Evaluation of Nueva Ecija University of Science and Technology (NEUST) Extension Services Re: Mushroom Growers of Tanawan

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Abstract — This research aimed to evaluate the NEUST extension service provided by the Business Administration (BA) Society on the members of Tanawan Mushroom Growers’ Association of Barangay Tanawan, Dingalan, Aurora. Evaluation research was made to assess the current situation of the cooperative in this remote barangay. Mushroom production is appropriate to the locality and its residents based on their economic profile, interests, and availability of resources. The climate of Barangay Tanawan also suits for mushroom growing. Likewise, mushroom growing requires little space and will not consume a lot of time of growers. The officers of the cooperative further requested that the BA Society could provide them free seeds and continuous assistance to make their association thrive in this business endeavor.

Keywords — Business Administration, development program, extension service, livelihood, mushroom production.

I. INTRODUCTION

Livelihood for barangay across the country is one of the basic needs of families for their everyday living. Barangays, especially those in the remote or far-flung areas need proper guidance to start up something worthy for the community, profitable for their families and learnings for the entire locality; or they may continue what they used to do bearing additional knowledge and ideas that can make their living simpler and easier.

Tanawan is NEUST’s adopted barangay for its Oplan Development Program. It is a resettlement area for more than two hundred households devastated by flashfloods in 2004. Currently, Tanawan has underdeveloped road networks and backyards. It also has idle lands and structures which can be turned into something productive [1].

The BA Society of NEUST Extension Service intends for life-long barangay development by helping Barangay Tanawan’s Mushroom Growers Association. Furthermore, the society wants to share timely ideas that suit the community’s local workforce. A place like Tanawan is strategically located in Highland with a good source of water and fertile soil that is needed for farming.

“Issues in the community, such as this case of Tanawan, will not be solely addressed by the local government officials nor by the residents, but these need a knowledge-based sector or the epistemic community and the academy for it to come up with a scientific diagnosis with regard to the occurrences of problems in the community [2]”.

This study touches the Oplan Development Program of NEUST that focuses on a mission to “Transform Barangay Tanawan into economically sufficient barangay and idyllic tourist destination in Dingalan, Aurora [1]. The said study found out that Barangay Tanawan needed assistance that will ensure the development and upgrade in the quality of life of locals, particularly in terms of water safety, backyards improvement, sanitation, waste segregation, gardening and operations of small cooperatives. Likewise, they would want training on proper leadership and management risk reduction and livelihood skills [1].

The Philippine Department of Social Welfare and Development has led in the provision of opportunities for income-generating activities and livelihood development through the implementation of the Sustainable Livelihood Program since 2011. This policy note describes the program and reflects on opportunities the plan has for improving and complementing other social protection programs [3].

On the other path, barangay may form cooperative or associations to provide goods via voluntary membership. In a news article published by The New Times in Rwanda, cooperative members were all grateful that they took a risk in forming cooperative that engaged in mushroom farming. The group made up of 25 members, 19 women, and six men, produces about 1.5 tons of fresh mushroom per month or about 400kg weekly. The project has significantly boosted members’ financial muscle, as well as nutritional...
levels of their families. The co-operative sells the
mushrooms to a dealership and processor of mushrooms.
Cooperative members say mushroom growing has
considerably changed members’ lives, especially by
improving their household income and nutrition levels [4].
Mushroom growing requires little space and time, and
farmers can make use of their rice straws following
harvesting. Mushroom can be grown the whole year round
provided proper storage of rice straw is prepared.
Mushroom has been attracting the attention of mankind
since ancient times and use of mushroom, as food is as old
as human civilization. It is very rich in protein, vitamins,
and minerals. Unfortunately, it is realized that mushrooms
did not receive universal acceptance over the years since
several naturally growing mushrooms are poisonous. Now
the situation has been changed because the cultivated edible
mushrooms are safe for human consumption [5].

The current study intended to determine the situation of
mushroom production and problems encountered by
mushroom growers of Barangay Tanawan. The findings
helped the researchers to develop an intervention program
that will benefit the association.

II. MATERIALS AND METHODS

This study utilized evaluation research and a survey
questionnaire adopted from NEUST Graduate School as the
main instrument of this study. According to [6] as cited in
[7] “evaluation research focuses on assessing a particular
practice or intervention at a given site.” The researchers
conducted a series of observation and site visitation as well
as focus group discussion to get the necessary information
with the use of the questionnaire regarding the concerns
and profiles of Tanawan Mushroom Grower’s Association.

III. RESULTS AND DISCUSSION

A. Personal Profile

Table 1.1. Demographics

| Particulars     | Age       | Gender | Civil Status | Educational Attainment |
|-----------------|-----------|--------|--------------|------------------------|
|                 | 20-30     | 31-40  | 41-50        | 51-60      | Above 61 | Male | Female | Single | Married | Separated | Widowed | Elem. Grad | Highschool Grad | Undergrad College Grad |
| Frequency       | 12        | 18     | 17           | 11         | 9        | 30   | 37     | 8      | 45      | 6         | 8       | 24          | 28               | 6              | 9               |
| Percentage      | 18%       | 27%    | 25%          | 13%        | 13%      | 45%  | 55%    | 12%    | 67%     | 9%        | 12%     | 36%         | 42%              | 9%             | 13%             |

Based on the gathered data, the majority of the head of the family in Tanawan aged 31-50, mostly female and high school and elementary graduates.

Table 1.2. Income Profile

| Particular | Occupation            | Other Sources of Income |
|------------|-----------------------|-------------------------|
|            | Farmer | Employee | Merchants | None | House Cleaner | Store | Outer | Tricycle Driver | Farm Cleaner | Welder | Charcoal Trader | Street Vendor | Construction Worker | Gardener | Fisher | Livestock | Social Worker |
| Frequency  | 10     | 25       | 23       | 9    | 1            | 6    | 9     | 1          | 1          | 1      | 4          | 4       | 6            | 2         | 31    | 2        |
| Percentage | 15%    | 37%      | 35%      | 13%  | *38 samples have other sources of income equivalent to 57% of the total population |
| Total      | 67     | 100%     |

Head of the households was mostly engaged in merchandising and entrepreneurship. This indicates that the majority of the bracket is appropriate in business venture interested and eager to do business for a living.

B. Economic Profile

Table 2. Economic Profile of Tanawan Residents
Farmland Ownership (Covers 15% of Farming Activity on Table A2) | Land Area for Farming (Covers 15% of Farming Activity on Table A2) | Livestock
---|---|---
| Own | Squatting | Renting | Below 500 sqm | 500sq m – 1 hectare | 1.1 – 3 hectares | 3.1 – 5 hectares | Raising Chickens | Raising Eggs | Raising Goats | Breeding Cows |
Frequency | 6 | 3 | 1 | 3 | 3 | 2 | 2 | 19 | 4 | 4 | 4 |
Percentage | 60% | 30% | 10% | 30% | 30% | 20% | 20% | 61% | 13% | 13% | 13% |
Total | 10 = 100% | 10 = 100% | 31 = 100% |

With a vast land, only 15% of the population is engaged in farming, wherein 60% of it owns the property they cultivating. Thirty-one households are into raising live stocks; mostly raising chickens covering 61% of the population.

C. Property and Availability of Resources Profile

**Table 3. Property and Availability of Resources of Tanawan Residents**

| Home Ownership | Classification of Major Materials Used in House | Plant Resources within the Yard |
|---|---|---|
| Owned | Renting | Living with | Concrete | Semi-Congrete | Wood | Mangoes | Papaya | Jackfruit | Coconut | Rambutan | Vegetables | Sunflower | Other Fruit Bearing | Other Plant |
Frequency | 31 | 24 | 12 | 32 | 32 | 3 | 34 | 3 | 6 | 24 | 8 | 16 | 2 | 29 | 3 |
Percentage | 46% | 36% | 18% | 48% | 48% | % | % | % | % | % | % | % | % |
Total | 67 = 100% | 67 = 100% |

On property assessment, fewest of the household owned house and lot in the barangay mostly concreted houses; they have various plants and fruit-bearing trees like Mango and Coconut in their yards.

D. Problems Encountered

**Table 4. Problems Encountered by Tanawan Mushroom Growers Association**

| Rank | Problems Encountered | Frequency | Percentage |
|---|---|---|---|
| 1 | Lack of expertise to generate the product | 67 | 100% |
| 2 | No market (sure market) for the product. | 54 | 81% |
| 3 | Lack of assistance from the Local Government Unit (LGU). | 34 | 51% |
| 4 | Lack of transportation. | 32 | 48% |
| 5 | No internet access. | 15 | 22% |

It was found out that the highest problem of the association is expertise in generating their product. Companies that don’t offer quality training to new and current employees harm not only the development of individual workers but also the evolution of the business itself [8]. Regards to this problem skills and knowledge of every member must be accelerated for the cooperative’s sake.

A business owner must always be thinking in terms of supply and demand[9]. The demand and attitude of the buyer may contribute to the sales of the business. The failure to study the behavior of the target market will bring the business down. Even though they know about selling, they were not confident about their strategies on how to be an entrepreneur and to make a profit in a sustainable and
efficient way. One more factor, it is a far-flung area difficult for the LGU to reach out. Other problems in the area include logistics, promotion, and internet access.

**E. DEVELOPMENT PROGRAM**

The culture of mushroom growing is gaining popularity in the Philippines [5]. Mushroom Cultivation can also be a feasible livelihood activity [10]. Its present cultivation in this country is limited, perhaps due to insufficiency of planting materials and the limited local knowledge about its culture. Mushroom Cultivation can help reduce vulnerability to poverty and strengthens livelihood through the generation of the fast yielding nutritious source of food and reliable source of income [10]. Mushroom is a delicacy and is accepted as a vegetable.

Mushroom production is the solution for the problems encountered in Garden Tourism [1] after the said assessment in Barangay Tanawan. The NEUST presented activities like seminar-workshop on mushroom growing [1] (#4), and mushroom growing and marketing [10] (#8) to solve the problems in Garden Tourism. As a response to that proposed activity, the NEUST Graduate School B.A. Society provided quality mushroom fruiting bags and a focus group discussion regarding the marketing strategy on how to market and sell the product.

**IV. CONCLUSIONS AND RECOMMENDATIONS**

Mushroom production is appropriate to the locality and its residents based on their economic profile, interests, and availability of resources. The climate of Barangay Tanawan also suits for mushroom growing. To add, mushroom growing requires little space and will not consume a lot of time of growers. The officers of the cooperative further requested that the BA Society could provide them free seeds and continuous assistance to make their association thrive in this business endeavor.

It is highly recommended an excessive training toward doing business in partnership with LGU and DTI for entrepreneurship awareness and to be able to make accurate decisions [11] for proper Mushroom products pricing, BFAD, DOST and TESDA for food processing and mushroom production.

Likewise, the existing cooperative and barangay officials should work hand in hand in studying and exploring the performance [12] of their mushroom in the market to enhance their on-going livelihood project further. To make the product of Tanawan to be known outside their place, participation to trade fair sponsored by the DTI every month should be encouraged.

Furthermore, the barangay needs sustainable platforms to support group that is willing to give aides for their community development, not just in livelihood; it can be on education, sanitation, barangay management, or tourism.

| Program                      | Status       | Resources Needed                                    | Hindrance                                | Intervention                        | Benefits                                                                 |
|------------------------------|--------------|-----------------------------------------------------|------------------------------------------|-------------------------------------|--------------------------------------------------------------------------|
| 1. Implementation of Mushroom Production | Ongoing      | 1. Service Vehicle                                  | - Different interests of the residents   | -The Association should participate in the implementation of the program. | A well-implemented plan will raise profit for the association. The members further developed their skills in mushroom production |
|                              |              | 2. Barangay Captain Assistance                      | - Time Management                        |                                     |                                                                         |
|                              |              | 3. Tanawan Residents                                 |                                          |                                     |                                                                         |
|                              |              | 4. B.A. Society Officers and Advisers                |                                          |                                     |                                                                         |
| 2. Site Visitation           | First Week   | 1. Service Vehicle                                  | - The production area is far from the barangay hall. | - Communication with the Barangay Officials for Assistance and Guidance going to the site. | - Observation must be more efficient of the actual, and real production area must be seen. |
|                              | June 2019    | 2. Barangay Captain Assistance                      | - Ongoing Renovation and Building        |                                     | -Mushroom is food for consumption, so sanitation must be maintained and |
| 6. Mushroom Production Seminar | Second Week June 2019 | 1. Barangay Official Support  
2. Mushroom Growers from San Ildefonso Bulacan  
3. B.A. Society Officers and Advisers  
4. Tanawan Mushroom Grower Members and other residents | - The cleanliness of Mushroom Production Area, sanitation must be observed  
- Cleaning and maintenance should be scheduled and monitored for the site cleanliness. | - Giving letters and announcement ahead of time to the mushroom growers regarding the planned seminar.  
- Having an agreement with the resource speaker (free seminar in return to the marketing of his/her product).  
- Being knowledgeable about the different strategy of mushroom production can drive the motivation of members to work more for the growth of the cooperative. |
| 7. Mushroom Processing Seminar | First Week August 2019 | 1. Barangay Officials  
2. DTI  
3. BFAD  
4. Cooperative Members  
5. B.A. Society Officers and Members | - Lack of Mushroom Surplus  
- Conduct training regarding the culturing/making of Mushroom fruiting bag for fewer expenses.  
- Small losses are tolerable from the start of processing.  
- Harvest Surplus can be a motivation to process mushroom into another product, for more income and more product line for the target market. | - Losses on the start of the mushroom processing activity. |
| 8. Mushroom Marketing Management Seminar | Second Week August 2019 | 1. B.A. Society Members (from the Industry), Officers and Advisers  
2. Mushroom Cooperative Members | - Lack of confidence of some mushroom members regarding their product.  
- Educating the members about the biggest possibility of their product, especially when develop.  
- Monitoring regularly must be applied. | - Good Marketing Management about the Mushroom will keep the cooperative exists and grow for a long period. |
9. **Product Exposure**  
(Aurora Province-Pasalubong Centers)  
- Different products out of the mushroom  

| Last week of November 2019 | 1. Mushroom Growers Cooperative | - The pressure on the side of the members on how to introduce the product to the market or the whole province. |
|---------------------------|-------------------------------|-------------------------------------------------------------------------------------------------|
|                           | 2. DTI Aurora                  | - Different demands or interest in the market.                                                    |
|                           | 3. LGU- Aurora                  |                                                                                                 |
|                           | 4. NEUST- B.A. Society Officers and Advisers | - Reminding the confidence learned on the marketing management seminar |
|                           |                               | - Value adding on the benefits and uses of the mushroom to the target market.                   |

- Product exposure will help mushroom growers to introduce and showcase their product to the market.

10. **Sustainable/Continues Mushroom Production Monitoring and Evaluation**  

| First week December 2019 | 1. Mushroom Growers | - Hardship in the availability of time of both parties. |
|--------------------------|---------------------|--------------------------------------------------------|
|                           | 2. NEUST - B.A. Society officers and Advisers | - Setting up a time chart about the quarterly visit and checking of inventory logbooks |
|                           |                     | - LGU support in the growing mushroom production |
|                           |                     | - Formal letter request about the needed support from the government unit. |

- Monitoring and evaluation were performed for the cooperative to stay and to grow as time goes by and to prevent business closure.

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