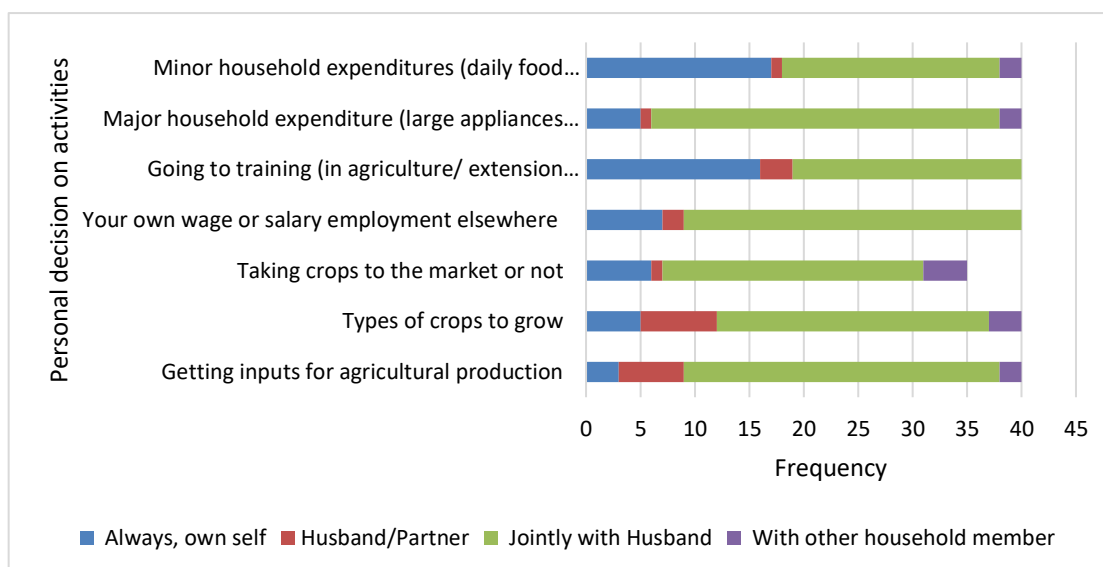


Figure 9. Ability to make personal decisions (Philippines)

4. Extent of input of women farmers on household decision-making around production. The question measures the inputs as “few”, “some”, “most or all” and “no decisions.” In the two CSVs, data on household decision-making on production showed a different picture for the women in Agmalobo and Malocloc Sur. Agmalobo has higher inputs (“some/most”) on almost all household decisions compared to Malocloc Sur which showed fewer inputs in almost all household decisions on production. (Figures 10 and 11). This finding is supported by the means analysis in Table 5 particularly for Malocloc Sur with the lowest mean of 2.48 (Few inputs). The low inputs (“few”) on decisions relate to wage/salary (which was explained in the FGD that majority of the women in the CSVs have no wage employment or income prior to the CSVs). There are also more women in Malocloc Sur who provide no inputs to decisions on production. This could be explained by the higher level of education of women farmers in Agmalobo and the higher dependence of women in Malocloc Sur on their husbands who make most of the decisions.

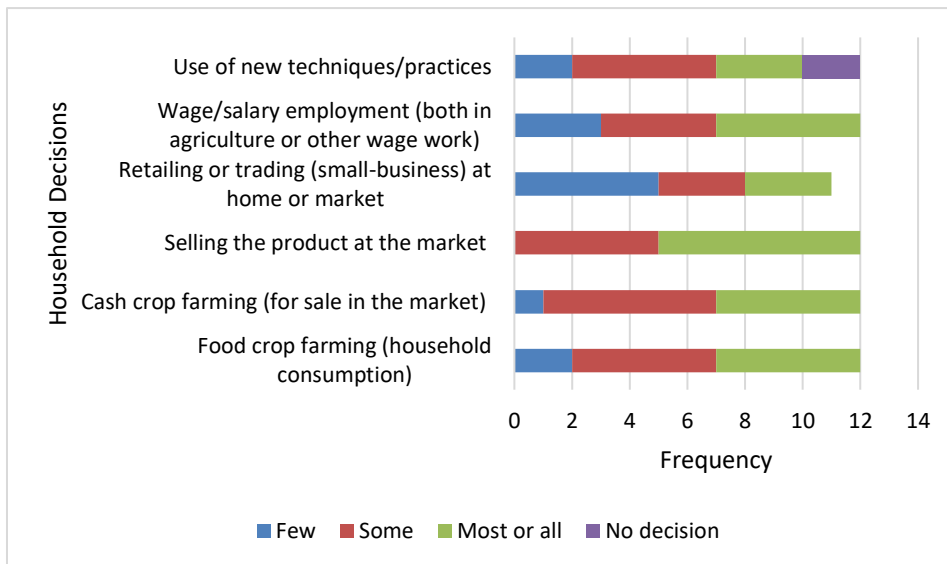


Figure 10. Input on household decisions on production: Agmalobo

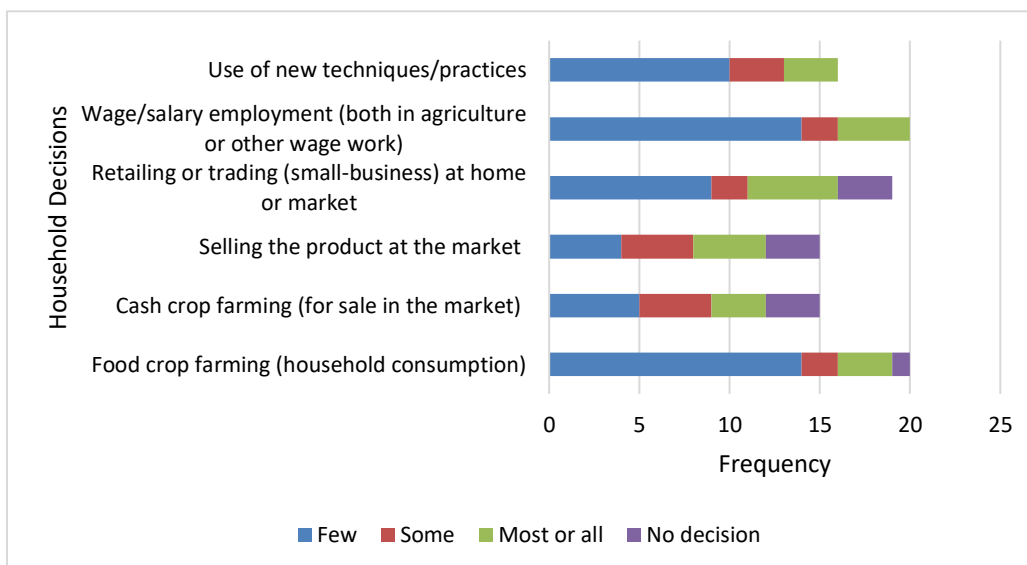


Figure 11. Input on household decisions on production: Malocloc Sur

Income: Use and Control

Table 6 provides a means analysis that shows that across CSVs, women farmers in Malocloc Sur also have the lowest mean score (2.47 or few inputs) on decisions relating to the use of income from the activities below, compared to Agmalobo (3.27 on “some inputs”). This could also be explained by the differences in education levels among the women farmers in these two CSVs, with the majority of women in Agmalobo having secondary education (40 percent) tertiary education (30 percent) and Malocloc Sur with a big majority (70 percent) at the primary level. Figures 12 and 13 show that women have the “most” decisions on the use of incomes from selling crops at the market, and retailing or trading at home.

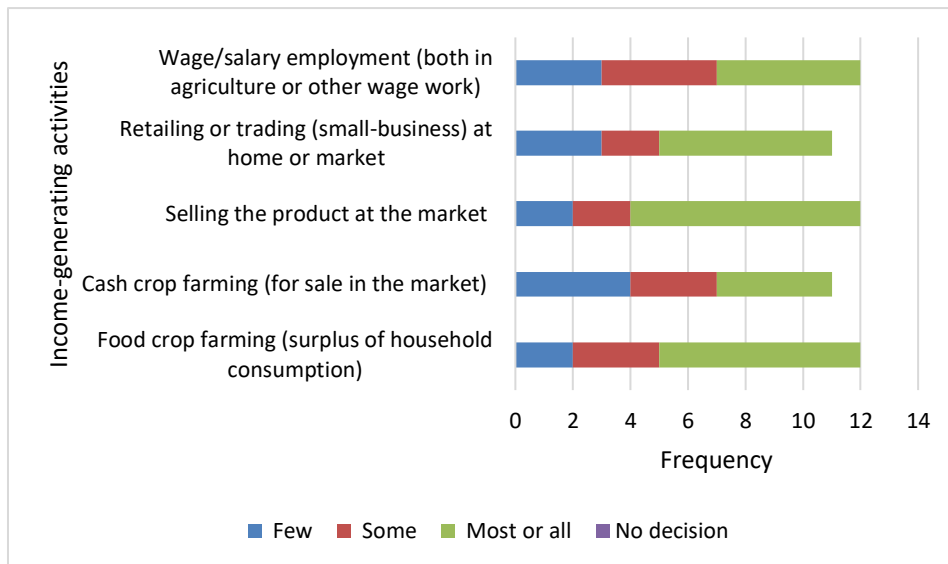


Figure 12. Input on decisions on the use of income: Agmalobo

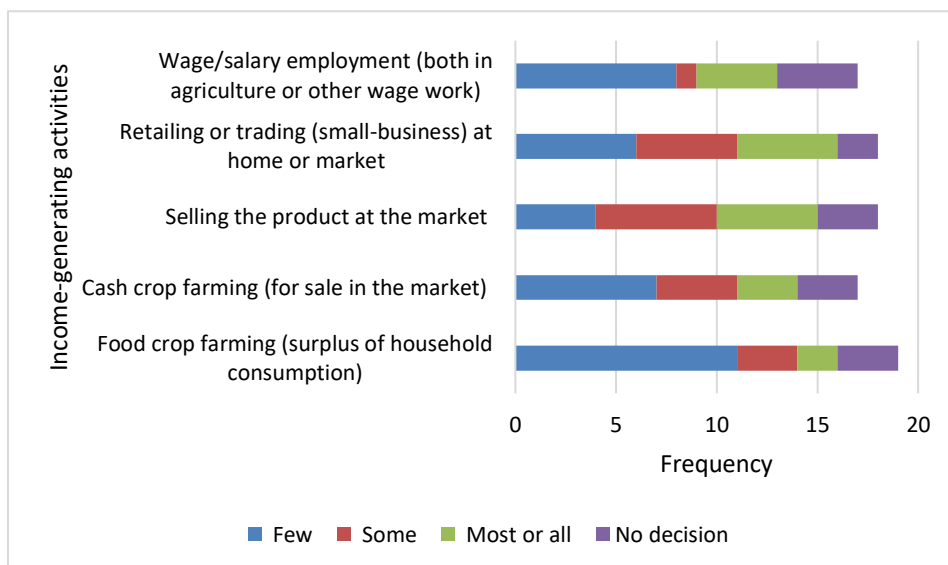


Figure 13. Input on decisions on the use of income: Malocloc Sur

Resources: Ownership of Assets

Survey data show that the majority of the assets in the two CSVs are owned jointly and almost equally by the husbands and wives, except for the farm equipment and vehicles which are owned more by men than women. (Figure 14). Most of the agricultural lands (25 of the 40 respondents or 63 percent) in the two CSVs sites are owned by “Other non-household members,” as the farmers are mainly tenants under a verbal agreement where the owner can take over the land at any time. This supports the findings of low mean scores in Table 8, particularly for Malocloc Sur. Significantly, the only asset owned by women are the cellphones.

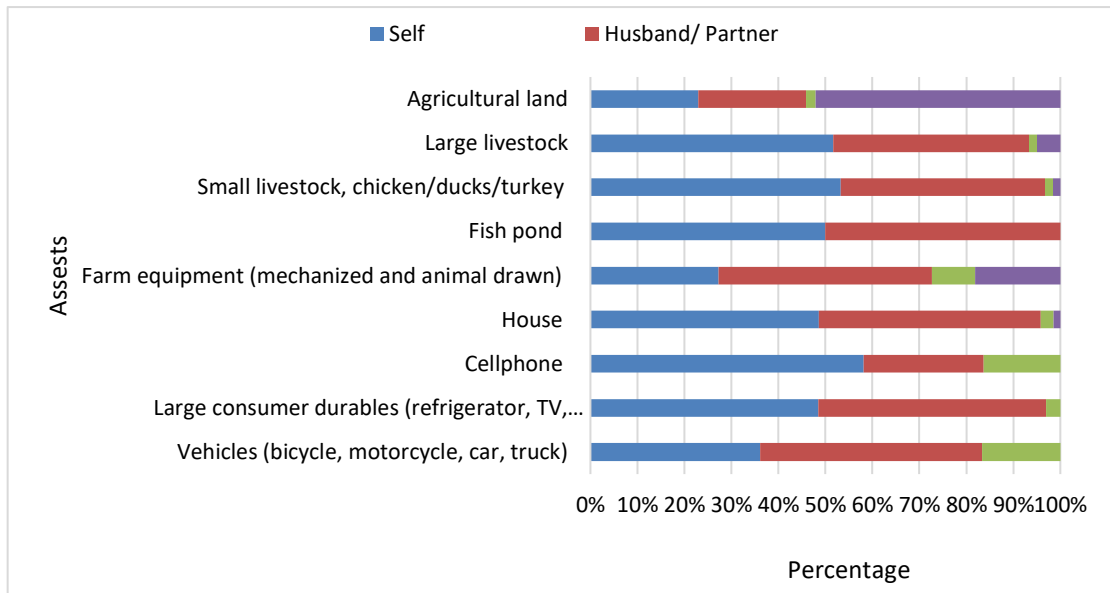


Figure 14. Ownership of Assets (Philippines)

The other dimensions of women’s empowerment on group membership and time use/workload have been discussed in the cross-country analysis of the six villages.

Summary of Findings: Country Analysis (Myanmar)

Profile of Myanmar CSVs: Htee Pu and Taungkhamauk (Table 16)

Htee Pu Village is located in the Nyaung U Township of the Central Dry Zone of Myanmar and lies on the eastern bank of Ayeyawady River. Nyaung U Township has a typical tropical climate and the highest temperature among all of the dry zone regions of Myanmar. It receives little rain, which leads to drought in the majority of its areas. An irregular rainfall pattern, especially during the harvesting time would seriously cause production loss and poor quality of the products. Htee Pu has a population of 1,180, and the majority is dependent on agriculture. Other livelihoods include livestock production, casual labor, and trading. Although agriculture is the major subsistence livelihood, the harsh climate conditions (especially low and unpredictable annual rainfall) are the most serious problems for Htee Pu village. It was selected as a Climate-Smart Village to find solutions to the challenges posed by climate change on the livelihoods of local farmers.

Taung Khamauk Village is located in the Nyaung Shwe Township which is situated in the southern part of Shan State. The village is situated 3700 feet above sea level. The village topography is dominated by hills with moderate to deep sloping lands but in compared with other mountainous areas in Southern Shan State, lands in TaungKhamauk village are more or less flat. The village has a population of 405 people whose primary livelihood is agriculture. Other livelihoods are selling firewoods, casual labor and construction work. The village's biggest challenge is water scarcity as agricultural productivity depends on rainfall. For domestic use, the farmers harvest the rainwater.

The profile of survey respondents consists of all women farmers – 20 in Htee Pu and 21 in Taungkhamauk. None of the women farmers are heads of households. Htee Pu has a mean age of 43.8, with ages ranging from 30-55; 70 percent are at the primary level, 10 percent have no schooling, 10 percent have intermediate and 10 percent reached high school. Taungkhamauk has the youngest mean age of 39.4 and the age ranges from 24-55; 90 percent are at the primary level and 10 percent have no schooling.

Table 16. Profile of Htee Pu and Taungkhamauk

Profile	Htee Pu	Taungkhamauk
Agro-ecology	Dry Zone	Upland
Major Crops	Groundnut, pigeon pea, green gram	Rice, millets, corn
Township	Nyaung-Oo	Nyaung-Shwe
Province/State/Region	Mandalay	Shan
Total households	275	94
Total Population	1,180	405
Female	603	215
Male	577	190
Distance from nearest center	35 kms	20 kms
Ethnic Group	Burman	Pa-O
Climate risks	Drought season	Climate variability

The CSA practices in Htee Pu consists of production of legumes, intercropping and crop rotation, utilization of organic matter, and raising of small livestock. (IRRI, 2021). Those in Taungkhamak consists of participatory varietal selection (PVS) for new improved varieties, diversification of farm production with vegetables, crop trials for new introduced crops, integration of fruit tree in farms, planting of legume trees in farms and along boundaries, homestead production of cash crops and small livestock and community-based animal propagation centers (pig, chicken, duck), and school gardens (vegetables, fodder, fruit trees).

(Barbon, et al, 2021a). The majority of the Myanmar FGDs cited multi-cropping, vegetable production, good quality groundnut seeds, plantation of fruit trees and small livestock raising as the CSA practices that helped increase their incomes. Homestead gardens were cited as a crucial food provisioning strategy during the pandemic.

Dimensions of women's empowerment: Htee Pu and Taungkhamauk

Livelihoods in the CSVs

About one-third of the population is engaged in agriculture. The primary source of livelihood is farming of cash crops, dominated by pulses, especially peanut or groundnut and pigeon pea, intercropped with various types of beans, millet, sorghum, sesame and tomato. Livestock is recognized as an important economic asset in the community, and the second largest source of livelihood after agriculture especially among low income and landless households. Raising of native chicken has become popular in the village due to the provision of local chicks from the IIRR.

The Taungkhamauk Village primarily relies on agriculture and livestock as their main source of livelihood, with 80% of households engaged in agricultural work and animal husbandry. Major crops include upland rice, groundnut, and tomato. Fruits produced include avocado, mango, banana, longgan, orange, among others. Around 70 households or 70% in the village are involved in raising livestock such as cows, pigs, chicken, and buffalo. The others are engaged in non-agricultural work, such as selling firewood (80 households), casual labor (35 households), construction (7 households), vending, and managing small general stores.

Roles in Agricultural Production

Table 1 (Heat Map of Who Does What) and Figure 15 below show that the women farmers in the 2 CSVs have the highest participation in agricultural activities. All the women (41) are heavily engaged in weeding, and majority of women are involved in land preparation, purchasing seeds, creating seedbeds, planting, harvesting, threshing, post-harvesting, processing and storage, and selling which are also done with men. Men predominate in purchasing and applying pesticides and fertilizers, in making bunds and building fencing.

One key finding in the study is that only Taungkhamauk (across all the six CSVs) have more women (90 percent) than men (82 percent) who are engaged in land preparation. This

finding shows in many dimensions of women's empowerment – decision-making on production, access to resources, control over income, group membership and leadership, time use and workload. The same observation of empowered women in Tangkhamauk was supported in the FGDs and confirmed in discussions with project staff in this village. In order to see the finer differences between the two Myanmar CSVs, data are shown separately for some variables.

Decisions: Inputs to Productive Decisions

Similar to the country analysis for the Philippine CSVs, there are four dimensions to measure women's empowerment in decision-making:

1. Decision on the roles (who does what) in agricultural production. Table 2 (Heat Map of Who Decides) shows that decisions on agricultural activities are mainly done by those who are doing them, hence the majority of men decide about pesticides and fertilizers, fencing; the majority of women decide on weeding, planting, harvesting, threshing, post-harvesting, processing and storage. Joint decisions are made mainly in land preparation, purchasing of seeds, planting, harvesting and selling.

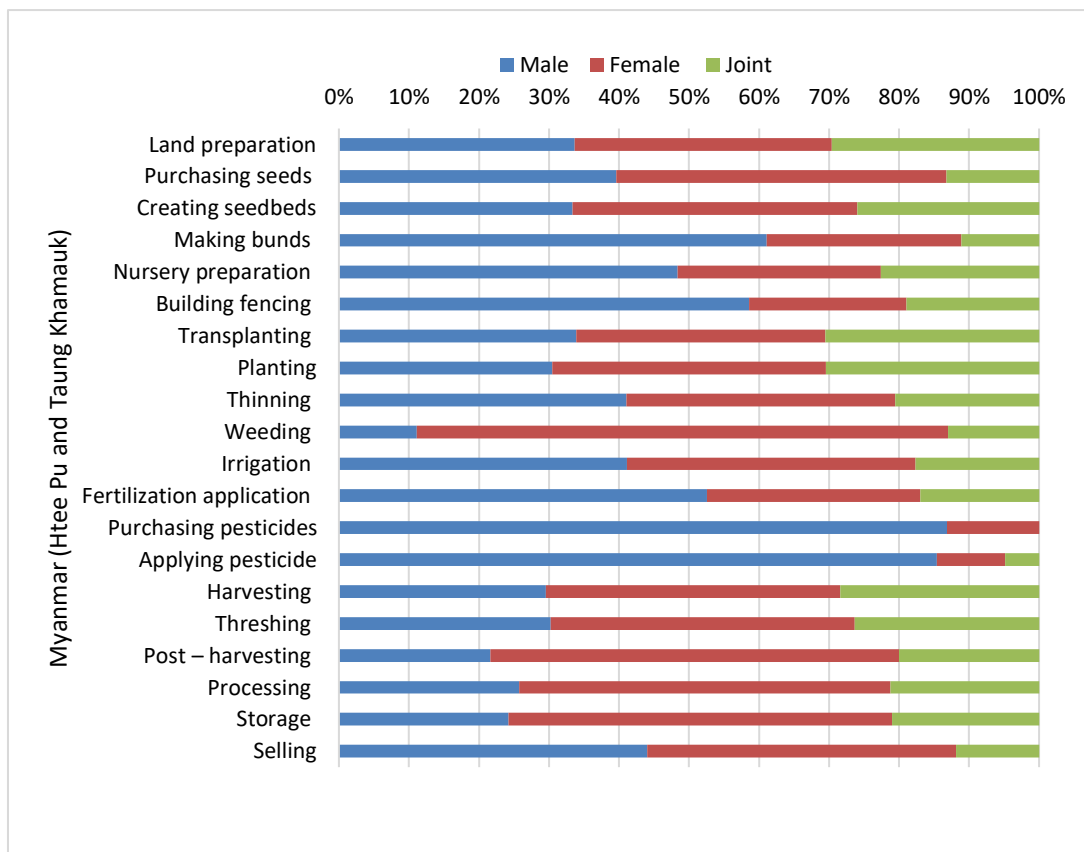


Figure 15. Role in agricultural production (Myanmar)

2. Decisions on Specific Farm Production and Non-Farm Activities. Figure 16 presents a picture of decision-making in the two CSVs. Similar to findings from other CSVs, women predominate in decisions relating to minor household expenditures, and going to training, and men are the majority in deciding on major household expenditure, and getting inputs for agricultural production. Specific to the two CSVs, women also scored higher in deciding on the types of crops to grow and taking crops to market.

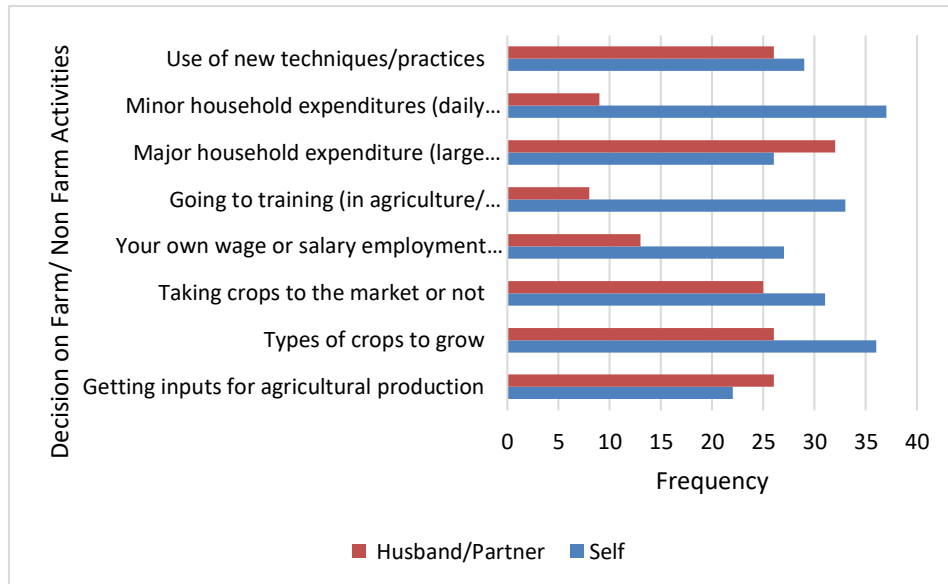


Figure 16. Decision on farm/non-farm activities (Myanmar)

- Extent of ability of a woman farmer to make own personal decisions on the activities if she wanted to. Figure 17 seeks to gauge women's preference of decision-making. The data shows that women prefer to make decisions jointly with their husband on production activities, such as agricultural inputs, types of crops, marketing and major expenditures. The same trend on minor household expenditure and going to training continues to be the preference, even if alternative options to think outside the box are presented to them.

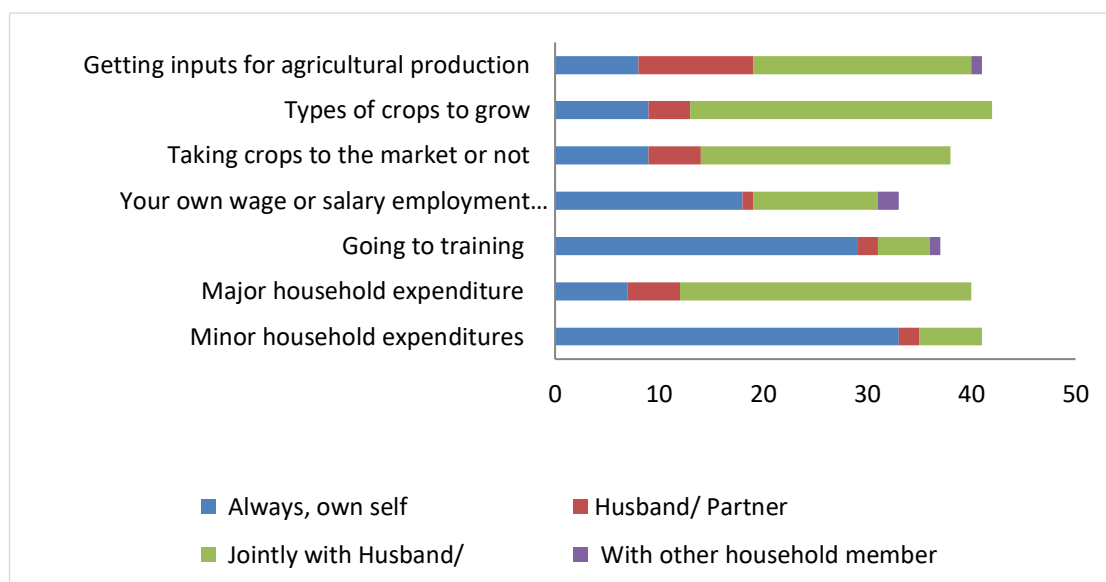


Figure 17. Ability to make personal decisions (Myanmar)

- Extent of input of women farmers on household decision-making around production. Data from Htee Pu and Taungkhamauk show very different findings, hence two sets of data were analyzed on these CSVs. The women farmers from Htee Pu perceive that they have the “most input” on deciding food crop farming for household consumption, and retailing/trading. They have “some input” in all the rest of the activities – cash crop farming, selling them at the market and using new techniques. (Figure 18).

In contrast, the women farmers in Taungkhamauk showed a high degree of empowerment in providing “most or all inputs” in all the household decisions pertaining to production. Very few perceived that they only had “some” or “few” inputs. (Figure 19). These findings are supported by the male and female FGDs in the Taungkhamauk village. Culturally, the women in the Shan State are known to be hard-working farmers who are actively involved in all phases of upland rice farming, the main crop in the CSV. Other factors that contribute to this finding is the nature of the agro ecology of the upland villages, the more labor intensive systems that need more family labor where women tend to be more involved in farm work. Men were also observed to have more wage/salary employment which puts more pressure on women to be engaged in production work.

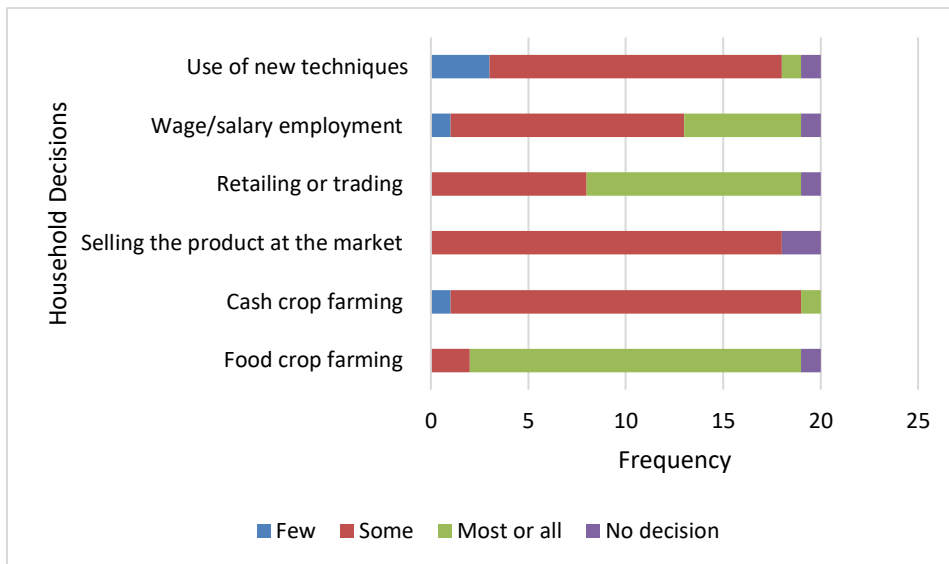


Figure 18. Input in household decisions on production: Htee Pu

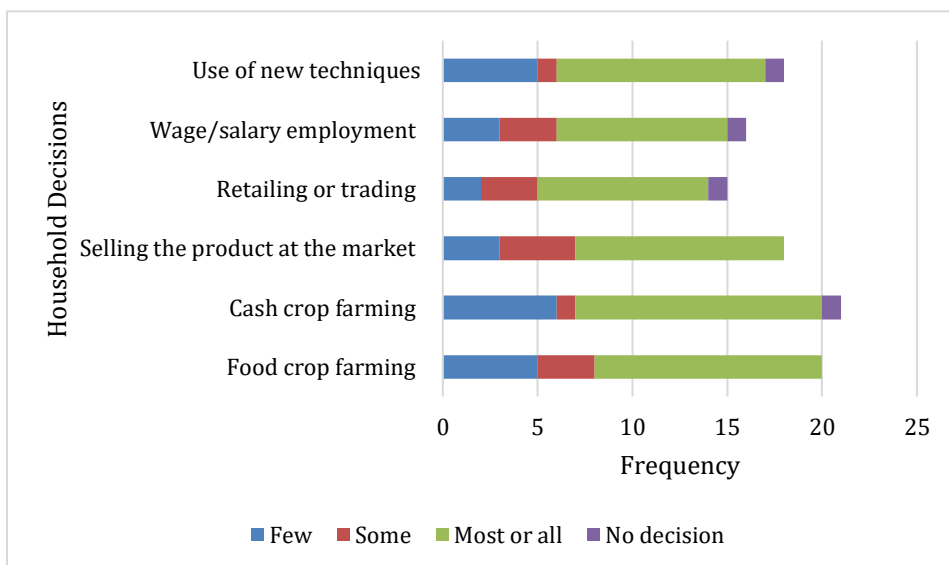


Figure 19. Input in household decisions on production: Taungkhamauk

Income: Use and Control

Similar findings are evident in the two CSVs. In terms of decisions on the use of income generated by the household, the women farmers in Htee Pu decide mainly on food crop farming and retailing income. In contrast, the women farmers in Taungkhamauk have a firm hold on the use and control of income, as shown in the comparative graphs below (Figures 20 and 21).

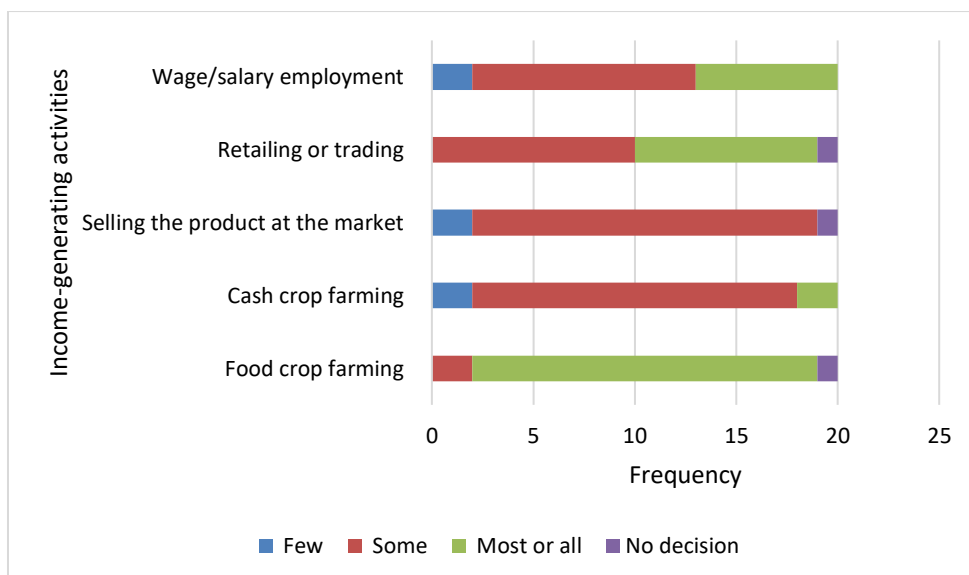


Figure 20. Input in decisions on the use of income: Htee Pu

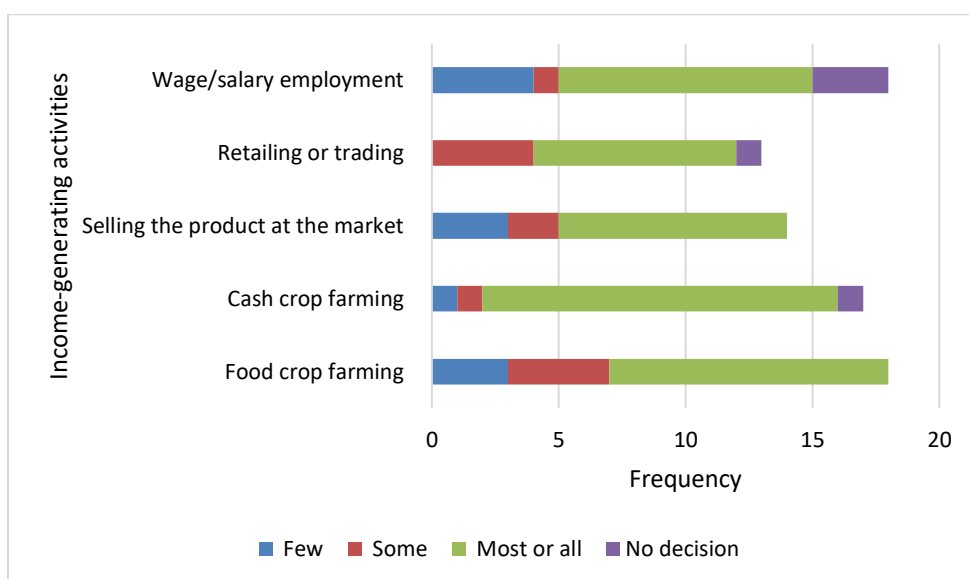


Figure 21. Input in decisions on the use of income: Taungkhamauk

Resources: Ownership of Assets

Data on asset ownership in the two CSVs show mostly joint ownership of assets between men and women farmers. Higher male ownership over women is shown in agricultural lands, large livestock, vehicles, and cellphones. (Figure 22). In the analysis of means in Table 8, there is a higher mean score for asset ownership for men in Htee Pu and higher mean score for asset ownership for women in Taungkhamauk.

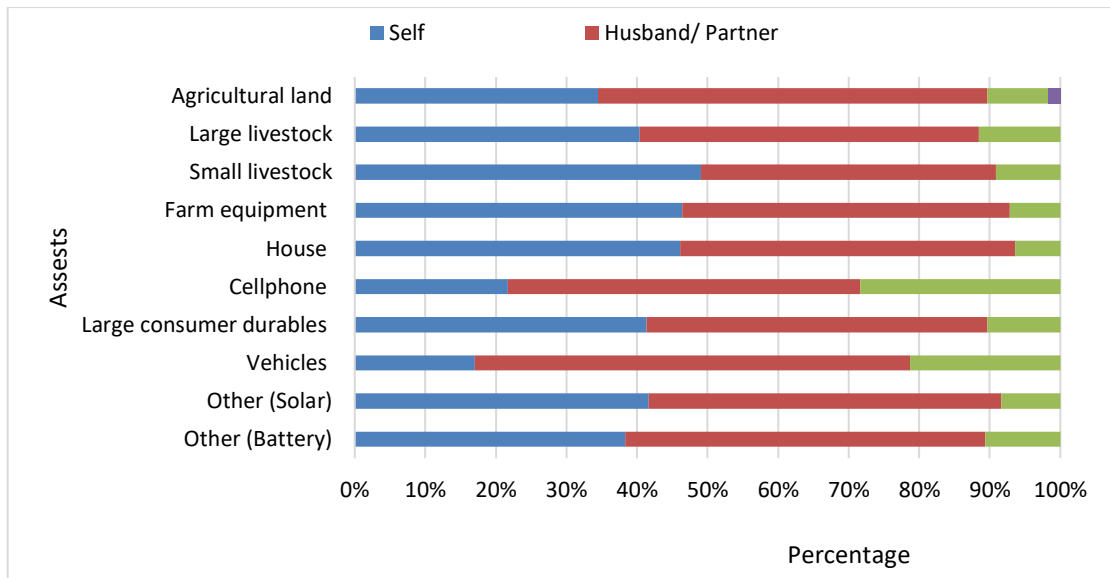


Figure 22. Ownership of Assets (Myanmar)

Summary of Findings: Country Analysis (Cambodia)

Profile of Cambodia CSVs: Korke Chrum and Me Pai (Table 17)

Korke Chrum is a farm village in the coastal province of Koh Kong, with a land area of 3,700 hectares, and is a designated Community Forest Area. ¹ Total population in the village is 1,092 and the majority are Khmer. Only 7 of the 40 women are Pnong. Farmers constitute 89 percent of the population, producing rain-fed rice once a year with an average yield of 1.5-2 tons per hectare, which is lower than the national average. Only 22 hectares in the village are irrigated. Female-headed households constitute 10 percent, and widowed families comprise 5 percent of the population who are classified as very poor. The village has one primary and one secondary school – 16 percent have primary and 12 percent have secondary education. In terms of economic status, 18 percent and 7 percent in Korke Chrum are classified as poor and very poor according to the Cambodia national wealth classification. (ADB, 2019)

Me Pai is located in upland province of Mondulokiri, the biggest and least populated province in Cambodia with 67,395 people, with an area of 14,288 km² and a population density of 5 persons/ km². About 80 percent of the population live in the province. Me Pai has a population of 2,492 (1,242 males and 1,250 females), and 606 households. (Table 17). Major crops produced in the province are rice, cassava, and beans; also produced are avocado, coffee and strawberry, and freshwater fish. (Sochanta, 2014).

The profile of survey respondents consists of – 20 women farmers in Korke Chrum and 20 in Me Pai. None of the women farmers are heads of households. Korke Chrum has a mean age of 44, with ages ranging from 28-60; 35 percent had no schooling, 45 percent had primary level, and 20 percent reached secondary school. Me Pai has a mean age of 41.5 and the age

¹ Cambodia's Forestry Law (2002) provides a legal basis for rural communities to use and help manage forests through community forestry under a Community Forest Agreement with community groups to conduct development activities and use community forest resources in a sustainable manner.

ranges from 24-59; 35 percent had no schooling, 60 percent had primary level and 5 percent had tertiary level. In both CSVs, 88 percent are married and 12 percent are widows.

Table 17. Profile of Korki Chrum and Me Pai

Profile	Korki Chrum	Me Pai
Agro-ecology	Coastal	Upland
Major Crops	Rain-fed rice	Rice, cassava, and beans
Township	Russey Chrum Commune Thmar Bang District	Pu Chrey Commune, Pech Chenda District
Province/State/Region	Koh Kong	Mondulkiri
Total households	258	606
Total Population	1,092	2,492
Female	525	1250 females
Male	577	1,242
Distance from nearest provincial town	20 kms	50 kms
Ethnic Group	Khmer	Khmer, Pnong
Climate risks	Floods, storm and storm surges, drought, and climate variability	Floods, storm, drought, and climate variability (flash flooding, heavy rainfall)

The CSA practices in the CSVs include rice, fruit and vegetables production, livestock raising, establishment of water users organization, and village savings groups, installation of small-scale irrigation systems, and capacity-building on leadership for farmers' organizations.

Dimensions of Women’s Empowerment: Korki Chrum and Me Pai

Livelihood in the CSVs

The primary livelihood in Korki Chrum is rain-fed rice farming. Its long-term crops include banana, durian, rambutan and custard apple, and livestock production is focused on raising chicken. Me Pai produces rice, cassava and beans, in addition to long term crops of avocado, pepper, banana, coffee, passion fruit, and pineapple, which are grown jointly by men and women farmers.

Roles in Agricultural Production

Table 1 (Heat Map of Who Does What) and Figure 23 below show that the women farmers in the 2 CSVs have less participation in agricultural activities, except for fertilizer application which is a sole women’s activity in this CSV. Men predominate in all the heavy work – land preparation, making bunds, building fencing, irrigation, applying pesticides and harvesting. The majority of agricultural activities are done jointly, especially in transplanting, planting thinning, purchasing seeds, threshing, post-harvesting, processing and storage/drying, which is the general pattern in these two CSVs.

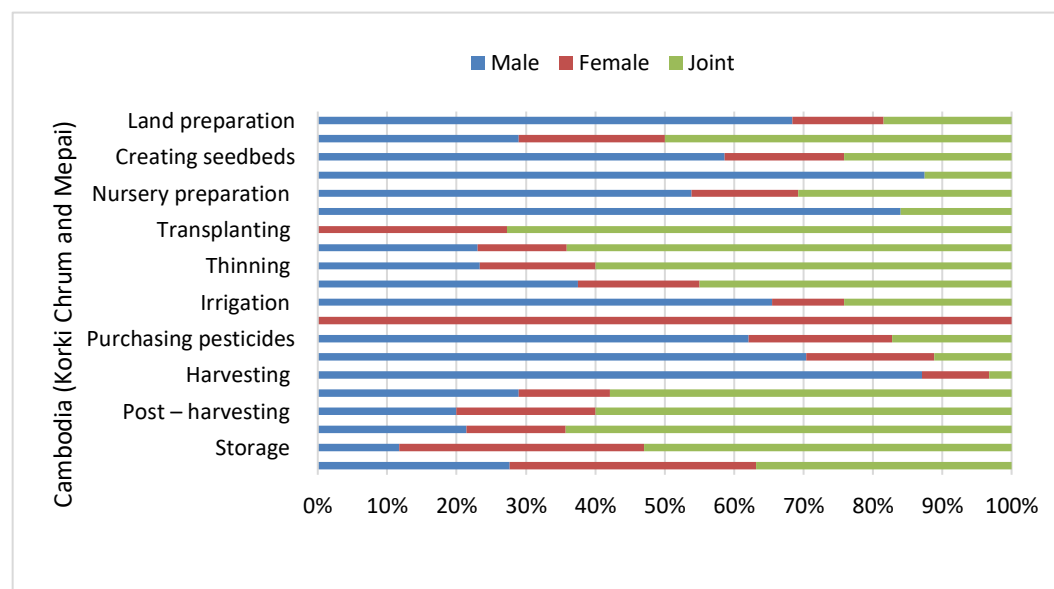


Figure 23. Role in agricultural production (Cambodia)

Decisions: Inputs to Productive Decisions

Following the country analysis for the Philippine and Myanmar CSVs, there are four dimensions to measure women’s empowerment in decision-making:

1. Decision on the roles (who does what) in agricultural production. Table 2 (Heat Map of Who Decides) shows that decisions on agricultural activities are mainly done jointly confirming the data in Figure 24.
2. Decisions on Specific Farm Production and Non-Farm Activities. Consistent with the findings in other CSVs across the three countries, women's decisions dominate areas relating to minor household expenditures which reflect their home-based activities, and going to training.

For the two CSVs, women also participate more than men on decisions pertaining to taking crops to market and deciding on types of crops to grow. Men decide more than women on the use of new techniques/practices and getting inputs for agricultural production.

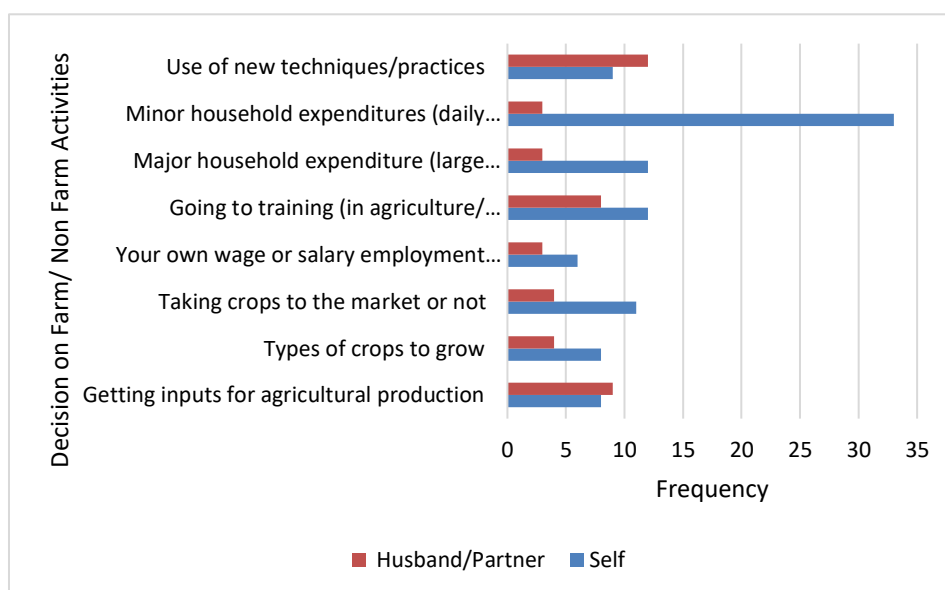


Figure 24. Decisions on farm/non-farm (Cambodia)

3. Extent of ability of a woman farmer to make own personal decisions on the activities if she wanted to. Compared to Figure 24, there are findings from Figure 25 that show Korki Chrum and Me Pai women farmer's preferences on decision-making, given an option to decide on their own. While women dominate in decisions relating to minor household expenditure, the data also shows their preference for husbands to make decisions or decide jointly with them on household expenses. The same

preference for joint decision-making shows in the other activities, most notably on decisions pertaining to own wage and salary (where men often have a higher say), major household expenditures, getting inputs for agricultural production and types of crops to grow.

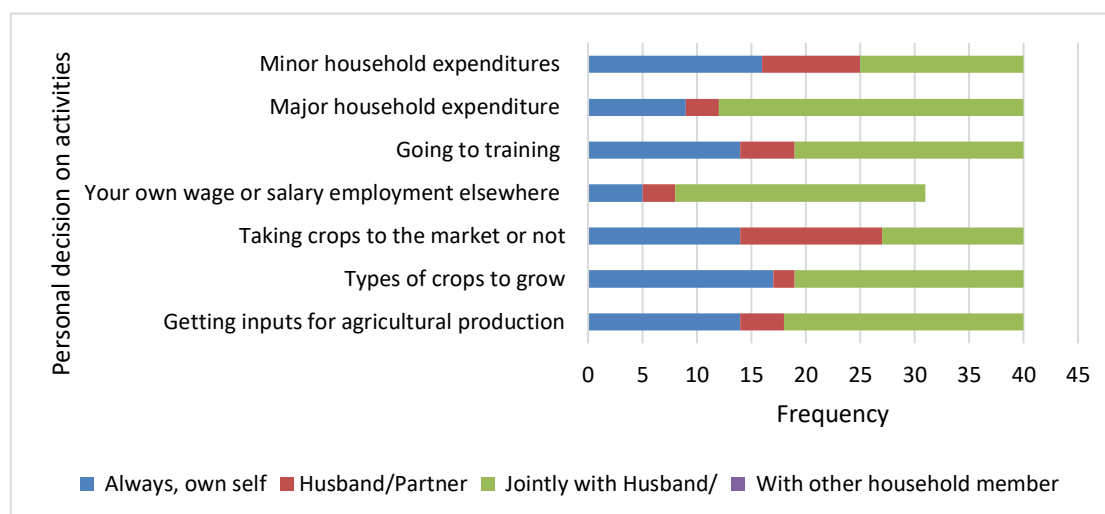


Figure 25. Ability to make decisions (Cambodia)

- Extent of input of women farmers on household decision-making around production. Data from Figures 26 and 27 compares the extent of input of women farmers in Korki Chrum and Me Pai on decision on production at the household, an important dimension of women’s empowerment. Korki Chrum shows a pattern where “most” women participate in decisions related to food crop farming for household consumption, cash crop farming and selling them at the market. More women in Korki Chrum, however, have “no decision” regarding wage/salary from employment. In contrast, Me Pai’s women farmers exhibit a higher level of decision-making (“most/all) in all the activities, except for the use of new techniques and practices. Comparing the two CSVs, it appears that the women farmers in Me Pai are more empowered than the women in Korki Chrum.

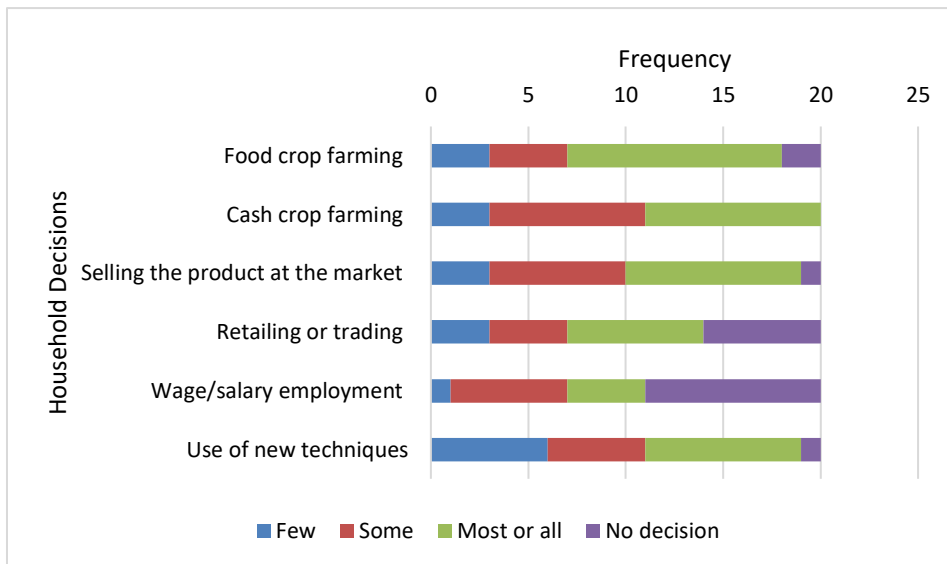


Figure 26. Input in household decisions on production: Korki Chhrung

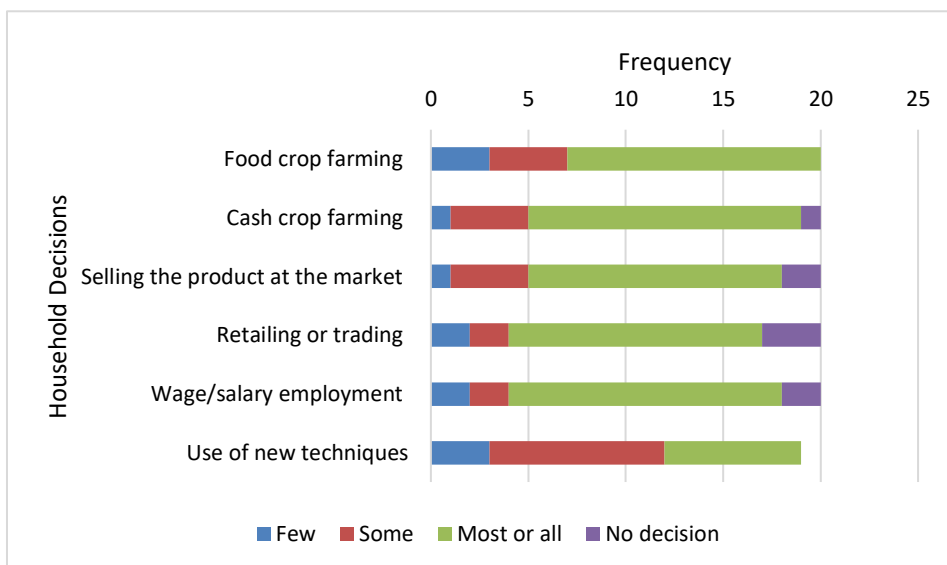


Figure 27. Input in household decisions on production: Mepai

Income: Use and Control

Figures 28 and 29 present a comparative picture of the two CSVs on inputs to decisions on the use and control over income, another critical dimension of women’s empowerment. Korki and Me Pai have the same pattern of “most or all” inputs to decisions on food crop farming. Compared to Korki Chrum, more women farmers show a consistent pattern of providing “most/all” inputs not only in production decisions, but also in the use and control over income, including from wage/salary employment. In contrast, women farmers in Korki Chrum show “no decisions” on the use of wage and salary.

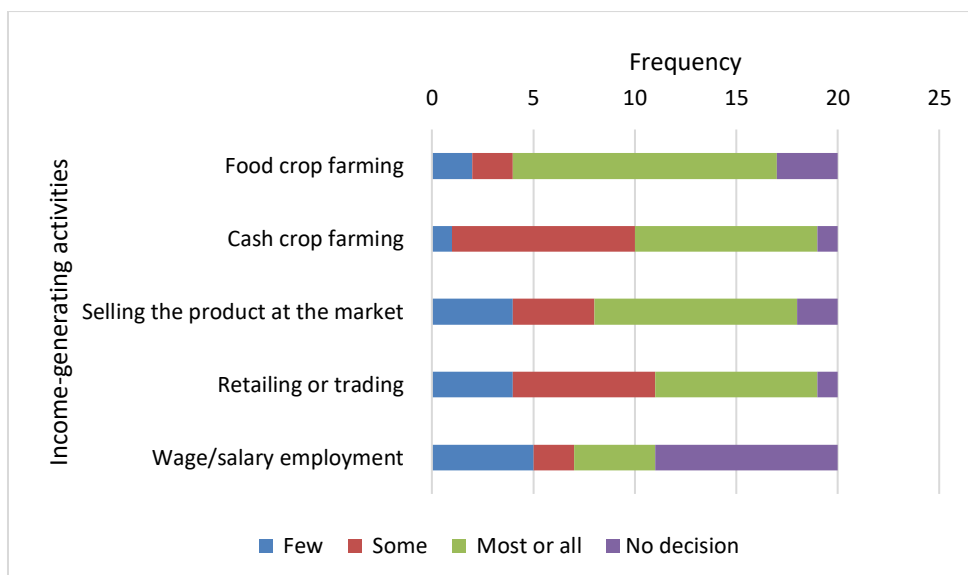


Figure 28. Input in decisions on the use of income: Korki Chrum

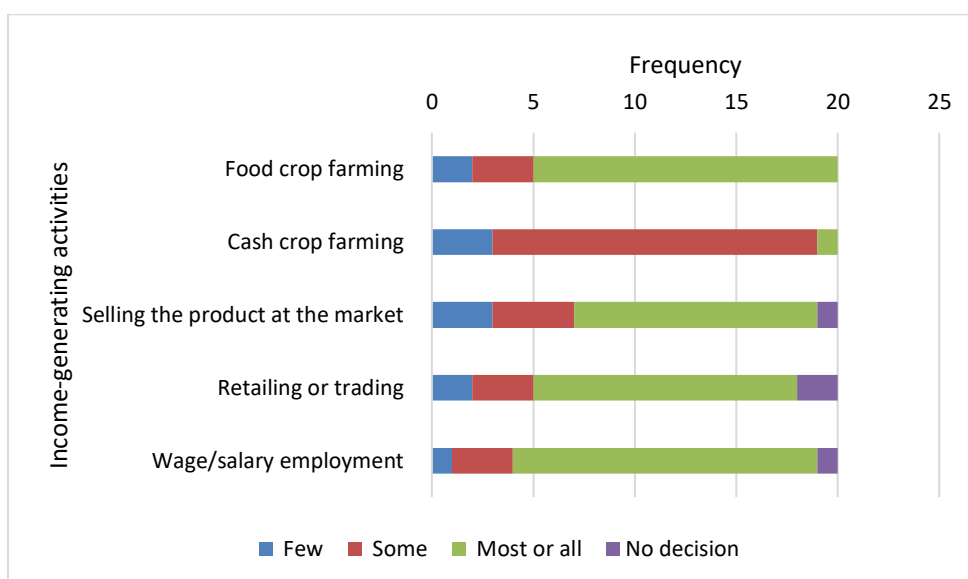


Figure 29. Input in decisions on the use of income: Mepai

Resources: Ownership of Assets

Table 8 shows in the means analysis that there is joint ownership of majority of the assets among the husbands, wives and other household members (parents, brothers, sisters, others). Figure 30 also supports this finding for the two CVSs. Only a small portion of the assets are owned by women farmers. This also means there is more joint decision-making about the use of these assets.

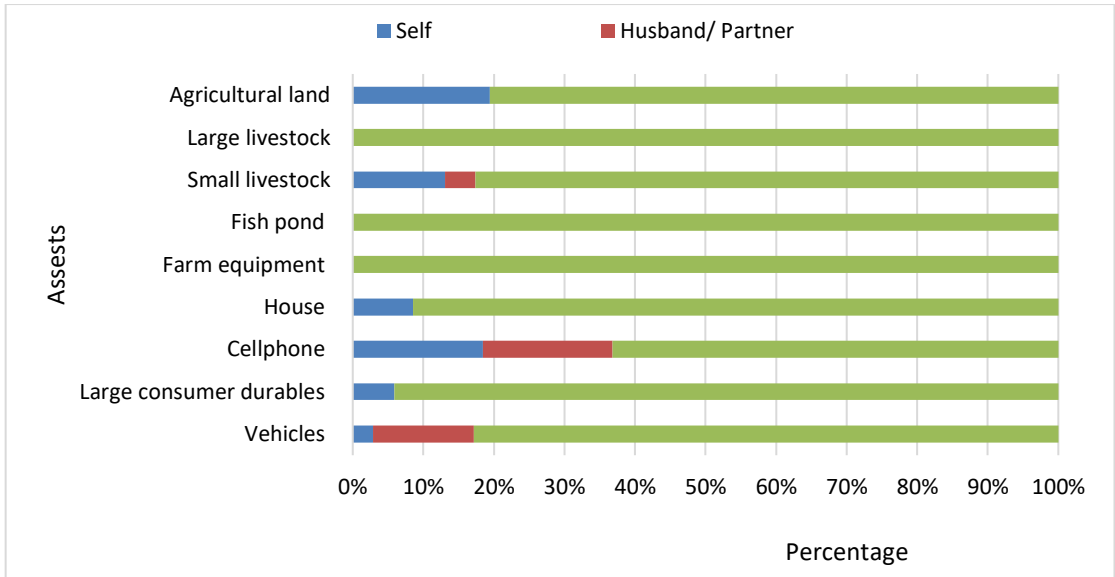


Figure 30. Ownership of assets (Cambodia)

Conclusions

The notion of a farmer is a male in all these countries in this gender study, and the traditional notions of farming most commonly consider farming as a male function. However, women employed in agriculture consist of 28.5 percent in the Philippines, 44 percent in Myanmar, and at least 50 percent in Cambodia. Social norms recognize men as household heads who are vested with considerable authority and are largely expected to make most decisions. Gender stereotypes reinforced by strong social norms define men's and women's roles in the household, creating a productive and reproductive divide. Production is mainly men's responsibility and reproductive and care work is women's household responsibility. Women predominate as unpaid family workers whose production work are undervalued, and where their economic contributions in the agricultural sector have largely remained invisible.

In Cambodia, women are the primary labor force in farm work yet, the active role of women in the agricultural sector is largely unrecognized. Social attitudes in Cambodia favor men in every aspect of life, and are deeply rooted in Cambodian society. Traditional stereotypes that assign women less power than men in decision-making processes. In Myanmar, patriarchal cultural values related to women's roles and responsibilities influence family relationships, limiting women's participation in decision-making. Male superiority is assumed to be a natural and abstract quality that gives higher authority and status to men. The expectation that males are leaders, combined with the social expectation that women play supportive roles, is entrenched in daily Myanmar life. In the Philippines, despite the veneer of equality among women and men, women's actual contribution to food and agricultural production remains undervalued. Access to land, technology, extension services, capital, and infrastructure support tend to favor rural men. Even with laws supporting gender equality, only a third of women own certificates of land ownership.

Hence, in line with the development hypothesis of this gender study on women's empowerment stating that: "IF women farmers adopt and practice CSA options and earn income to contribute to the household, gain increased knowledge, skills and experience about agricultural production, increase participation and have more inputs in decision-making at the household and at the community, THEN women farmers can be empowered,

with the ability to make decisions and act on them, even within the landscape of restrictive social norms, below are the conclusions that support this postulation. Also presented are conclusions on the situation of women, constraints and challenges in their journey towards women empowerment.

- Evidence of contribution of CSA to women's economic empowerment: The gender study provides clear evidence that the adoption of CSA practices have contributed to women's economic empowerment. Women farmers in the CSVs increase their incomes from higher yields with the application of their new knowledge and experiences that women farmers have gained from CSA, and resource inputs (quality seeds and livestock) from IIRR. Notable is the impact of women's increased income and contribution to the household, their increased participation in joint decision-making on production and major household expenditures, and more active participation of women in training, meetings and community activities. These evidences are described further below.
- Benefits from women's participation in CSA: With income as a measure of women's economic empowerment, women's increased income and contribution to household from CSA options (homestead gardens and small-scale livestock raising) not only empowered the women farmers to have a seat in the decision-making table, it also bolstered stronger husband and wife and family relationships, and contributed to more shared decisions and problem-solving in the household, compared to before. Having more income also contributed to women's active participation and involvement in social and religious activities in the community; and children being able to go to school. In terms of impact on community participation, together with more knowledge about the CSA practices, women are now more actively participating in training and becoming more vocal during meetings.
- Perceived income levels measured in a 10-point scale before and during the CSVs, showed that the CSA portfolio or basket of options approaches in the CSVs have been instrumental in increasing incomes by 32-135 percent doubling incomes among the six CSVs, and in providing income sources where there was

previously minimal or none. This conclusion is congruent with the results of two other studies conducted by IIRR in the Philippines and Cambodia which showed that the adoption of a CSA option (native pigs) has similarly generated positive net incomes

- Roles in agricultural production: Work and livelihood opportunities for men and women are strongly linked to gendered norms, and gender-based division of labor. Across the CSVs, the heavier tasks of land preparation, building fencing, making bunds, irrigation, purchasing and applying pesticides are done by men. The lighter or less physically demanding work are done by women, such as weeding, post-harvesting, processing, storage and drying, and selling. Joint activities are done frequently when planting and transplanting, harvesting and post-harvesting, purchasing seeds, among others.
- Country profiles of farm work: Myanmar CSVs have the most number of agricultural activities that are performed by women, with many done jointly. Cambodia and the Philippines have significantly more men dominating farm work. Culturally, women in the Philippines are generally less involved in heavy agricultural work, citing the challenges of physical endurance and strength. However, women work jointly with men in planting, weeding, harvesting and purchasing seeds. More women farmers in the Philippines identified themselves as housewives, not as farmers, as their occupation, which reflects the mindset that some rural women perceive themselves as non-farmers who perform more reproductive roles in the household and less production roles in the farm.
- Higher participation in agricultural production of upland women farmers: Women farmers in the Taungkhamauk (Myanmar) and Me Pai (Cambodia), which are both upland CSVs, predominate in farm activities (including land preparation which is a dominant male activity), and non-farm activities. Findings from other studies on women in the uplands found that the higher participation was due to the nature of agro ecology, farming system and commodity profiles. Because of the rugged ecology, use of manual tools, more labor-intensive systems that need more family labor, particularly in bigger upland farms, and subsistence farming

for food crop production, women tend to be greatly involved in farm work that mainly relies on family labor. An observation provided in Taungkhamauk is that most men are engaged in wage and salary employment which makes the women responsible for agricultural production. In Me Pai, the increased involvement of women in upland rice production was bolstered by the agricultural training provided specifically for women by the government of Cambodia.

- Decision-making on agricultural production: The pattern of decision-making is task-based, depending on who is performing the task. Women predominate in food crop farming for household consumption, and small-scale livestock production, and in decisions relating to minor household expenditures (food and basic needs). Among the CSVs, women farmers in the upland (Taungkhamauk) who have higher participation in agricultural production also have a higher level of decision-making in activities pertaining to types of crops to grow and taking crops to the market; deciding on one's own wage or salary from outside employment, going to training and the use of new techniques/practices. A positive picture that emerges is that more joint decision-making by women and men farmers is being done in all the CSVs.
- Perceived ability to make their own personal decisions vs. actual inputs to decisions: Majority of the women farmers seem more confident to make decisions relating to production activities jointly with their husbands and not on their own ability, except for minor household expenditures, going to training, and deciding on their wages. This could be because all the women farmers are non-heads of households, and social norms dictate that decisions are made by the heads of households. Compared with actual inputs to decisions, upland women farmers (Taungkhamauk and Me Pai) showed higher ability. For other CSVs, the ability increases as they gain new CSA knowledge and experience, e.g. on planting different varieties of peanut cultivars, and production of small livestock.
- Income use and wage equality: In all CSVs, men have control on decisions over production income and spending for major farm and household expenditure;

and women have control over minor expenditures such as daily household needs, even if they manage the income of the households (as budget planners and keepers of income). Women's inputs on decisions are higher in food crop farming for household consumption and selling of surplus of homestead gardens to the market. On wage equality, men and women farmers in all CSVs are not paid equally, averaging 30 percent less, even for similar work. Reasons are that men do heavier physical work, are faster and multi-taskers, and use more energy at work, while women have less capacity and physical endurance for farm work. Some men (Myanmar CSVs) will not accept work if wages are equal to women.

- Similarities and differences in spending patterns. Similar patterns were noted on spending for the next season. Differences are evident in women's spending for the needs of the household, children's education, health care, and savings/investment in gold jewelry (sold at time of need). Men spend for farm inputs, farm equipment and house improvement, in addition to leisure expenditures. Men have no savings as incomes are turned over to their wives.
- Access to resources and ownership of assets: Across the CSVs, land ownership by men remains the norm, aside from ownership of farm equipment and vehicles. Equalizing land ownership is a critical issue for women. Ownership of this asset is a form of economic power, which can be transformed into bargaining power of women within the household. Social norms on inheritance, land registration under the name of household head, lack of knowledge of land rights impact on land ownership for women across CSVs. All other assets, including the house, large and small livestock, large consumable and cell phone are owned jointly by the women with their husbands or other family members. Women farmers in Taungkhamauk have higher ownership of assets -- houses, farm equipment, large consumables, and livestock. Access to resource inputs from CSV served as impetus for women farmers' livelihood.
- Access to credit: Women are the main borrowers in agricultural households as they have greater access to microcredit and are under strong pressure to bridge resource gaps. Borrowing, mostly from friends, relatives and savings

associations, is part of women's normative responsibility to provide for the needs of the family.

- Women's group membership, leadership and participation: Majority of women farmers are active members of an agricultural cooperative, producers group, savings group and non-government organizations. Higher education contributes to women's leadership in community organizations. Literacy is key to leadership in the CSVs. Capacity building and support of the husbands are the key enabling factors to increase women's participation. An unintended negative consequence to increase women's participation outside the home is the reduction of time for the family that could lead to conflicts between the husband and wife.
- Time poverty and workload of women farmers. Time poverty contributes to women's lack of capacity to participate and improve their productive skills. Women experience a greater degree of time poverty than men, working 15.2 hours per day for housework, farm work and wage employment. The highest work hours is in Taungkhamauk at 18.8 per day. Men's involvement is critical in balancing the workload of women farmers. Men are willing to help only if their wives are not available to do housework. In the Myanmar and Cambodia CSVs, women farmers work more hours doing farm work (5-7 hours), compared to women farmers in the Philippine CSVs, who spend the most number of hours doing housework (6-7 hours), as most of the women have no wage work.
- Negative experiences of women farmers in the CSVs: While there are many benefits derived from the CSA options, women are at the same time burdened with increased workload doing household chores, homestead gardening and raising livestock (feeds and caring for native pigs, chickens, goats and ducks); time use conflicts in attending meetings, training, housework and productive work; less time for family which sometimes leads to family conflicts; more unpaid debts from savings groups; and challenges in dealing with disease problems of chickens, causing decrease in incomes. While the challenges are the daily reality of women farmers, majority remain positive as the benefits outweigh the costs.

- Climate change impacts. The biggest constraints that men and women farmers face are caused by climate change impacts. Climate variability impacts on the low yield of agricultural production due to the prevalence of diseases and pests, and weeds exacerbated by weather changes. The increase in temperature leads to pest and disease outbreaks. In Myanmar CSVs, the disease outbreaks have caused chicken deaths (H1N1) which have become seasonal due to climate changes. The irregular rainfall and climate variability (late or early onset and withdrawal of monsoon) were also cited as shifting the sowing season and poor germination of seeds.
- Impact of Covid-19 pandemic. The impact is all-encompassing for both women and male farmers, but may impact on women more, as they are in charge of food provisioning and health care of the household. Added to the women's household burden were the children who are not in school and need to be tutored in online classes (Philippine CSVs). Many CSA options provided the women with effective Covid-19 adaptation strategies, including consuming products from homestead gardens instead of selling; reserving food for the longer term lockdowns, stocking more seeds, fertilizers and other inputs; increasing animal raising, and maintaining good relationship with the buyers. Hence, no major household food security issues were faced by the CSVs, as the severe impact of food shortage was alleviated by vegetable gardening, and small livestock. This is congruent with the findings from another study on COVID-19 impact on local food systems in CSVs in the same countries. Results showed that rural and traditional food systems of agriculture-based villages continued to operate with minimal adjustments during the course of COVID-19 restrictions, despite significant perceived changes in the availability and prices of certain food groups. Complementary and diverse food production, together with access to informal food outlets, were vital parts of the local food systems and played critical roles in supplying food commodities to the population during the COVID-19 pandemic.

Recommendations: Implications for Women's Empowerment in CSVs

Women's empowerment is about the process by which those who have been denied the ability to make strategic life choices acquire such ability. It is a dynamic process: resources enable women to have agency, or the ability to make decisions, through which women can achieve outcomes. Women's economic empowerment (WEE) is the capacity to generate income for themselves and their families, to make and act on decisions that involve control over economic and financial resources. WEE matters because of gender inequalities in the division of labor between paid and unpaid work, and in access to valued resources and opportunities, where women have less of.

Below are some recommendations that spring from the findings and conclusions of the gender study, with particular focus on its implications in maintaining and strengthening the gains and benefits from CSA options that advance women empowerment in CSVs.

- Providing assistance to improve adult literacy of women. Data from the study showed that in Taungkhamauk, 35% of the women farmers had no schooling, 60% were in primary level; 35% in Cambodia CSVs had no schooling, 52% were in primary, and 80% in Htee had primary level of education. While adult literacy may not be a concern of the IIRR, reading, writing and numeracy are crucial to empowering women. Should there be a plan for future expansion of CSV activities, this is one activity that could be included to assist women farmer. The positive correlation of perceived income level and education showed that the higher the level of education, the higher is the perceived income before and during the CSVs. Experience in southern Philippines on adult literacy programs in remote island provinces showed that three months of training adult women will enable them to learn basic skills, using practical pedagogical approaches, such as teaching numeracy by doing household budgeting.
- Increasing gender awareness and providing gender sensitivity training for male leaders. Support from and dependence on the husbands were identified as key

enabling conditions to support the ability of women farmers to make their own personal decisions on both farm and non-farm activities. Male engagement is one of the critical pillars in women's empowerment. As many of the agricultural production decisions are made jointly by women and men, the project may consider providing gender awareness and sensitivity training for both men and women farmers in the CSVs. A strategy that worked in a project in Myanmar was for women to identify male gender champions in the village and for the project to provide them with gender trainer's training to enable the male gender champions to train other men in advocating for gender equality and to be more supportive of women. The KIIs with the male gender champions in Agmalobo and Malocloc Sur cited that "as men of the house, we must be responsible and be considerate of our wives," "help them in doing chores, like feeding the pigs," "we need to entrust them with leadership roles with no discrimination, as women are capable leaders," "because of the project, my wife became an active farmer and now helping me to make decisions related to farming," and "the support of every man is necessary." One of the suggested methodologies for awareness raising in the Philippines is thru radio programs as most men are averse to attending meetings.

- Ensuring that community activities consider women time use and workload. Development partners often express concern and sensitivity to time use and workload, so that projects do not add on to women's work hours and work load burden, even if women cited that they do not mind the added work hours if they contribute to increase in incomes. To advance women's empowerment, gender equality and broader social inclusion in agriculture and food systems, there is a need for agriculture programs and interventions to analyze and consider the constraints, gaps and barriers to women's empowerment, develop and implement a gender action plan on how they can be addressed, including what specific dimensions of women empowerment need to be targeted to foster greater inclusivity within the agricultural sector.
- Scaling-up access to markets and market information. One of the disappointments of men and women farmers cited in the FGDs was the low prices that are offered by sole or only a few collectors of their farm produce for the amount of effort and high

input costs that they put into production. The project can explore links to other direct buyers from markets that are within reachable distance from the villages. Agmalobo and Malocloc Sur are less than 3 kms from the nearest center (Ivisan municipality); Taungkhamauk is 20 kms away from Nyaung-Shwe Township and Htee Pu is 35 kms away from Nyaung-Oo Township; Korki Chrum is 20 kms away from Russey Chrum Commune, and Me Pai is the farthest at 50 kms from Pu Chey Commune. One strategy is to train the male and female farmers to use social media (mostly Facebook) to get market information on current prices of products to leverage better terms with collectors, and directly connect with buyers.

- Strengthening women's savings association. Majority of women farmers are members of savings associations from where they could borrow loans for farm inputs and household maintenance. The association provides an opportunity to occupy leadership positions. If the project or other organizations in the CSVs are not yet providing skills training for women leaders in managing their associations, adding training on women's leadership and financial management would be good to support. One FGD mentioned the closing of a savings association because of non-collection of members' loans, which created anxiety and fear to join similar organizations. Other development partners provide incentives to savings associations by providing matching grants in cash or in kind (e.g. training, setting up of office systems).
- Sustaining the adoption of CSA options. Key to sustaining the continuing adoption of CSA options is ensuring the increase in incomes resulting from these practices. For women in the CSVs, one way of optimizing the income potential of current CSA is to intensify vegetable production, livestock raising within homesteads (the area where most women have control over with). The goal is to optimize production to move beyond subsistence to surplus creation for trading.
- Increasing women's knowledge by providing more opportunities for participation. Women's participation is key to sustaining the CSA/CSV implementation. Increased knowledge of CSA and women's participation were cited as one of the benefits of the project. Some women farmers cited that there is a need for proper scheduling to

ensure that the timing of meetings, training, and activities will enable women to participate. Other gender studies on time use found that the most appropriate time for outside activities are from 2:00-4:00 pm, not in the morning when household work, including sending children to school, and feeding small livestock are at its peak. Other strategies that work include sending invitations by name, or setting quota for women's participation in areas with low women's participation. (Verzosa, 2020).

- “Up-skilling” of women and men farmers in performing their production roles. Increasing the incomes of men and women farmers are also linked to increasing knowledge and capacities in performing their production roles and internalizing CSA options as a norm. It could include more knowledge about conservation agriculture in doing land preparation with minimal soil disturbance to preserve soil structure, soil fauna and organic matter to protect the soil, or integrating livestock and crops (such as using free range chickens to eliminate Army worms), or implementing more effective integrated pests management techniques in response to the pest problem. For women and men, it could be developing organizational skills to create producer groups who can negotiate better farm gate prices. Additionally, women could be provided with more skills on new technologies and practices, as well as strengthening budgeting and income management.
- Sustaining women's spaces in CSVs. As women and men in the CSVs practice more CSA options such as those now being done in the farms that helped increase their incomes, the challenge is sustaining these options before the CSV project ends. In all CSVs, women's spaces are found in homestead vegetable gardening and small livestock raising (chickens, native pigs and goats). One strategy is using Social and Behavior Change Communication (SBCC), which provides a road map for changing behaviors and social norms that impact on women. SBCC is a set of interventions to encourage and reinforce positive behaviors, such as the continuing adoption and practice of CSA options. A good SBCC strategy also ensures that the households and communities work together to give women farmers more space and normative environment to apply their new knowledge and continue to sustain their gains and benefits from the CSVs.

- Collaboration with the local government to sustain CSV good practices. A proven sustainability strategy in most development projects is to ensure the continuing collaboration of the project with the local government, particularly its agricultural office and staff. To ensure institutional support and commitment, CSV project funds can also be leveraged with local government resources, such as the provision of agricultural extension services, seeds and seedlings, or government spaces as demonstration sites, among others. The goal of the collaboration is to ensure ownership by the local leadership when the project ends and to sustain the good CSV practices and benefits from the CSV. This strategy has been adopted in the Philippines CSVs, where the Department of Agriculture provides free seeds to farmers, and extension services are being provided by its Municipal Agricultural Officers.
- Promoting CSA options as household adaptation strategy to cushion the impacts of COVID-19 pandemic. Data from FGDs cited that during the pandemic, the households of women farmers survived from the impact of COVID (food shortage, high cost of food, loss of income) because of the two CSA options -- homestead gardens and small livestock that provided them with food for the household, enabled them to share or sell vegetables to their neighbors, and reserved food for extended lockdowns as a critical COVID adaptation strategy. In the absence of these food provisioning strategies, the impact of the pandemic could have severely impacted the CSVs.

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