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Gender Dynamics in the Palay and Corn Production Project of MMSU

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ABSTRACT

Gender role has always been overlooked of its importance, hence, this study was conducted to examine the participation of those handling the projects for the last 5 years from laborers to the chief or director in the agribusiness. In here, we determined the profile of those involved in the production activities in terms of education and experience; sought to determine who are more involved in this production activities; what specific role they do in this specific project; who does what and who is more vulnerable in the implementation of this project; and, aimed to determine the extent of the gender role in the activity. Qualitative and quantitative research was used.

The study was conducted using a one-group after treatment survey research design. It involved investigation of the Agribusiness under production system with reference to the data that were gathered previous years before 2017. A descriptive statistic was used such as frequency counts, percentages and means to treat all the data collected. The independent variables were grouped into each activity of the project and the dependent variables were the gender role.

Keywords: Gender Dynamics, Gender Role, ,Gender Inclusive, Women-Friendly, Acceptable Behavior

Rice and corn are the main staple food in the Philippines. Around 55% of total agricultural land was planted to these crops in 1984. It is also a staple food for half of the global population and provides 20 % of the world's dietary energy, which is higher than that of wheat and maize. Smallholder farmers are the primary rice producer in Asia, and Africa under small-scale system. Increase in rice yields came from increase in productivity but that in corn mainly from expansion in production area. Modern varieties, fertilizers and irrigation contributed to rice productivity in irrigated areas involving resource-rich farmers. The government goal is to achieve and maintain self-sufficiency in these staple foods. The universal concern and challenge is how resource-poor farmers can produce and earn more. Rice plays crucial role in global food security, economic growth, employment, and the livelihoods of millions of people in developing countries.

Technological change can generate major social benefits, but it can also generate significant socio-economic challenges for both men and women because they have different responsibilities in agricultural production systems, including rice farming. These differences in gender roles are not always obvious, but they must be recognized if rice production is to be increased, especially among small-scale farmers.

Effective, sustainable rice production that provides food security to all people depends on gender roles being fully understood and considered in policy, planning, research and extension. Gender analysis is therefore an important tool in the development of rice farming. It identifies gender roles and responsibilities, indicates how much time different household members devote to different tasks (and why) and shows how these tasks change according to the season and the time of day. (https://gehweb.ucsd.edu/wp-content/uploads/2019/11/factsheet91.pdf)

Gender in agriculture is more than the disaggregation of data based on sex. It goes beyond the realms of the mere number of men and women farmers. The deeper issues such as the impact of social dynamics and identities, technological changes, research, and opportunities in understanding equality and social inclusion. It is to explore the more complicated components behind the issue of gender equality and inclusion to achieve transformative change.

These include how social dynamics and identities shape the rice-based food systems; the effects of technological change on gender; the implications of research, policy, and gender-responsive practices; and the opportunities and gaps in the understanding of equality and social inclusion in these systems. Hence, gender roles are partly the result of local ecosystems and farming practices, and can change over time. (https://www.irri.org/news-and-events/news/experts-explore-deeper-underlying-issues-behind-gender-and-youth-roles)

In Philippine palay and corn farming, women play significant roles, both as hired laborers and agricultural operators. While men are more common as agricultural operators, women are actively involved in various farming activities, including seedling preparation, planting, harvesting, and post-harvest handling. They contribute significantly to both subsistence farming and the larger agricultural economy.

At the Mariano Marcos State University (MMSU), rice and corn production, are the main crop being planted at MMSU's vast agricultural area. There are about more than 10 has. being planted with palay and corn during their seasons, hence people are needed during these times.

Generally, this study sought to evaluate the contribution of gender role on the production aspect in palay and corn project

Specifically, it aimed to

a. determine the profile of those involved in the project in terms of education and experience;
b. determine who are more involved in these university production activities:
c. determine the specific role they do in these production projects;
d. determine who does what and who is more vulnerable in the implementation of production activities; and,
e. determine the extent of the gender role in the production activity.

Expected Deliverables

1. Documented gender role in palay and corn projects
2. Established database
3. Linkages with different units
4. Publication

Significance

While we will try to use an accounting framework on gender roles in the palay and corn projects, this rese-

arch mapped out human activities to depict the differentiated roles that men and women significantly play in the palay and corn production under agribusiness project.

Review of Literature

"*Despite empirical evidence, women have not been perceived as farmers and farm laborers and, historically the reference farmers has always been male. Consequently, the traditional target user-beneficiaries of technologies, agricultural information, extension services, training, credit, organization, as well as policies have always been male farmers"* (Castillo, 1986).

"Of the total 7.41 million agricultural operators in 2022, 5.59 million (75.4%) were males while 1.82 million (24.6%) were females. This translated into a ratio of about three male agricultural operators for every one female agricultural operator." (https://psa.gov.ph/content/2022-census-agriculture-and-fisheries-agricultural-households-and-operators)

Gender and Sustainable Agriculture

Addressing gender inequality is essential to achieving sustainability in agriculture. High levels of inequality make it harder to increase productivity and reduce poverty and hunger. Countries where incomes are highly unequal have, on average, lower levels of land productivity and are more prone to food insecurity. These inequities are slowing many countries' progress toward Sustainable Development Goal 2 (SDG2) to "end hunger, achieve food security and improved nutrition and promote sustainable agriculture" by 2030. Gender inequality undermines progress toward sustainable agricultural development across multiple dimensions. (https://www.ifpri.org/blog/achieving-agricultural-sustainability-depends-gender-equality)

Relatively, the broad evidence from the literature on women's roles in agriculture shows that gender inequality slows development. Policy-makers and international organizations cannot ignore the interests of women agriculturalists if they are to have an impact on household and national food security. Akter et al. (2017) find that women are ten times more likely than men to invest their income in the health, education, and nutrition of their children with long-term effects on human capital formation and economic security. In analyzing gender roles and their impacts on agriculture, the specific context is of great importance. No single policy initiative will be effective in all settings (Kassie et al., 2015; Taukobong et al., 2016). But simply focusing on support for men's contributions to agricultural production will clearly leave major sources of agricultural output flowing form women's labor untouched. Reducing gender inequality is a critical element in promoting agricultural development in low-income countries. https://agecon.unl.edu/cornhusker-economics/2018/does-gender-matter-agriculture

Rights and Status of Women Farmers

The word "farmer" invariably implies a male farmer. When women farmers receive a rare mention they are usually disguised as "housewives" or farmers' wives. Policy statements which do not specifically include women farmers automatically exclude them. This kind of thinking persists on the part of both male and female policy analysts. An inclusive policy statement has, therefore, to be explicit in saying "men and women," or "male and female farmers" if the planners are then going to address the needs of each, and make sure that both are reached directly. Generic terms like "agricultural labourers" are not acceptable in a gender-sensitive policy statement, unless it is meant to address only the men. Rights to equal

participation on paper can only come alive if the relevant policies and plans reinforce those rights by spelling them out.

In most countries legislative changes have been made to facilitate women's rights to inheritance and ownership of land, but in practice they still have great difficulty in realizing the benefits which should flow from this. The same is true of credit programmes. Where women's direct access to agricultural credit was previously barred, many women found the de jure rifling of these barriers did little to change their de facto situation. Furthermore, many bankers themselves were party to these infringements by commission or omission. In Thailand, for example, it was necessary to change the legal term from a "housewife" to "woman farmer" to allow her access to agricultural credit. Even so, it remains rare for rural women to independently take official loans. Among a potential clientele of proven, bankable clients, little has been done by mainstream financial institutions to create an environment in which rural women feel welcome in agricultural and development bank credit departments.

After the lifting of legal constraints, therefore, institutions have to adopt facilitating policies and practices to promote the participation of women according to their rights. Their lower status and self-esteem will otherwise act as powerful constraints to their participation, a situation not always recognized as a major reason for women's failure to take advantage of newly-won rights, even when they themselves have fought for those rights. Facilitating policies will accommodate such realities as those where women farmers need special considerations which recognize their dual and triple responsibilities in "productive and reproductive" work, their lower education, their lack of mobility, lack of access to capital, and socio-cultural constraints imposed by caste, purdah, class and religion.

(https://www.fao.org/4/x0177e/x0177e04.htm)

Gender differences in the planting of diverse crops are affected by multiple factors, including attitudes toward crop diversification, rural social relations, farmers' resources, decision-making rights and access to knowledge and information). Male farmers generally have more land, capital, social status, and easier access to credit and education than female farmers. They have more decision-making power and more knowledge of crop diversity practices than female farmers. In most developing countries, women are passive in implementing crop diversity practices and in decision-making mainly because of constraints due to their social status, as well as capital, knowledge- and inequality when communicating with government, non-governmental organizations, and other farmers.

The issue of gender in agriculture has had an increasing interest for many investigators across the years because the debate on the role of women in economic development, as well as the double burden that they encounter form both housework and agricultural work. The terms and conditions of women's involvement in the economic sphere are important issues that continue to dominate the debate on gender relations In other words, the new developments led to an increase in the number of women in the labour force, but the impact on their quality of life and decision making processes is still to be felt. Gender has been demonstrated to permeate the different aspects of production and life in the agricultural setting of various countries and cultures. Men and women work together, but they have been shown to work differently across various tasks. The sexual division of labor has long existed. Traditionally, men are thought to be the stronger, more active sex and are therefore expected to perform labor-intensive and manual tasks. In agriculture, this usually involves activities such as plowing, harvesting and threshing. Women, on the other hand, have conventionally been considered as more emotional and less physically adept. Their stereotyped tasks therefore usually include household maintenance, taking care of children, marketing and others. In agriculture, most women are delegated to light work such as weeding or manuring felt. This

work related specialization and differentiation has been seen across cultures and has its roots in evolution. Evolutionary researchers have posited that men's focus on hunting and women's aptitude for gathering are for the realization of potentially conflicting mating and parenting goals. Brain-wiring studies have also linked sex differences in spatial and cognitive abilities to sex-specific foraging activities (PanterBrick, 20-02).

Intergrating Women in Farming System of Rice

The farming systems approach views the farm as a complete system and focuses on the interdependencies among these components under the household's control and examines how these components interact with physical, biological and socioeconomic factors beyond the household's control. This approach involves a description of the local farming systems and identification of its constraints; reviewing existing technologies and techniques to overcome these constraints and selecting, testing and tailoring these technologies to the conditions in which men and women work. Using the farming systems approach, the household unit is the hub of the rural farm. It is this unit that makes management decisions, provides labor, markets products and performs many other functions within the farm. When new crop and livestock technologies are introduced into the smallholder sector, it is the household composed of men, women and children who must decide whether to adopt the innovation and reallocate resources to support the innovation

Conceptual Framework

Particularly viewed as a system within a layer of subsystems, gender roles are embedded within processes that are particular to each or common across within palay and corn production. The process are clustered into the cultural management from pre-production to post-production activities.

Table 1. Dependent and independent variables in the palay and corn production

The Gender Subsystem	Gender Dynamics	Process Subsystem
Age Education Experience	Palay and Corn Production	Land preparation Seedbed preparation Ploughing Harrowing Levelling Care of seedlings Pulling and bundling of seedlings Planting/Transplanting Irrigation Care of irrigation canal Care of crops Mechanical weeding Manual weeding Fertilizer application Spraying Picking of snails

		Harvesting Threshing Hauling Drying Cleaning Bagging/sacking Other farm and post harvest activities

Methodology

Research Locale

This study was conducted on the palay and corn project within the Agribusiness Directorate of the Mariano Marcos State University. Pertinent records as secondary data were also considered.

Research design and Statistical analysis

A descriptive statistics was used such as frequency counts, percentages and means were used to treat all the data collected and was conducted using a one-group after treatment survey research design.

Population and Sampling procedure

It involves investigation of the Agribusiness under palay and corn production system for the last 5 years (2017-2022) with reference to the data that gathered on previous years before 2017. The population of this study were the people involved in this project for the stated years from the Head/Chief or Director down to the laborers involved. Pertinent data were gathered and as such, identification of the different specific roles they are involved in.

RESULTS AND DISCUSSION

The characteristics of the respondents are presented in Table 1 that included age, educational attainment and experience in palay and corn production. People involved in this project are all-male with an average age of 42 years old. In the educational attainment, they have low level of education, both thirty seven percent (37%) for elementary and secondary, and twenty five percent (25%) for college level. This result showing low level of education of the respondents implies their poor economic condition. According to the respondents, they stopped schooling due to financial constraint, hence, they indulge themselves in seeking jobs and farming for their survival than to get higher education. Again, majority of the respondents as regards experience, fifty percent (50%) has low experience, 3 years and below, thirty seven point five percent (37.5%) has medium experience, and only twelve point five percent (12.5%) has long years of experience. Majority of those who are involved in this project are from young to middle-aged (37%). Generally, the prime age when a person is more active, therefore, should be more productive (Rownan, 2004 Economic Ecyclopedia 3rd ed).

Table 2. Characteristics of the respondents

Personal Characteristics	Respondents	
	Frequency	Percent
Age		

Young (30-40)	3	37.5
Middle (41- 50)	3	37.5
Old (51- 60)	2	25
Mean age = 42 years old		
Educational Attainment		
Elementary	3	37.5
Secondary	3	37.5
College level	2	25
Experience in the project		
Low (3 years and below	4	50.0
Medium 4-6 years	3	37.5
Long (7 – 10 years)	1	12.5

Attitude towards gender role

The attitude of the respondents towards gender role is shown in Table 2. There are 25 attitude statement that were asked over to the respondents and sought for their answer whether they agree or disagree. It can be noticed from the table that majority from them (75%) agreed that, "the role of men and women are destiny", "men can make decision easier", "men are not as sensitive to profanity", women are more vulnerable, and "women tend to give up easily"; and "men have greater mechanical aptitude" and "women are more fearful" (87.5%). However, majority agreed to disagree (87.5%), that "men should be the decision maker and women should just be follower" This goes to show that these men, while they see women as a lesser "specie" because they can easily decide and they have greater mechanical aptitude and women tend to give up easily and are more fearful, they still consider women during decision-making and not just be follower…men needs women input.

Table 3. Attitudes of the respondents on gender role

Attitude	Frequency	
	Agree (%)	Disagree (%)
Women are only for home	50.0	50.0
The role men and women do are destiny	75.0	25.0
What men do, women can do better	50.0	50.0
Men should be the decision maker and women should be just follower	12.5	87.5
Women are more organized	50.0	50.0
Women are less dominating	50.0	50.0
Men can make decisions easier	75.0	25.0
Women are more vulnerable	75.0	25.0
Women set the standards for moral behavior	37.5	62.5
Men are less sophisticated	25.0	75.0
Men are less sensitive	37.5	62.5
Women are more emotional	62.5	37.5
Women are more concerned about their physical appearance	62.5	37.5

Women are less career motivated	62.5	37.5
Women are more self-reliant	62.5	37.5
Men are not as sensitive to profanity	75.0	25.0
Women tend to give up more easily	75.0	25.0
Men want power	50.0	50.0
Men have greater mechanical aptitude	87.5	12.5
Men are more risk taker	50.0	50.0
Women are more understanding	62.5	37.5
Women are more spiritual	62.5	37.5
Women are more fearful	87.5	12.5
Men are more interested in high/modern technology	62.5	37.5

There is now increasing concern that neglect of women-specific issues leads to inefficient technology development and transfer programs in those cases where the users are women, and that new technologies may have negative consequences on women (Dey, 1985). Available evidence shows that many studies have underestimated the impact of new technologies on women in general and particularly women wage laborers (Agarwal, 1983, Unnevehr and Stanford, 1983). To develop greater awareness of women's roles in agriculture and their special needs as technology users and beneficiaries, it was agreed that international and national agricultural research centers should develop long-term strategies to involve women, and where possible, in all phases of research and technology development work.
(http://books.irri.org/9711041952_content.pdf)

It is already established in this study that men are more involved in palay and corn production in Agribusiness under MMSU Production. With the following specific activities, we can see the involvement of the people involved in the following. The result of the study shows that land preparation *land preparation, seedbed preparation, ploughing, harrowing, levelling, care of seedlings, pulling and bundling of seedlings, planting/transplanting, irrigation, care of irrigation canal, care of crops mechanical weeding, manual weeding, fertilizer application, spraying, picking of snails, harvesting, threshing, hauling, drying, cleaning, bagging/sacking, and other farm and post-harvest activities*.

It was documented and observed that people in palay and corn are all male. The agribusiness chief when asked why there is not a single woman involved in palay and corn, because "*narigat ti trabaho dita taltalon ken saanda a naindur ti pudot, nadagsen dagita sako-sako nga irik ken mais*" (works at the farm is hard and they cannot bear the heat of the sun and the loads/sacks of palay and corn are too heavy for them). It goes in the attitude that "women are more vulnerable" and "tend to give up more easily" both 75%.

Raising the question why, *outside of the university, we see along women in the private fields and farms in the uprooting and transplanting to harvesting and post-harvest of palay and seeding and cutting- off of corn*, the chief said, because "mostly, farming is a family business, especially those with small land-holdings, every member of the family from their children to the wife to the extended family will help because they can save from giving wages from outside laborers, so, they are forced to work on their own farm to save what they can save.

The University Extension has this program of periodic Rice Paddy Art activity wherein in the rice field, they feature "celebrities" who made on impact on the lives of people within and outside Ilocos. Local

officials and some family members of the celebrities are invited to grace the occasion. The Municipal mayor in his speech…

"*Kas man la nakababain ti pamilya nga saan a sumalog taltatalon nu adda la ketdi waya ken matalon para pagay dita ar-arubayan*" (It can be disappointing on the part of the family, if we will not participate in farming given that we have available time and farm to be tilled near our household.)– quoted from the Hon Mayor Albert D.Chua during the Rice Paddy Art planting held at MMSU, Aug. 14, 2023

This is a very true and realistic statement made specially those who has been farming all their lives. Its not the same case in Agribusiness because labors will receive their salaries for the project. And some activities within the university's production are mechanized which men are more inclined to. So the result was proven in the attitude that, "men have greater mechanical aptitude, 87.5%,"

While some claimed that they worked in other projects before, like from Research Unit and DAS-CAFSD, *it was the decision of the higher authority that they were transferred to Agribusiness' production*, and were assumed that they are more productive in their new assignment. Some are on a contractual status and are renewable every 3-6 months. Only 1 staff in the project is on a permanent status.

With the palay and corn production area that used to be more or less 11.5 hectares, but is now more or less 9 hectares (because of some structures that were put-up within the production area) it can produce to around more than 4 tons per hectare of wet harvest. This is already good enough considering the number of labors in the project. The area of corn being planted is only around 1.5 hectares during corn planting season because of the difficulty in managing them, so they have private contract growers instead.

Conclusion

The farming systems approach views the farm as a complete system and focuses on the interdependencies among these components under the household's control and examines how these components interact with physical, biological and socioeconomic factors beyond the household's control. This approach involves a description of the local farming systems and identification of its constraints; reviewing existing technologies and techniques to overcome these constraints and selecting, testing and tailoring these technologies to the conditions in which men and women work.

Integrating a gender perspective in agriculture is important to realize gender equality and women's empowerment in the agriculture sector, enabling women to participate and benefit from development. Integrating a gender perspective is also important to improve effectiveness of agriculture programs and policies, to improve food security, reduce poverty and increase resilience to climate and other risks.

It is evident in the result of each project that more men are involved in the production. The "classical" farm gender roles in the production, although varying somewhat from project to another project were generally based on a division of labor in which men participated in "field" tasks (animal care, plowing, harvesting crops, using farm machinery, etc.), while most women participated primarily in "farmhouse" tasks like preparing, arranging the stuff in the market, tagging of prices and maintaining the cleanliness of the surrounding as was observed.

While women in production are highly educated, it was observed that this is the reason of the existing labor differences between women and men in the production. While women can do the men's job, men does not allow them to dip their fingers on the so-called "dirty job" because these women are the head of the project.

Gender division of labor and social norms limit women's ownership and management of agricultural machineries. However, gender has been neglected in discussions of agricultural sustainability, and gender

inequality remains a significant barrier to the development of inclusive, genuinely sustainable forms of agriculture.

Looking and studying on the structure of the production in agribusiness, and while MMSU is a known highly rational place focused on completing tasks and achieving goals, with the most task- and socially-competent people in-charge, it benefits the university. However, while we talk and introduce gender dynamics, it's a form of irrationality because we see lesser women in the project. Maybe because gender dynamics distort people's views of women's skill and behavior even if they show equal skill.

Recommendations

This study recommends the need for all-inclusive efforts to address the "barriers" faced by each person involved in the production. The barriers like machineries, water pumps, power-driven sprays, wheeled-carts and other equipment should be women-friendly equipment for women to easily "go" with the work to be done.

It is also recommended that the administration should drive culture by letting people know what is and isn't acceptable behavior, so step one is making clear that the organization won't tolerate disparate treatment of men and women at work.

Follow-up study on the capacity of women on mechanized farming means and their efficiency in the uprooting, weeding and snails picking. Take also in consideration the environmental impact in modern farming so as not to affect the atmosphere.

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