

Women's Role in Household Decision Making around Farming and Climate Change Adaptation utilizing Climate and Weather Information

Wilma C. De Los Santos

Faculty Member

Mindoro State College of Agriculture and Technology

Abstract:- Women play important roles in agricultural production, hence, in some cases, women's contribution to agricultural production and economic development is not fully recognized. This study assessed the role of women in household decision-making around farming and livelihood activities and climate change adaptation utilizing weather and climate information. Quantitative data collection through face to face interview was conducted in 324 rice farming household respondents in Victoria, Oriental Mindoro. Descriptive statistical analysis was applied to assess the role of women in household decision-making. Results show that the majority of women (59%) already participate in almost all the decisions. The husband considers his wife as an influencer and partner in the decision making and allows his wife to take the lead and have an input in almost all the decisions in some of the activities. Women are powerful in deciding routine household purchases and food preferences. Almost half of the household women (49%) participate in certain types of adaptation activities. They have input in most or all decisions when it comes to making houses more resilient to flooding and typhoon. However, there are a number of women who do not participate in decision-making. It is still the male who decides for almost all major household activities. To fully realize women empowerment and strengthen their participation and inputs in decisions, the study recommends policies and programs to improve women's capacity and devote full representation in the decision-making process in planning and implementing agricultural-related programs integrating climate change adaptation utilizing weather and climate information.

Keywords:- Women's Role, Household Decision Making, Farming and Livelihood Activities, Climate Change Adaptation, Weather and Climate Information.

I. INTRODUCTION

Farming is one of the largest sectors of women's employment in the Philippines. Rural women are engaged in a variety of production and caring farm activities, (Koirala, 2015). Agriculture plays a significant role in the Philippine economy, (FAO, 2001). The participation of women in the economic welfare of the family is crucial. Their active participation at all levels of decision-making is significant to achieve equality and peace in the family as well as the

country, (Rezapour, 2015). The full participation and partnership of both women and men are required in a productive life. Women in the Philippines are active economic actors in micro-manufacturing enterprises and trade of agricultural products. Hence, most of the time, wives are traditionally less involved in major household decisions, especially in economic activities. Usually, men or husbands decide for major household activities. In some cases, the role of women is not recognized and therefore, is hardly not accepted in decision-making, (Rashid, 2011). In most developing countries, women's actual contribution to food production and the rural economy remains undervalued due to which women have less access to productive resources. Quisumbing et al. (2014), stated that agriculture is underperforming because half of its farmers—women—do not have equal access to resources and opportunities. Moreover, climate change is emerging as a new threat to agriculture. The adverse impact of climate change on agriculture means an extra hardship for farming activities which are often carried out by women and they often lose the capacity to sustain their families' livelihoods, (Paris, 2009). According to Koirala, (2015), female-headed households have higher production value compared to male-headed households. We have to learn how to adapt to the changing climatic condition, (Tompkins and Adger, 2003), and empowering women is one of the strategies in adapting to climate change. An empowered woman to make decisions about farm operations is more productive in agriculture knowing that female-headed households are a growing phenomenon in the Philippines. Consequently, the role of women in agriculture needs to be recognized (Koirala, 2015), empowerment of women is essential for the achievement of sustainable development, (PSA, 2009).

This study assessed the participation of women in household decision-making around farming and climate change adaptation utilizing climate and weather information. An in-depth interview using structured questionnaires was conducted to generate primary data in selected rice farmers of Victoria, Oriental Mindoro, Philippines. The participation of wives in decision making along with farming and other livelihood activities and in accommodating climate change adaptation strategies utilizing weather and climate information is explored. This study helps readers to understand the existing women's roles in household decision-making around farming and other livelihood and climate change adaptation activities in the municipality of Victoria.

This supports the government's advocacies to empower and strengthen women as one of the potential partners of the local government in securing household food and in attaining sustainable development around the sector of agriculture. The general objective of the study is to analyze the role of women in household decision-making in farming and other livelihood activities and climate change adaptation utilizing weather and climate information to support in empowering women as one of the potential partners of the government in agricultural development. The specific objectives are 1. Identify the participation of women in farming and other livelihood activities and in accommodating climate change adaptation utilizing weather and climate information; 2. Determine the decision-maker around farming and other livelihood activities and in accommodating climate change adaptation utilizing weather and climate information; 4. Understand the degree of input of women in the decision making for farming and other livelihood activities and in accommodating climate change adaptation utilizing weather and climate information; 5. Recommend policies and actions on improving women's role in household and key decision-making bodies.

II. THE CONCEPTUAL FRAMEWORK OF THE STUDY

The study assessed the role of women in household decision-making. It sought to understand the participation of women in the decision making for farming and livelihood activities and in accommodating climate change adaptation strategies. During the survey, women were asked about their participation in certain types of work activities and on making decisions on various aspects of household life. Respondents were asked if they participate in certain types of work activities and on making decisions on various aspects of household life such as 1. staple grain farming processing and trading; 2. vegetable and other crop farming, processing, and trading; 3. Livestock raising, processing, and trading; 4. swine raising and processing, 5. poultry and other small animal raising; 6. fishing, processing and trading, 7. non-farm economic activities; 8. Large, occasional household purchases, and 10. Routine household purchases (food for daily consumption or other household needs). While for the adaptation activities utilizing weather and climate information, the respondents were asked about the following parameters: 1. Undertook improvements to make the house more resilient to flooding and typhoon; Harvesting of vegetables and other crops (including abaca and coconut) earlier than scheduled; 3. Moved livestock, poultry, and swine to a safe place; 4. Moved farm/fishing equipment to a safe place; 5. Joined savings-credit group/cooperative and considering insurance; 6. Pursued other means to generate additional income; 7. Making sure to check the weather updates especially before planting, fertilizing, and harvesting of vegetables and other crops. 8. Consider the weather forecast in our farming activities (planting, weeding, fertilizing, harvesting) 9. Consider climate forecast in our crop choice, planting calendar, and levels of farm inputs use 10. Consider the weather forecasting in transporting our crops (vegetables, cut flowers, rice, and corn) 11. Consider climate projections in our land-use decisions and long-term farm investments. Respondents chose an answer - yes or no, when

decisions are made, a question of who is it that normally takes the decision is being asked, and how input did women have in making decisions about the activities. The collected data were analyzed and the results were the parameters in drawing up policies and priority actions to improve the role of women in household decision making.

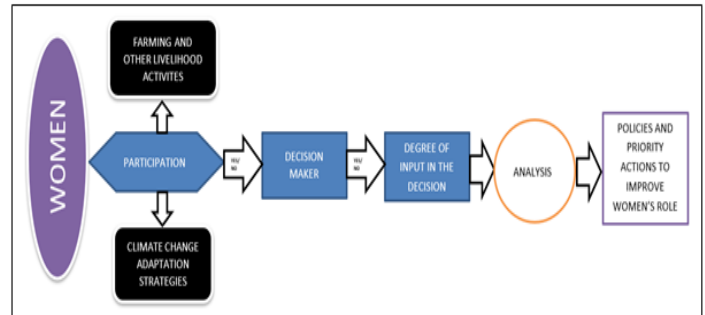


Figure 1. The Conceptual Framework of the Study.

III. METHODOLOGY

Description of the Study Area

The study was conducted in the municipality of Victoria, Oriental Mindoro. The municipality is the 3rd top rice producer in the province. Victoria covers a total land area of 25,494.4219 hectares and has a total of 32 barangays, 5 of which are urban, while the rest are considered rural. The economic base of the municipality is basically agricultural with almost 30% of its total land area being utilized for the production of different crops and agricultural commodities. Victoria utilized about 11,773.58 hectares of the municipality's agricultural area. About 45.60% of the agricultural lands are devoted to rice farming, (LCCAP, 2017-2022, Municipality of Victoria).

Data collection and Analysis

The study used primary data collection. The collection was facilitated through a household survey of 324 randomly selected farmers in Victoria, Oriental Mindoro, Philippines. The 324 respondents were selected through random sampling using the Cochran formula to calculate the ideal sample size. A structured questionnaire was utilized in the field interview. The questionnaire elicited information on women's participation in household decision making in farming and other livelihood activities and in accommodating climate change adaptation strategies utilizing climate and weather information. The collection of data was conducted from July to August 2019. The study used ex-ante quantitative data collection and qualitative data analysis. Descriptive and simple statistical analysis using Microsoft Excel were applied to analyze and describe the involvement of women in different household decision making specifically in farming, other livelihoods, and climate change adaptation activities utilizing weather and climate information.

The Research Process Flow

The research was made possible through the project of the Australian Centre for International Agricultural Research (ACIAR) titled, "Action Ready Climate Knowledge to Improve the Disaster Risk Management of Smallholder

Farmers in the Philippines,” funded by the South Australian Research Development Institute (SARDI). This study is part of the overall objective of the project, involving women to improve the disaster risk management of smallholder farmers in the Philippines. The study process includes capacity building and training, hiring of services, proposal writing, data collection, and analysis. To facilitate primary data collection the project hired and trained enumerators. Supervisors were hired to supervise the enumeration and facilitate quality checking and cleaning of the collected data before being handed to the hired encoders for encoding (Figure 2).

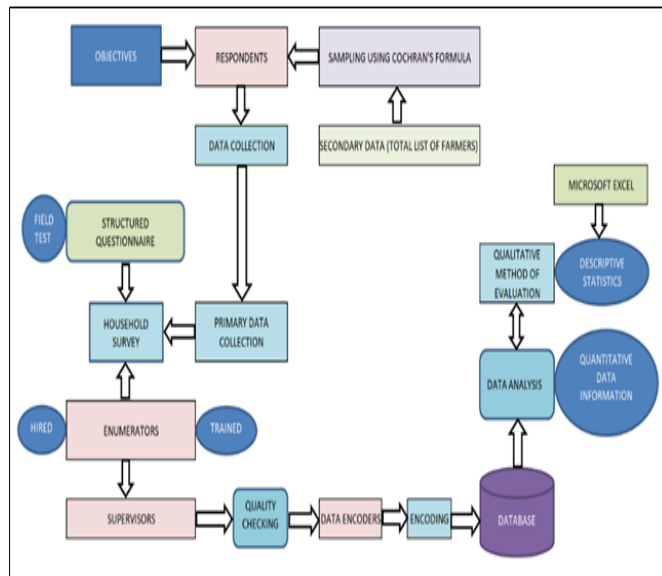


Figure 2. The Research Process Flow.

IV. RESULTS AND DISCUSSION

1. Participation of women in farming and other livelihood activities and in climate change adaptation utilizing weather and climate information.

The result shows that the majority of women participate in all farm and livelihood activities in the family. 194 respondents said that they participate in staple grain farming (rice), processing, trading or marketing of produced grains; in vegetables and other crop farming, processing, trading or marketing, in large, occasional household purchases (motorcycles, land, transport vehicles, heavy farm equipment) and in routine household purchases (food for daily consumption or other household needs). While, 192 respondents agreed that they participate in non-farm economic activities in other sectors (running a small business, self-employment, buy-and-sell) and in livestock raising (cattle, buffaloes) or processing, trading, or marketing of milk, meat, or meat products. On the other hand, 189 respondents said they participate in swine raising or processing, trading, or marketing of meat or meat products and in poultry and other small animals raising (chickens, ducks, turkey) and processing, trading or marketing of eggs, meat or meat products. Lastly, 187 respondents agreed that they participate in fishing, fishpond culture or processing, trading, and marketing of fish or seafood products (Figure 3).

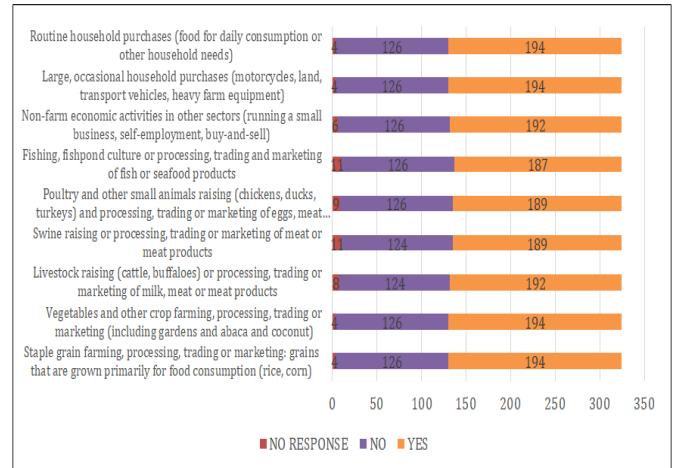


Figure 3. Participation of women in certain types of activities, (Source: Household survey, 2019)

1. Participation of women in climate change adaptation utilizing climate and weather information.

The participation of women in certain types of adaptation activities utilizing climate and weather information was identified. The result shows that the majority of the women participated in the decisions pertaining to climate change adaptations utilizing climate and weather information (Figure 4). 161 women are participating in improvements to make their house resilient to flooding and typhoon; harvesting of vegetables and other crops earlier than scheduled; in the decision for making sure that weather updates were checked especially before planting, fertilizing, and harvesting of vegetables and other crops; consider weather forecast in farming activities and crop choice, planting calendar and levels of farm input use and lastly consider weather forecasting in transporting crops. 160 respondents said that they participated in joined savings-credit group/cooperative and considering insurance. 159 respondents agreed that as a wife they participate in moving livestock, poultry, and swine to a safe place, moving fish/farm equipment to a safe place, and in considering climate projections in land use decision and long-term farm investments. 157 women participate in pursuing other means to generate additional income.

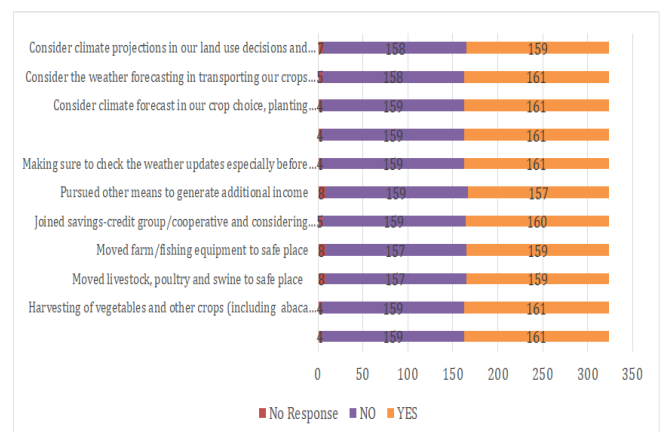


Figure 4. Participation of women in adaptation activities utilizing climate and weather information, source: (Household survey, 2019).

2. *The decision-maker in Different Livelihood and Farming Activities and in accommodating Climate Change Adaptation using Climate and Weather Information.*

2.1. *Farming and other livelihood activities.*

The household respondents were asked who normally takes the lead in decision making in each activity. Results show that the majority of women or 160 respondents decide about the routine household purchase for their family's daily consumption or other household needs, while there are males who also decide on this activity. While there are a number of women who decide for other activities, hence, it is the male who normally takes the decision for almost all major activities. There are also instances where both decide for a certain activity and some members inside the family. The table shows the number of respondents in each livelihood and farm activity.

2.2. *Climate Change Adaptation Strategies.*

On matters relating to making decisions on climate change adaptation, results show that the majority of the respondents expressed that the major decision-maker in almost all climate change adaptation activities is the male household head. Though there are some women who decide on some of the activities like harvesting earlier than scheduled and moving livestock, farm, and fishery equipment in a safe place, it is still the male who normally takes the decision in almost all the adaptation activities. There are also instances where both are deciding on the matter and some other members of the family.

3. *Degree of Input of decision*

3.1. *Farming and other livelihood activities.*

Respondents were asked about how much input they contribute to making decisions with regards to the different farm and livelihood activities. Parameters in input decisions such as little to no input in decisions, input into some decisions, and input into most of all decisions were used to measure the degree of the women's contributions in decision making. Results show that the majority of the respondents said that women have input into some of the decisions when it comes to farming and livelihood activities. In all activities, decision pertaining to staple grain (rice) farming, processing, and trading has the major response where 64 women have input in almost all decisions, the majority (81 women) have input into some decisions and other (46 women) have little input and in routing household purchases (food for daily consumption). While routine household purchases (food for daily consumption) or other household needs have the second-highest responses (59) where women have input in almost all decisions, the majority (77 respondents) have input into some of the decisions while 44 have little to no input. In all the activities, women have less to no input in fishing and other aquaculture activities, it is because most of the respondents do not venture on fishing or any aquaculture activity. Result also shows that the majority of the women do not have input in almost all the decisions in farming and livelihood activities.

3.2. *Climate Change Adaptation Activities.*

Respondents were asked how much input women contribute in decision making in different adaptation activities. Results show that the majority of the respondents agreed that women have input in almost all decisions when it comes to climate change adaptation activities. In all the activities, the majority of women (71) have input into most or all decisions, other women (59) have input into some decisions when it comes to making house resilient to flooding and typhoon and in considering climate forecast, planting calendar and levels of farm inputs used. Other adaptation activities where women (64) have input in most or all decisions are considering climate forecast, planting calendar and levels of farm inputs use, and in considering weather forecast in farming activities.

V. **SUMMARY, CONCLUSION, AND RECOMMENDATION**

The study assessed the participation of women in household decision-making around different farm and livelihood activities and in accommodating climate change adaptation activities utilizing climate and weather information. The results show that women participate in almost all household decision-making. An average of 191 household respondents agreed that women participate in decision making in farming and other livelihood activities. An average of 125 respondents agreed that women do not participate in decision-making. An average of 160 respondents agreed that women participate in decision making in climate change adaptation activities while an average of 158 household respondents said that women do not participate in decision-making. Women have input in almost all decisions inside the house. The results indicate that women play an important role in decision making inside the house. It is not only the husband that decides in all the activities but also women have the influence in household decision making. Of all farm and livelihood activities, women have a major role with regards to routine household purchases which include their food for daily consumption or other household needs. In this kind of activity, women normally take the lead and have authority on food preferences and household purchases. Another activity where women have a major role is making decisions with regards to joining a saving-credit group/cooperative and considering insurance and in the decision pertaining to pursuing other means to generate additional income. They have input in most or all the decisions in making their house more resilient for flooding and typhoon.

This study finds some modification in the previous literature, for instance, Rashid, 2011 said that women are traditionally less involved in major household decision making and the role of women is not recognized and hardly not accepted in decision making, (Rashid, 2011), in this study, majority of the respondents (59%) agreed that women already participate in the decision making when it comes to farming and livelihood activities. Nevertheless, when it comes to climate change adaptation only 49% of the total respondents agreed that women participate in said activities, still the results show that the role of women is already

recognized inside the house. Though women are not the decision-maker in almost all major household decisions, husbands consider wives as an influencer and partner in almost all the decision making. Moreover, husbands allow wives to take the lead in some of the decision making especially in farm and other livelihood activities and in accommodating climate change adaptation. The study conforms to the literature that says women participate in farming decisions to a great extent and have their own areas of authority. Women also have major decision-making power in regard to what to feed their families. And contradicts that men generally have a greater say in regard to credit and loans because results show that more than half of the respondents agreed that women have input in almost all the decisions pertaining to joining credit group/cooperative, (FAO, 1992).

The study revealed that there is a certain percentage where women do not participate in the decision making in farm and other livelihoods (38%) and in climate change adaptation (48%), this study recommends to fully recognize and strengthen women's participation and capacitate them in the decision-making process in agricultural-related programs and projects integrating the utilizing weather and climate information with the following policies and priority actions: 1. Strengthen women's role in power and decision-making by giving them greater voice in agricultural development and economic upliftment integrating the use of weather and climate information in farming and climate change adaptation strategies; 2. Boost their leadership and political participation and raise awareness by providing skills training to help build their capacities and education on new farm technologies and climate change adaptation utilizing weather and climate information, by this, they can contribute better inputs in the decision-making; 3. Involve women and capacitate them in different income generating activities aside from their usual household activities to enhance the level of their participation and help sustain their families' livelihoods; 4. Support women by recognizing and implementing gender equality policies to ensure women's participation in key decision-making units; 5. The LGU must initiate to organize women's association focusing on agricultural development and integrating rice farming and climate change adaptation utilizing weather and climate information; 6. The LGU must initiate to give women equal access to resources and opportunities in the community specifically focusing on agricultural productivity integrating climate change adaptation utilizing weather and climate information, such as attending to meetings, seminars, and conferences, planning, and implementation of agricultural-related programs and projects; 7. Strengthen women's role in the areas of activities where their inputs and decision power is less and not considered; 8. Conduct continuing studies about improving and strengthening women's role in household and key decision-making bodies which can potentially uplift the economic status of every family and contribute to sustainable development in the country.

REFERENCES

- [1]. Akter, S., 2017. Women's empowerment and gender equity in agriculture: A different perspective from Southeast Asia. *Food Policy* Volume 69, May 2017, Pages 270-279.
- [2]. Ani, P., Casasola, H., 2020. Transcending Barriers in Agriculture through Gender and Development. Philippine Council for Agriculture, Aquatic and Natural Resources Research and Development (PCAARRD).
- [3]. Baba, I.B. et.al., 2015. The Role of Women in Household Decision-Making and their contribution to Agriculture and Rural Development in Nigeria. *IOSR Journal of Humanities and Social Science (IOSR-JHSS)* Volume 20, Issue 5, Ver. 1 (May. 2015), PP 30-39 e-ISSN: 2279-0837, p-ISSN: 2279-0845. www.iosrjournals.org
- [4]. de Vries, F.W.T.P. (1993). Rice production and climate change. In: de Vries F.P., Teng P., Metselaar K. (eds) *Systems approaches for agricultural development*. Springer, Dordrecht/Hanssen, S., 2017. *Smallholder Farmers' Livelihood Security Options amidst Climate Variability and Change in Rural Ghana*. Sampson Yamba, Divine O. Appiah, Lawrencia Pokuua-Siaw, and Felix Asante
- [5]. FAO, 1992. Role of Women in Agriculture. <http://www.fao.org>.
- [6]. Hwang, J.I., et.al., 2011. A comparative Study on Women's Role in Intrahousehold Decision-Making in Korea and the Philippine Rice Farming Households. *Journal of Rural Development* 34(4): 117-136.
- [7]. Haque, S., et.al., 2017. Contribution of women to household income and decision making in some selected areas of Mymensingh in Bangladesh. Department of Agricultural Economics, Institute of Agribusiness and Development Studies, Bangladesh.
- [8]. Koirala, Krishna H., 2015. The Role of Gender in Agricultural Productivity in the Philippines: Average Treatment Effect. <https://www.researchgate.net/publication/269698647>.
- [9]. Kuiper, M. et.al. 2007. Rural Livelihoods: Interplay between Farm Activities, Non-Farm Activities and the Resource Base. Volume 2017, Article ID 1868290, 10 pages. <https://doi.org/10.1155/2017/1868290>
- [10]. Paris, Thelma Romero, 2009. Women's Roles and Needs in Changing Rural Asia with Emphasis on Rice-Based Agriculture. Social Science Division International Rice Research Institute (IRRI), Los Baños, Laguna, Philippines
- [11]. Parry, Jo. Et.al., 2005. Climate Change and Adaptation. International Institute for Sustainable Development (IISD)
- [12]. Rashid, M.U. et.al., 2011. Women's Participation in Family Decision Making in Dumki Upazila of Patuakhali District. Dept. of Agricultural Extension and Rural Development & 2Dept. of Management Studies, Patuakhali Science and Technology University, Dumki, Patuakhali, Bangladesh. Email: murashidpstu@yahoo.com

- [13]. Rezapour, Z., Ansari, H., 2014. Studying the factors associated with women's participation in family decision making (Case study: Northern Khorasan, Iran). Department of Women and Family Studies, College of Faculty of Humanities and Social Sciences, Tehran Science and Research Branch, Islamic Azad University, Tehran, Iran.
- [14]. Shrestha, R. 2018. Climate Change Adaptation Strategies in Agriculture: Cases from Southeast Asia. Science for Agriculture and Rural Development in Low-income Countries pp 77-95
- [15]. Tompkins, E.L., and Adger W.N., 2003. Building Resilience to Climate Change through Adaptive Management of Natural Resource.