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RESEARCH ARTICLE

FARMING SYSTEM PREFERENCES AMONG SELECTED MUNICIPALITIES OF ZAMBOANGA DEL NORTE PHILIPPINES: AN EXTENSION MOVEMENT IMPLICATION

***Jane T. Aquino**

Jose Rizal Memorial State University-Katipunan Campus, Katipunan, Zamboanga del Norte, Philippines

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ABSTRACT

The status of farming practices in five municipalities of Zamboanga del Norte, Philippines is the point of interest on this study. It further identified the determinants that affect the farming preferences and their choices based on efficiency, cost efficiency, accessibility (personal or financial) and availability of raw materials and its substitutes. Through government interventions, problems were also solicited. A descriptive-purposive method was employed. The data were gathered with the use of validated questionnaires that were distributed to the 3293 registered farmer-respondents through on site survey. Percentage and weighted mean average were used to analyze the data. Results showed that in Rizal, 65% of the respondents (107) resorted to organic farming, the 35% applied inorganic practice. In Piñan, 41 % of the respondents (108) applied inorganic practice, 54% utilized the organic practice and 5% used the sustainable practice. In Roxas, 66.4% of the respondents (125) were applying inorganic farming, 27.2% utilized sustainable farming, and 6.4% applied organic farming. In Manukan, out of 125 respondents (125), 55.2% used inorganic farming, 33.6% used sustainable farming, and 11.2% used organic as their farming system. In Liloy, 49.55% of the total respondents (2828) applied inorganic practice, 32.77 % applied the sustainable practice and the remaining 17.65% used organic practice. The inorganic farming practice is the most preferred choice among the farmer-respondents as they claimed that this practice is efficient in diminishing the pests in the farm. Jose Rizal Memorial State University (JRMSU) College of Education Extension Unit would collaborate with the Local Government Units (LGUs) and Department of Agriculture (DA) on the proper training on organic farming method to attain efficiency in production and transform the farmers as environmental-friendly users.

****Corresponding author***

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INTRODUCTION

Organic farming is a shaft of hope for healthy food and safe environment. It is helpful for health and environment point of viewby manyways.Organic production has stimulated dynamic market growth, contributed to farm incomes and created employment. At the same time it delivers public goods in terms of environmental protection, animal welfare and rural development. Furthermore, the innovations generated by the organic sector have played an important role in pushing agricultureandfoodproduction generally towards sustainability, quality and low risk technologies. Thus, it is in the common interest to invest in organic agriculture and food research, in order to improve and further develop both the system itself and the entire organic food chain. Nowadays, organic farming is presented to emphasize the use of renewable resources and the conservationof soiland water to enhance environmental quality for future generations. Despite production area of less than 1 percentof the total agricultural area, slowly but surely, organize agriculture is pushing to be renowned as one mainstream agricultural production strategy (Yadav *et al*, 2006). According to Marchan *et al*., 2005 organic farming is relevance to the Indian context considering the potential environmental benefits of organic production and its compatibility with integrated agricultural approaches to rural development. In addition organic farming in the pest, its relevant in the present and the future agriculture it studies that there is a growing concern about health and the environmental hazards of chemical-based intensive agriculture (Gaikward *et al.,* 2001). Organic Agricultureas defined by theInternationalFederationof Organic Agriculture Movement (IFOAM) includes all agricultural systemsthatpromotetheenvironmentally,socially,and economically sound production of food, fibers, and biofuels. These systemstakelocalsoilfertilityasthe key to successful production. Organic agriculture dramatically reduces external inputs by refrainingfromthe use of chemo-synthetic fertilizers, pesticides and pharmaceuticals. Instead, it allows the powerful laws of nature to increase both agricultural yield and pest resistance. Traditional agriculture systems on the other hand, has emerged overcenturiesof cultural and biological evolution and represent accumulatedexperiences of indigenous farmers interacting with the environment without access to external inputs, capital, or modern scientific knowledge. Traditional farmers have often

developed farming systems with sustained yields using intensive experiential knowledge and natural resources, including the management of agro-biodiversity in the form of diversified agricultural systems. Despite major technological breakthroughs and strong government support in agriculture, the farmers' economic situation remains dreary. Farming is susceptible to external shocks, soil fertility and land productivity decline as agriculture is considered nutrient mining, the volatile prices of crop commodities as dictated by supply and demand, and occurrence of natural calamities. As a priority national government program, organic agriculture is considered a major strategy for addressing rural poverty. Rural poor are most affected by environmental degradation because they are dependent on fragile ecosystems. This creates a vicious cycle of poor income and poverty that precipitates further exploitation and consequent depletion of natural resources. Hence, there are efforts to promote organic agriculture as an alternative low- input sustainable agricultural strategy to improve land productivity and at the same time protect our environment. In connection, this paper intends to explain how organic agriculture has been carried out and to assess the different systems behind this practice whether it abides to the set standards and principles of International Federation of Organic Agriculture Movements. This paper identifies the main role and position of the organic agriculture in the locality. The status of farming practices of the municipality of Piñan and of its neighboring town, Rizal is the interest that must be given attention by this study. There are several factors that might be affecting the farming system preferences by the farmers. This paper also intends to investigate the choices of the farmers in relation to their farming practices. In addition, it also seeks to determine the basis of their choices base on the present factors such as efficiency, cost efficiency, accessibility (personal or financial) and availability of raw materials and its substitutes or by the demand of the farmers' own needs and by the environment or through government interventions. It also seeks to document the farming practices. In order to produce views on the current situations farming in the selected sites from the 3 districts of the province of Zamboanga del Norte.

Theoretical/Conceptual Framework: This study adheres to the holistic concept of Agro-ecology. Agro-ecology presents a framework that integrates the biophysical sciences and ecology in the management of the agricultural systems. According to Altieri (2000), a productive agriculture that sustains yields that optimize the utilization of the local resources whereas is minimizing the negative environmental and socio-economic impacts of new technologies. This concept discusses about the significance of the ecological or environmental survival of different organisms. Also it seeks the diversification and revitalization of medium size and small farms and the reshaping of the entire agricultural policy and food system in ways that are economically viable to farmers and consumers. In fact, throughout the world there are hundreds of movements that are pursuing a change toward ecologically sensitive farming systems from a variety of perspectives. Some emphasize the production of organic products for lucrative markets others land stewardship while others the empowerment of peasant communities. In general, the goals would include security of food self-sufficiency, preservation of the natural resources and to ensure social equity and economic viability.

MATERIALS AND METHODS

A descriptive type with purposive sampling was employed. The research was focused on the study objectives as reflected in the questionnaires. It employed interviews and collecting secondary data from the persons concerned. This study determined the farming methods practiced by the farmers from the selected sites based on the guidelines including the number of farmers, types of practices used and the availability of materials. The number of respondents (3293 registered farmers) employed in the study was purposively based from the secondary data obtained from the Department of Agriculture per Municipality. The selected sites of the study comprised 3.27% (108) farmers from Piñan; 3.24% (107) farmers from Rizal (1st district); 3.79% (125) farmers from Manukan; another 3.79% (125) from Roxas (2nd district) and 85.87% (2828) farmers from Liloy (3rd district) (Figure 2).

RESULTS AND DISCUSSION

Results revealed that out of 107 respondents from the said municipality in Rizal, Zamboanga del Norte, 35% practiced inorganic farming while 65% for organic farming, and no one practiced sustainable farming. Most of the respondents preferred to choose organic farming system (Figure 3). Respondents were given possible factors that might affect their preferences upon choosing the appropriate farming system that suits their needs. Study revealed that the respondents selected efficiency as their first choice on choosing a farming system since efficiency has a great impact in terms of zero wastes farming. Second in the rank is the cost efficiency according to the farmers since this factor is very important in order to produce good results without costing a lot of money. Accessibility was rank as third factor since this contributes a significant effect on patronizing a farming system. Fourth rank was given to availability of raw materials and fifth is the availability of materials as substitute raw materials as a factor to be considered (Table 1).

Respondents are experiencing moderately serious problem with the efficiency. One of their major concerns is that the effectiveness of a particular system. Some factors may affect the efficiency of the practice like temperature, geographical location, and accuracy of collecting data, mindset and values. Results showed that out of 108 respondents from the municipality of Piñan, Zamboanga del Norte, 41% practiced inorganic farming while 54% for organic farming and only 5% for sustainable farming (Figure 4). Majority of the respondents preferred to practice organic farming as their choice in choosing a farming system. Aside from aiming to provide excellent crops, they also find ways to minimize the production cost without putting the quality of their product at risk thus many farmers resorted to organic farming for healthy and cost efficient crops. Findings revealed that efficiency as their first choice to be considered in choosing a farming system since this has a great impact in terms of zero wastes farming. Study shows that out of 125 respondents from the said municipality of Roxas, Zamboanga del Norte, 66.4% employed inorganic farming while 27.2% used sustainable farming and only 6.4% used organic as their farming system (Figure 5). This clearly means that farmers preferred commercial/ inorganic farming system rather than organic farming. Study revealed that the respondent says accessibility as their first choice to be considered on choosing farming system since it has a great impact on farming. Second in the rank is the efficiency and cost efficiency since these factors are crucial to be considered on every decision making on choosing farming system. Availability of raw materials was rank as third factor in selecting a farming system.

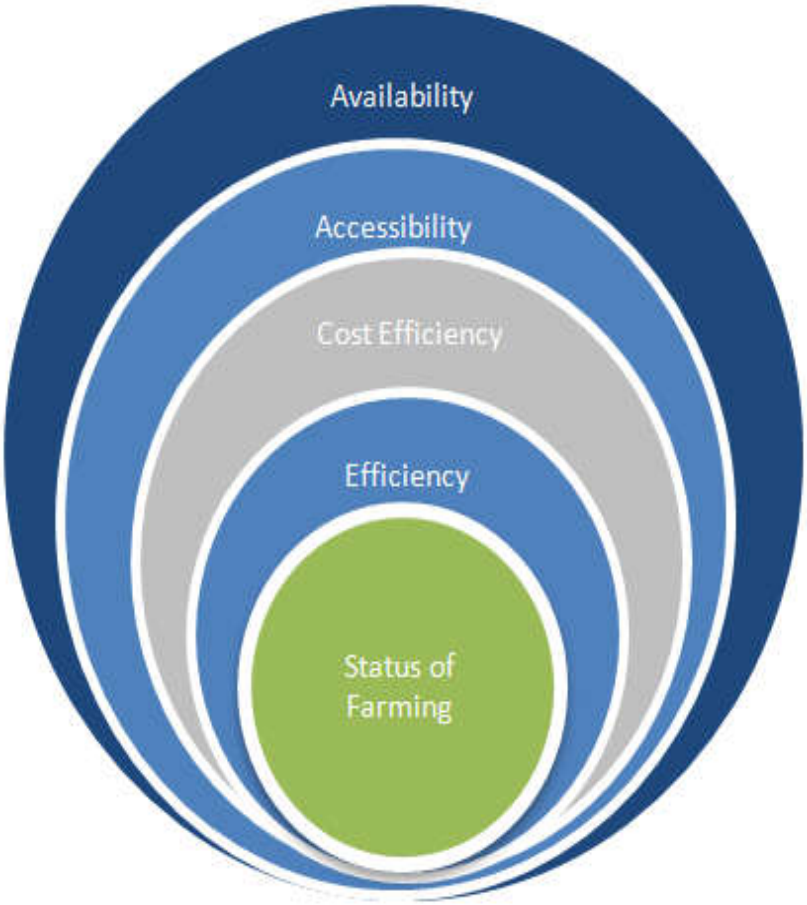

Figure 1. The Schema of the Study

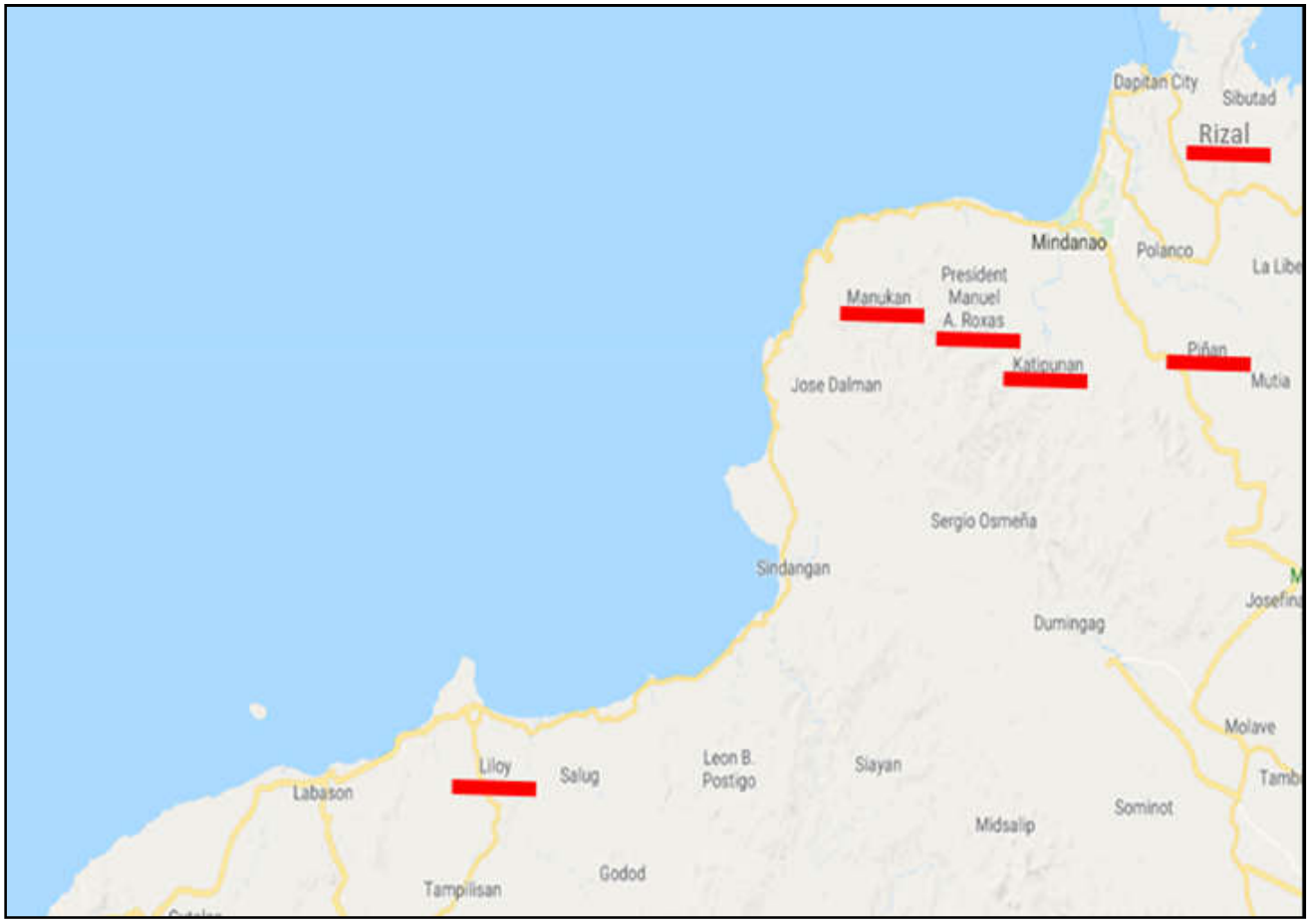

Figure 2. Map of Zamboanga del Norte

Table 1. The rank of the factors that affect choice

Choice Factor	Mean	Rank
Efficiency	2.24	First
Cost efficiency	2.59	Second
Accessibility	2.93	Third
Availability of Raw Materials	3.04	Fourth
Availability of Materials as substitute Raw materials	3.91	Fifth

Table 2.

Choice Factor	Mean	Rank
Efficiency	2.25	First
Cost efficiency	2.41	Second
Accessibility	2.88	Third
Availability of Raw Materials	3.13	Fourth

Table 3. The rank of the factors that affect choice

Choice Factors	Ave. Weighted Mean (AWM)	Rank
Efficiency	2.19	Second
Cost Efficiency	2.19	Second
Accessibility	2.03	First
Availability of raw materials	2.23	Third
Availability of materials as substitute to raw materials	2.37	Fourth

Table 4. The rank of the factors that affect choice

Choice Factors	Ave. Weighted Mean (AWM)	Rank
Efficiency	2.07	Second
Cost Efficiency	2.19	Third
Accessibility	1.96	First
Availability of raw materials	2.19	Third
Availability of materials as substitute to raw materials	2.26	Fourth

Table 5. Rank of the factors that affect their choice

Factors	Percentage	Rank
Efficiency	31%	First
Cost efficiency	24%	Second
Accessibility	18%	Third
Availability of raw materials	10%	Fourth
Availability of materials as substitute to raw materials	5%	Fifth

Fourth rank was given to availability of materials as substitute to raw materials (Table 3). Results revealed that out of 125 respondents of the said municipality, 55.2% used inorganic farming, while 33.6% employed sustainable farming and only 11.2% used organic as their farming system (Figure 6). This implies that farmers in Manukan prefer to choose commercial/inorganic farming as their farming system since they rely on quick and easy preparation and application of synthetic commercial fertilizers. Famers apply the typical fertilizers, pesticides, fungicide, and herbicide. These chemicals were available at the agricultural supply at the area of the study. Fertilizers Furadan, Padan, Cartap, Bayluscide and Solomon were also utilized and so with Tango, Atin and Resolvar as fungicides. Likewise, 888, Round up and Power were the commonly used commercial herbicides. Study revealed that the respondents selected the accessibility as their first choice to be considered on choosing farming system since it has a great impact on farming. Efficiency was ranked as third factor for this contributes significant effect on selecting a farming system third in the rank is the availability of raw materials and cost efficiency since these are crucial factors to be considered in choosing farming system. Fourth rank was given to availability of materials as substitute to raw materials particularly to the seasonal crops (Table 4). In the farming system, it shows that out of 2828 respondents, 1401 or 49.55 % of the total population are using the Inorganic system.

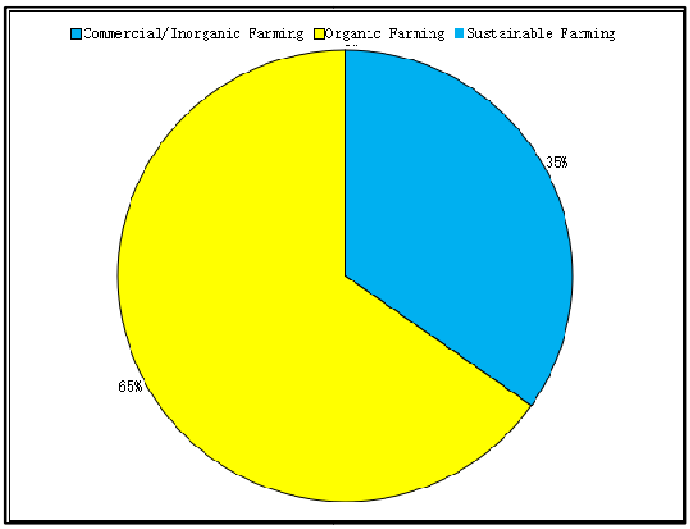

Figure 3. Distribution of the farming system as practiced by the Farmers in Rizal, Zamboanga del Norte

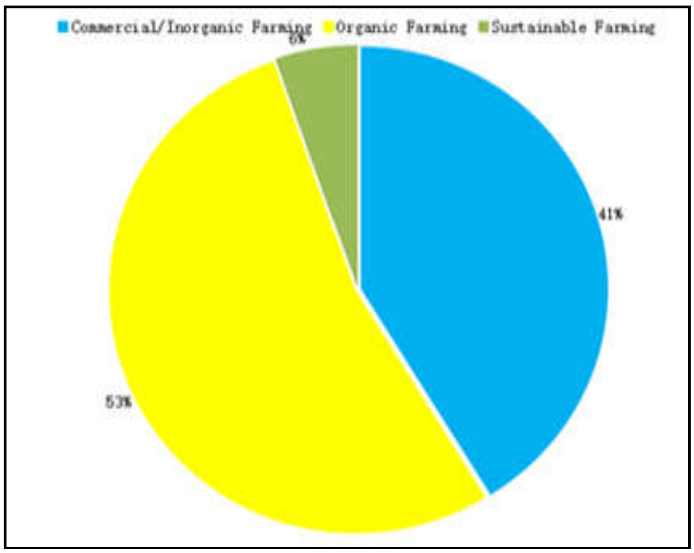

Figure 4. Distribution of the farming system as practiced by the Farmers in Piñan, Zamboanga del Norte

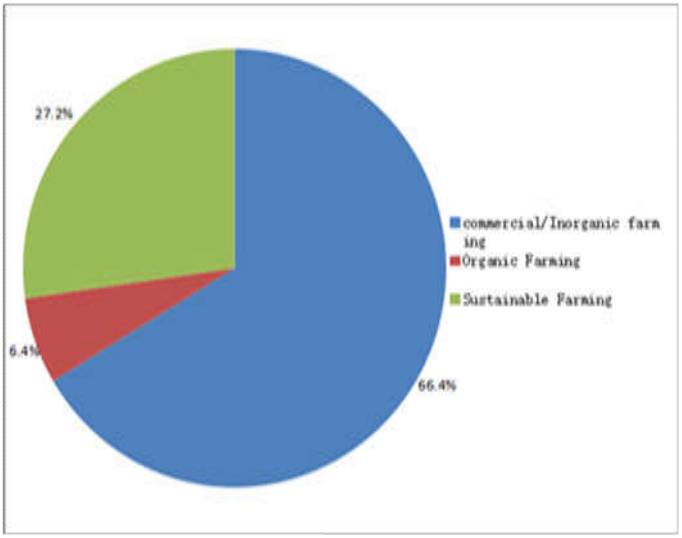

Figure 5. Distribution of the farming system as practiced by the Farmers in Roxas, Zamboanga del Norte

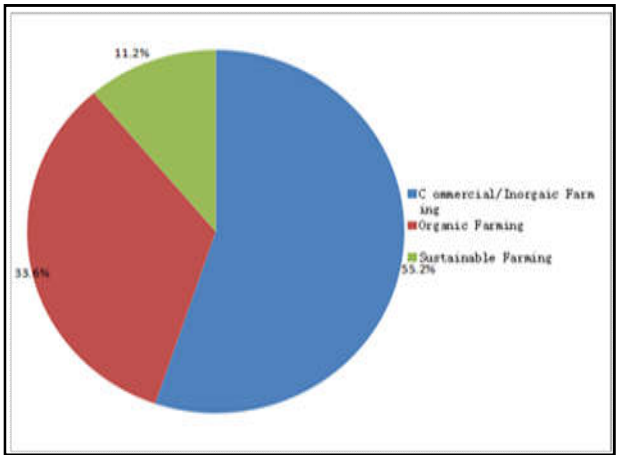

Figure 6. Distribution of the farming system as practiced by the Farmers in Manukan, Zamboanga del Norte

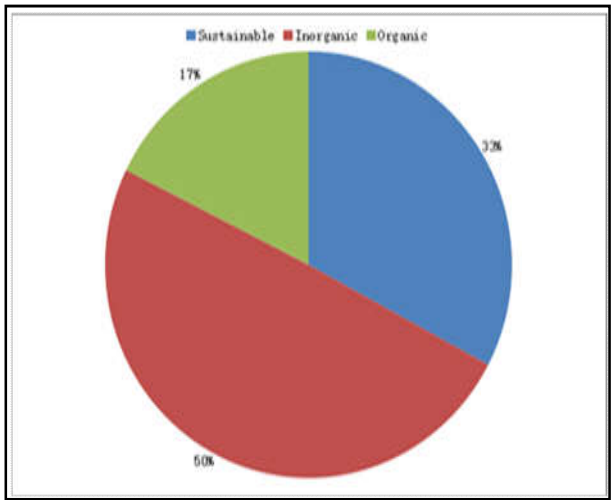

Figure 7. Distribution of the farming system as practiced by the Farmers in Liloy, Zamboanga del Norte

The 927 respondents or the 32.77 % of the total population resorted to Sustainable farming and the remaining 500 or the 17.68 % the total respondents are applying the Organic system (Figure 7). As observed, majority of the respondents resorted to Inorganic farming because they said that this system secured greater returns, more efficient, labor and cost effective as well. This leaves them no worries of having lesser returns and pest infestations on their respective farms. On the other hand, those who resorted to Sustainable farming said that this framing system was as efficient, cost-effective and labor-effective to the Inorganic one. However, this system is much safer than the inorganic one as this system uses less pesticides and any other chemicals. Those who are applying Organic farming system were Local Government unit (LGU) farm laborers from the said municipality and were provided with seeds (NGR 800 variety) and organic fertilizers such as Bio-N and Trichogramma. Study revealed efficiency as the respondents' first choice to be considered on choosing the farming system since efficiency on the farming system applied has a great impact on the profit of the farmers. Second in the rank is the cost efficiency since this will be considered on every decision making on choosing the farming system to be applied. Accessibility was rank as third factor to be considered in terms of patronizing a farming system. Fourth rank was given to availability of raw materials as a factor to be considered. The availability of materials as substitute to raw materials ranked fifth for there are no local resources to be used.

Conclusions

- In the first district of the province, farming is the primary source of income. Farmers from the municipalities of Piñan and Rizal prioritized efficiency as a factor in choosing farming system .Respondents are experiencing minimal problems with the efficiency and cost efficiency. While there are fairly serious problems on accessibility, availability of raw materials and availability of materials as substitute raw materials. They practiced organic farming for its effectiveness and environmental sound farming system.
- In the second district of the province, farmers from the municipalities of Roxas and Manukan preferred and practiced inorganic farming primarily for short term and enough harvest for survival. They cannot wait for long months for the resting period of the soil. Farmers are experiencing problems in farming most of the time. They are currently using some commercial/inorganic pesticides and fungicides even though the government conducted trainings and seminars on organic farming. Both municipalities, the farmers preferred accessibility as their first choice to be considered on choosing farming system since it has a great impact on farming.
- In the third district of the province, farmers from Liloy were mostly adapting the inorganic method though the local government is propagating on the Organic system. This is because of the efficiency of the Inorganic system that would minimize the pest in the farm. Efficiency for them is deemed as important factor.

Recommendations

- Farmers may be knowledgeable enough on the farming system that would environmentally suit for them to attain production efficiency.
- Every Municipal Agriculture office (MAO) may be responsible enough to provide the appropriate knowledge, skills and techniques on selecting farming systems that suit to their capability and needs of farming.
- The Jose Rizal Memorial State University Katipunan Campus as an agricultural and academic institution may conduct extension activities that would enhance the knowledge and skills of the farmers.

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