Vol-5, Issue-7 PP. 243-249 ISSN: 2394-5788

GLOBAL JOURNAL OF ADVANCED RESEARCH
(Scholarly Peer Review Publishing System)

ENHANCING THE CAPABILITIES OF HOG RAISERS THROUGH COMMUNITY-BASED ENTREPRENEURSHIP: AN ALTERNATIVE LIVELIHOOD FOR WOMEN

Wilson Nabua & Annibelle Joy Mendoza
North western Mindanao State College of Science and Technology,
Philippines

Maria Pia Sison
Mindanao State University-Iligan Institute of Technology,
Philippines

ABSTRACT

Value addition of a traditionally produced farm products through a cohesive women organization is among the sustainable strategies to minimize if not eradicate poverty in the depressed communities. This study aimed to determine the feasibility of food processing project as an alternative livelihood of the backyard hog raisers. One hundred ten hog raisers in the 17 barangays in Tangub City were interviewed as a baseline information of the hog raising practices of the farmers, Another 70 household mothers were interviewed as to the demand for the processed products. With the help of the experts in the Food Technology Department of the Northwestern Mindanao State College of Science and Technology, the Return on Investment of the processed products was determined. The results revealed that 68 or 62% percent of the respondents were involved in the traditional way of hog fattening. Three of every four hog raisers were women. Piglets for fattening were available from other hog raisers who were involved in breeding, and other were purchased during market days. Housing facilities for the hogs were not complete. On the other hand, almost all of the hog raisers sold their produce to the assemblers live. However, the study found out that a higher Return of Investment (ROI) will be derived from the processing of the product. Thus, the result of this study will be the basis for an extension services of the College through organizing the women into a cooperative or an association.

Keyword: Hog Raisers, community-based entrepreneurship, alternative livelihood

1. INTRODUCTION BACKGROUND OF THE STUDY

Poverty alleviation has always been a goal of every leader of a country or a region particularly in developing countries like the Philippines. Poverty incidence among Filipinos[1] in 2015 was estimated at 21.6 percent with a poverty threshold of P9,064.00 per month (PSA, 2018). Among the poorest sectors of the economy are the farmers. Most of the time, small farmers experienced low productivity. According to Nabua and Templado (2014), the low economic productivity of the farmers is largely attributed to their poor farming practices and the absence of direct market channels for their products. For pig production alone, Muhanguzi, Lutwana and Mwiine (2012) identified some of the limitations of pig production and these are, nutritional deficiencies, high cost of inputs like building materials, drugs and veterinary services, inadequate capital and inaccessibility to credit services, expensive feeds among others.

Several strategies and approaches were tried by the government through the provision of pro-poor programs and projects. For many decades, high amount of money had been doled-out just to minimize the said perennial problem. The top level government officials identified some projects to uplift the economic condition of the people. However, only few programs were sustained. The commencement of the bottom-up approach showed significant effects to the community, but still the question of sustainability has not

yet addressed. Nevertheless, it is believed that the countryside development will always happen if people are empowered to build initiatives in eradicating poverty.

One common tool for countryside development is improving the quality of the products by selecting good breeds, giving adequate nutrition and others. Still, these do not solve the problem of low productivity because other concerns are not addressed. This is still a traditional practice that would only earn a hand to mouth income of the farmers. However, shifting farm practice from merely production to processing may be a good idea to enhance the capabilities of the household particularly women. Morrissey (2011) pointed out that technology-driven products add safety as well as quality characteristics. Moreover, changing the physical appearance of the products to a processed one can create a more demand.

Backyard hog raising is very common in rural areas of the developing countries like the Philippines. Raising few pigs does not only provide additional income to the family but as a tradition for several occasions. Most of the time, the pigs are sold to the market in live weight which price fluctuates anytime. The unstable price condition becomes the most serious problem of the raisers considering the high costs of inputs. Hence, this paper addresses the problem of traditional farming system and promotes value addition of agricultural products.

2. A FRAMEWORK FOR ANALYSIS

The two-pronged approach to the problem of raising the economic productivity of the householdsin Tangub City will suffice to break the cycle of poverty in this area.

The two-pronged approach targets the backyard hog raisers themselves and the other members of the households of the farmers working together to raise their economic productivity. The approach is schematically demonstrated below:

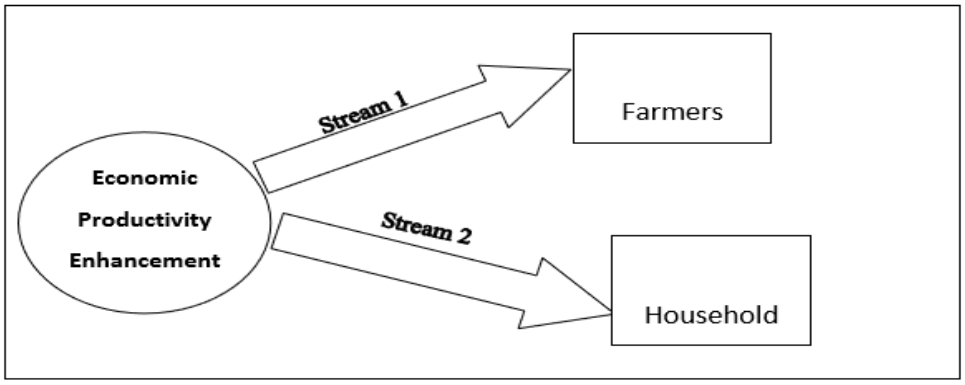

Figure 1: Two-pronged Economic Productivity Enhancement model. Adopted from Nabua and Templado, 2014.

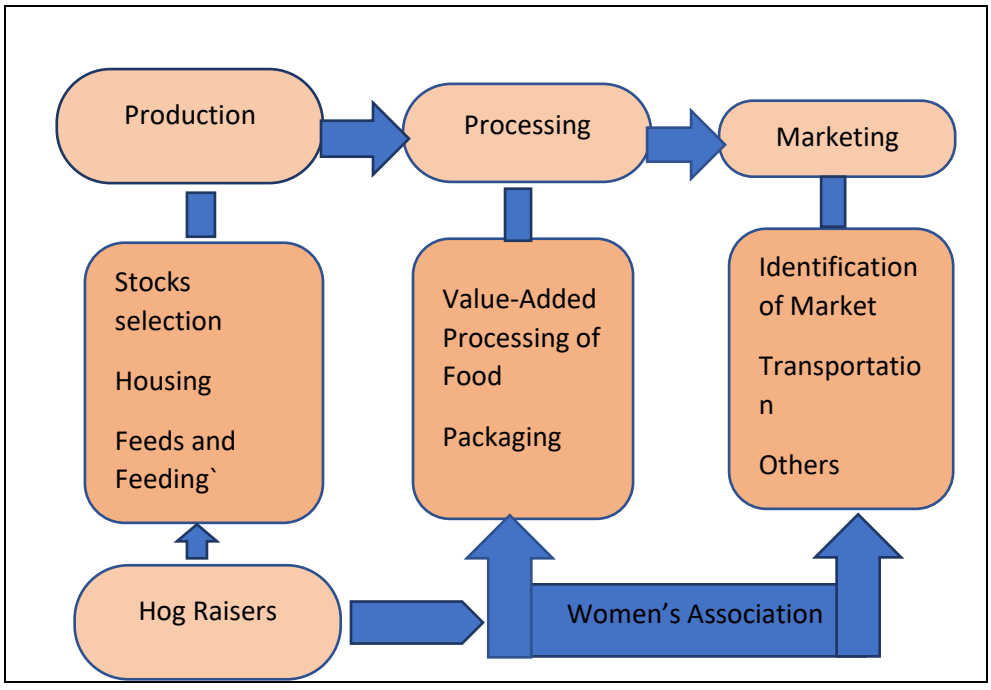

Figure 2. Mechanisms of the Economic Productivity Enhancement

Stream 1: The Farmers/Hog Raisers

Information on the practices of the hog raisers relative to the various dimensions of stock selection, feeds and feeding, housing and marketing (market selection, transportation and others). These hog raising practices were then compared with scientific standards to assess the extent to which the farms are under producing. This component of Stream 1 is henceforth be referred to as Agricultural Diagnostics.

Stream 2: The Households

A similar Agricultural Diagnostic was employed for Stream 2 using the household members as key informants. Inparticular,their skills in processing were assessed. Problems on the marketing of processed products were likewise determined and subsequently resolved.

Figure 2 shows the mechanisms of the EPE as they apply to the two streams of Figure 1.The backyard hog raisers shall be the producers of fattened pigs to be marketed directly to the women's association who is the charge of the processing of the products. The processed products shall be sold by the association through its marketing arms.

3. RESEARCH METHODOLOGY

The study made use of descriptive normative-survey method particularly in conducting the production and marketing practices of hog raisers in Tangub City. The study was conducted to the 17 barangays which were 30% of the 55 barangays in Tangub City. There were 110 respondents that were purposively chosen from the barangays under study. These respondents were the backyard hog raisers.

The researcher used a questionnaire translated into vernacular to let the interviewee and interviewer understand quickly the content of the questions. Key Informant Interviews were also conducted to the City Agriculturist, Slaughter House In-Charge and selected meat vendors.

From the results of the conduct of household surveys and Key Informant Interviews, the researcher then made a business plan to enhance the productivity of the households. Another 70 households who were wives were interviewed as to the demand for processed products. These household members were mothers who are usually in-charge of financing in the family.

The costing of the processed foods was done by the Food Technology Department of the Northwestern Mindanao State College of Science and Technology.

Basic statistics was used in analyzing quantitative data. Narratives from the key informants were used in qualitative information.

4. RESULTS AND DISCUSSION

4.1 Production Practices.

Table 1 shows the present and ideal practices in backyard hog raising. The backyard hog raising is dominated by women (74%) because this is a home-based economic activity. However, most of the cultural management practices were traditional using the indigenous materials in the farmers' area. Backyard raising constitutes fattening (68%) and breeding (32%). Depending on the individual's capacity, some of them practiced both. In fact, 52% of the respondents used their own piglets for fattening and among them, only 2% applied artificial insemination in breeding. Cross-breeding had been practiced and most of the piglets were mostly products of natives and highbred. Six of ten hog raisers preferred native breeds because these are resilient to some natural phenomena. These pigs are known for their ability to grow despite some adverse climatic conditions. In addition, native pigs are more resistant to diseases and parasites (Dayanghirang, 2015).

To those who practiced fattening only, they purchased their piglets mostly from their neighbors who have breeding sows, and few were purchased during market days in the city. The price of the piglets was dependent on their quality which ranged from P800 to P2,500. According to Mulindawa (2017), careful choice of breeds is vital for profitable business operation and this depends largely on the ability of the farmers to implement sustainable genetic improvement plan.

Ideally, commercial feeds are good for the pigs because these are already tested and proven to increase the weight in a short period of time. However, only 14% used purely commercial feeds and 86% applied mixed feeding such as commercial feeds with the indigenous feed inputs from their respective places. The 14% who gave their pigs pure commercial feeds were those who are residing in the urbanized barangays which raisers have limited access to the indigenous plants and cereal brands. Eighty eight percent used wet feeding. But in Ethiopia, the farmers feeding system was a combination of grazing with stall feeding and few are feed pigs grazing on pasture land (Emebet, Awoke,Asenakew, 2017).

As regard to housing, 60% of the respondents raised the pigs at their pens. Most of the pens are made with wood and bamboos with no flooring. Among the forty percent without pens, 92% were tethered using ropes and other materials, and 8 percent were free range. The ideal location of hog houses is at a slightly sloping and well-drained area so that it will not become too muddy and convenient to work in (http://www.balinkbayan.gov.ph).For easy cleaning and to minimize the occurrence of parasites and diseases, a concrete floor of a hog house is ideal. For a small or backyard operations, cheap and locally available materials may be

used such as bamboo and nipa and most of the housing materials are indigenous in the area. But most of the housing have no concrete floors.

Table 1: Present and Ideal Production Practices

Production Activities	Present Practices	Ideal Practices
Acquisition of Piglets (stocks)	Fifty two percent of the respondents used their own stocks from their sows for fattening; 32% from neighbors; 21% from the market.	The piglets for fattening may come from the known breeder in the community or from a good breed.
Feeds and Feeding	Among the respondents, only 14% used pure commercial feeds all throughout the fattening period. Eighty six percent had applied mixed feeding (commercial feeds and indigenous feed products in the community). Eighty eight percent used wet feeding.	Indigenous feeds are recommended as long as the nutritional value is determined.
Housing and sanitation	92% applied tethering which 66 percent had their own pen and 44 had not.	Complete housing facilities should be provided to ensure maximum performance.
Vaccination	41% practiced vaccination	Vaccination is required to minimize mortality
Technical Assistance	12% of the respondents have availed of technical assistance from private and government agencies(e.g. castration)	Majority if not all should be provided with technical assistance

Among the causes of a very slow growth in backyard hog raising is financial. The farmers cannot afford to buy commercial feeds which price is rising. This redounded to subsistence economic condition among the backyard raisers. These small-scale hog raisers were constrained with the accessibility of credits. Funding from financial institution to finance the small businesses is very limited to the individuals. According to Dorward, Kydd and Poulton (2008), small scale farmers may sometimes be deprived of the urban demand of the products because they cannot compete with the imports and with large scale intensive production. Not only they are competing with imports, they are competing with the large-scale hog raisers

Technical assistance plays a very important role in enhancing the production through dissemination of technologies. However, only 12% of the respondents claimed to have provided with technical assistance particularly castration, from both the government and private agencies.

4.2 Problems Encountered in Hog Raising

Lack of feeds and lack of capitalization were the two most mentioned problems encountered by the respondents (Table 2). These two problems are very related to each other. Either of the two can be a cause and effect. These are very common to backyard raisers because they are very small scale and in fact, raising hogs is not a primary occupation of the family. It is only an addition to thehousehold income and mostly the wives are the ones taking care of these animals at home while the husbands are busy in the primary livelihood where majority were farmers.

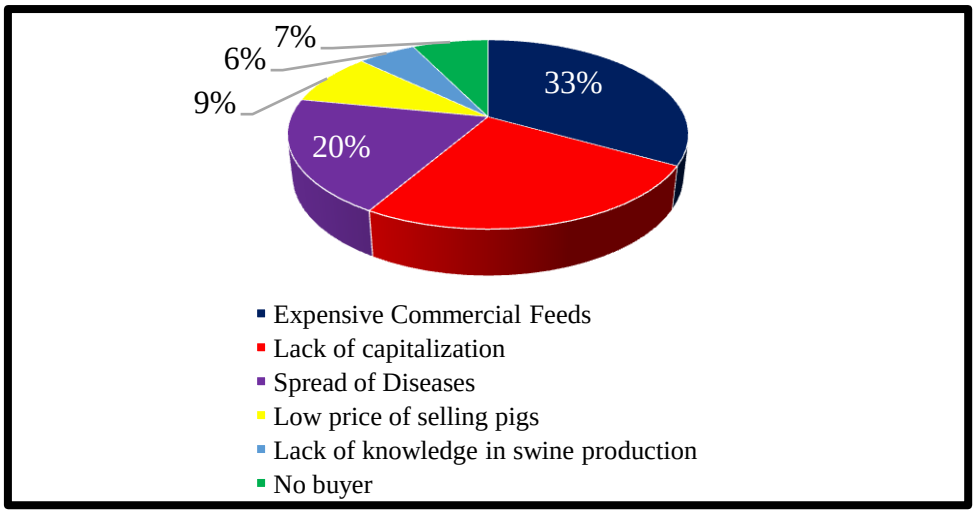

Figure 3. Problems encountered in hog raising

4.3 Marketing Practices

Among the 68 households who were involved in hog fattening, 88% of them sold the pigs live weight, 5 percent of them slaughtered the pigs before the meat reached to the customers and 7% of the produce were not sold but were used by the owners in festivities, birthdays and other personal purposes (Figure 4).

The usual practice of selling live weights is that the middlemen shall be the one to pick the pigs at the raisers' residences. However, there were few raisers who opted to slaughter the pigs which meat is for sale to the households in a "*pautang*" or credit system. This happened during Sundays, fiestas, and other important seasons in the country. Slaughtering was practiced on the premise that the raisers would make greater profit if sold in meat.

On the other hand, disposal of the pig was done by many actors. Fifty one percent of the hog raisers sold their products to the rural assemblers. These rural assemblers were the ones facilitating the transfer of the products to the wholesalers for roughly estimated at 41% of the purchased live pigs and the remaining 10% were sold directly to retailers or meat vendors. Thirty seven percent of the hog raisers directly sold their fattened pigs to the consumers in their respective barangays. Mokoele (2015) reported that majority of the hog raisers prefer to sell their pigs at the local points and within communities.

The marketing flow of the pigs in Tangub City where the researchers had only identified three traders such as assemblers, distributors and meat vendors. However, in most areas in the Philippines, identified six types of traders: livestock assemblers; livestock distributors; livestock assembler-livestock distributors; livestock assembler-butcher-meat distributors; agent and retailers (PSA.gov.ph)

A comprehensive understanding of backyard livestock production behavior is important for policy formation in developing countries. When setting livestock policies, decision makers should pay attention to market development, one of the primary determinants of the rise and fall of backyard livestock production.

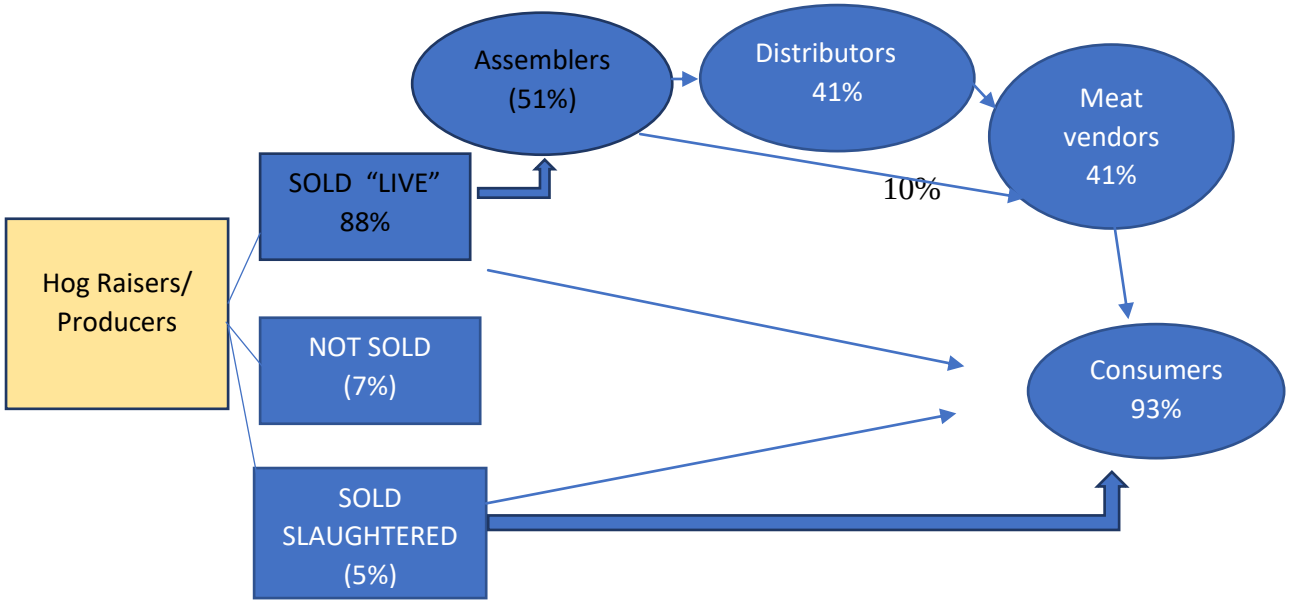

Figure 4: Marketing Channel of pig in Tangub City

4.4 Value Addition of Pork

As a usual marketing practice in Tangub City, the fattened pigs were sold live. Assuming a weight of 100 kilograms, the income of a hog raiser reaches to P12,000 at P120/kilogram. However, when the pigs are slaughtered and are processed into various products, the gross income would reach to more than P18,000 (Tables 2 and 3). This implies that food processing enhances the monetary value at the same time creates several types of products that the customers can choose.

In fact, Table 4 shows that each of the types of processed products has a Return on Investment of 40-50%, This figure implies that the food processing business particularly the *longanisa* and *toccino*brings high income to the proponents or proprietors.

Table2: Sales of processed foods derived from 100 kilograms pig.

Processed meat	**quantity**	**Price per pack**	**Sales**
Toccino	156 packs	P65.00	9,360.00
Longganisa	59 packs	P45.00	2,655.00
Chicharon	30 packs	P50.00	1,500.00
Total;			**13,515.00**

Table3: Other Parts of the 100 kg pig for sale

Other parts	Weight (kg)	Price Per kilogram	Sales
Pig's feet	5.5	P130	825.00
Mascara	4	100	400.00
Head-skinless	4.5	75	337.50
Bones	19.25	140.00	2,695.00
Liver	1	150	150.00
Entrails	5	50	250.00
			4,657.00

Table 4: Return on Investment of the processed meat

Processed meat	Price Per pack	Net Income Per Pack	ROI
Toccino	65	36.80	43.38%
Longganisa	50	30.50	51.70%
Chicharon	30	14.00	46.70%

4.5 Demand for Processed Foods

As a support to the above discussion, the researcher conducted interviews to the 70 households particularly the mothers of different walks of life. The results revealed that 66% of the respondents preferred to purchase pork (Figure5). The result is in consonance with Dietze (2011) who stated that pork is the most consumed meat in the world. Majority of those who liked to purchase pork preferred a processed one (Figure 6) and *longanisa*was the number one choice among the processed foods (Figure 7).

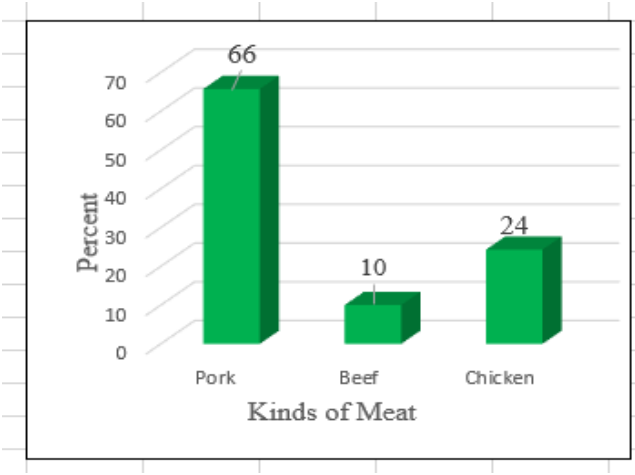

Figure 5: Kinds of meat preferred by the Respondents.

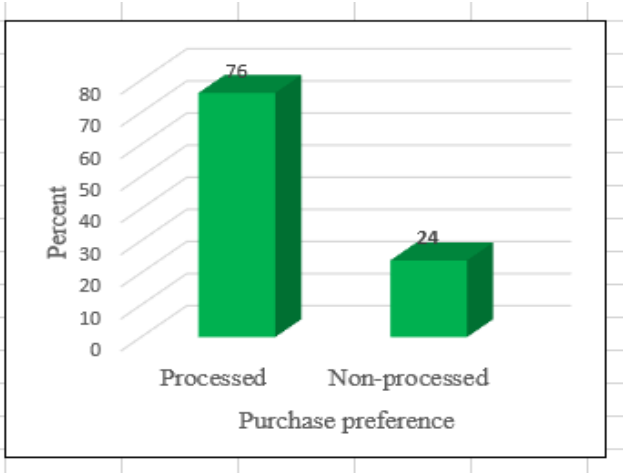

Figure 6: Types of pork preferred by the respondents.

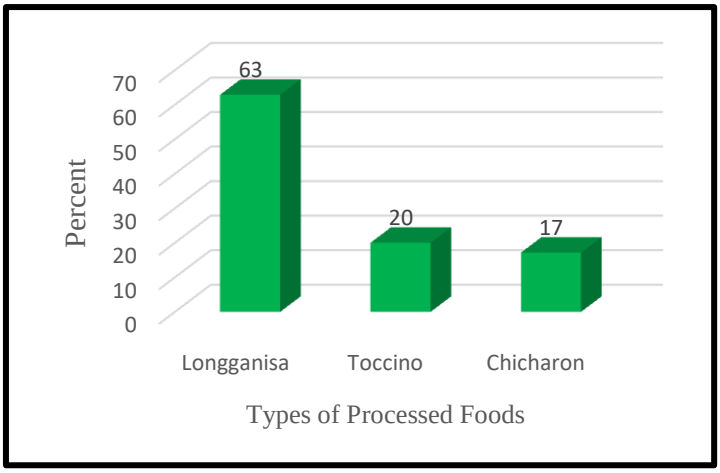

Figure 7: Types of processed foods preferred by the respondents

4.6 Transfer of Technology and Organization of Beneficiaries

As part of the function of the Northwestern Mindanao State College of Science and Technology, the Department of Food Technology and the School of Agriculture will conduct trainings and seminars on food processing to the interested women in Tangub City. They will be organized into an association. The State College shall assist the association from its organization to the time that it can already stand as a group. The advantages of a registered group particularly cooperative are; 1) small and weak farmers will be empowered to participate in any undertaking related to farming; 2) the farmers can promote their rights and will improve their access to adequate human and physical resources; 3) the voice of the farmers will be strengthened through various activities (Qiolloy, 2015).

The training of the women shall be done at the College Processing Center. The training module shall be made by the Food Technology Department where the experts in meat processing are present.

As women's association, it needs a linkage to other agencies for possible capitalization. The state college shall assist the association in seeking for a funding agency to finance the projects.

As an extension project of the College, there will always be a technical assistance to be provided by the College personnel. In addition, a strong monitoring and evaluation system shall be adopted to ensure best results.

5. CONCLUSION

The lives of the small hog raisers will remain in the state of poverty unless these hog raisers will have a paradigm shift. Hog raising can be a good alternative livelihood of the households if the raisers consider the value addition of the product, that is; processing the fattened pigs into different popular processed foods. The Return on Investment is very high. This can be one of the most effective strategies for sustainable livelihood. But organizing the processors into an association can be considered a good community-based entrepreneurship because funding agencies prefer to help a registered group than the individuals.

REFERENCES

[1] Andrew Dorward, Jonathan Kydd and Colin Poulton. 2008. Traditional Domestic Markets and Marketing Systems for Agricultural Products. Background Paper For The World Development Report . http://documents.worldbank.org.

[2] Dietze, K .2011. Pigs for Prosperity. FAO Diversification Booklet 15. Rural Infrastructure and Agro-Industries Division Food and Agriculture Organization of the United Nations Rome

[3] Dayanghirang, MCC (2015). Natural Pig Farming and Artificial Insemination Training for 4Her's of Quezon. Agricultural Training Institute, Calabarzon

[4] Dorwood, Andrew; Kydd, Jonathan; Poulton, Colin. 2006. Traditional domestic markets and marketing systems for agricultural products (English). Washington, DC: World Bank. http://documents.worldbank.org/curated/en/350301468136793862/Traditional-domestic-markets-and-marketing-systems-for-agricultural-products

[5] Emebet D, Awoke K, Asenakew A (2017) Challenges, Opportunities and Management Practice of Pig Production in Debre Markos Town, East Gojjam Zone in Amahra Regional State, Ethiopia. Poult Fish Wildl Sci 5: 176. doi: 10.4172/2375446X.1000176

[6] Leslie EE, Geong M, Abdurrahman M, Ward MP, Toribio JA.2015. A description of smallholder pig production systems in eastern Indonesia. **Prev Vet Med.; 118(4):319-27.**

[7] Morrisey, M. 2011. Development of Value-Added Products in Aquaculture. En: Cruz-Suárez, L.E., Ricque-Marie, D., Tapia-Salazar, M., Nieto-López, M.G., Villarreal-Cavazos, D. A., Gamboa-Delgado, J., Hernández-Hernández, L. (Eds), AvancesenNutriciónAcuícola XI – Memorias del Décimo Primer SimposioInternacional de NutriciónAcuícola, 23-25 de Noviembre, San Nicolás de los Garza, N. L., México. ISBN 978-607-433-775-4. Universidad Autónoma de Nuevo León, Monterrey, México, pp. 12-27

[8] Mokoele JM. (2015). Reasons for Poor Production among the Emerging Small Scale Pig Farmers of the Limpopo Province of the Republic of Africa. MS Thesis. University of Pretoria.

[9] Mulindawa C. (2017). Why pig breeds matter in the market. Daily Monitor. http://www.monitor.co.ug/Magazines/Farming

[10] Qiao F., J. Chen, C. Carter,J. Huang, And S Rozelle( ). Market Development And The Rise And Fall Of Backyard Hog Production In China

[11] Quilloy, KP (2015). Empowering Small Farmers through Cooperative: The Success Story of Subasta Integrated Farmers Multi-Purpose Cooperative. International Review of Management and Business Research. Volume 4. No. 1. www.irmbrjournal.com

[12] Swine or Hog raising. http://www.balinkbayan.gov.ph