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Food Processing Extension Program Evaluation: Catalyst for Sustainable Community Development

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Abstract
Aim: The study was conducted to assess the Food Processing extension program implemented by Ilocos Sur Polytechnic State College – College of Fisheries, 2013-2018.
Methodology: It utilized a descriptive and evaluative research method using a question aided interview with an open-ended question, mainly on the extension intervention, climate adaptation, and mitigation experiences. Frequency counts and mean were statistically used.
Results: The training given was very relevant; beneficiaries' level of satisfaction was "excellently satisfied" and excellent for knowledge and skills obtained from the technology intervention given. The use and application of the lesson learned are essential and accomplish the beneficiaries' plans. However, some beneficiaries' plans did not materialize due to the unavailability of personal resources limited LGU support, and the techniques learned were applied to regular household activities. Nevertheless, most of the technologies adopted by the beneficiaries helped increase their income as "Very Much Attained". A "Slightly Confident" in response to climate adaptation and mitigation techniques, measures, and practices of the beneficiaries.
Conclusion: The use and application of the lesson learned are essential, and the accomplishment of the plan serves as a guide in achieving the beneficiaries' objective or goal. Strengthen partnership with other agencies and include climate adaptation and mitigation techniques, measures, practices, client empowerment, and resiliency as part of the extension program provided to the beneficiaries. Continues monitoring and evaluation of implemented extension program to measure the attainment of objectives. Continues re-planning of extension activities, improving extension performance, increasing its efficiency, and communicating extension program results to policymakers and clientele being served.

Keywords: Extension program, Food Processing, monitoring and evaluation, descriptive research, community development

INTRODUCTION

The countryside development is one of the main thrusts of our government. However, touching the lives of the people, especially those of the remotest areas, is an equally severe obsession of our national leadership towards promoting a better life at the grassroots level.

The ever-growing social inequities confront most low- and middle-income countries as many people still have insufficient access to proper education and training. This problem results in citizens lacking the necessary skills for employment or being disempowered to engage in entrepreneurial pursuits. As higher education institutions (HEIs) are concerned with delivering extension programs to reach development goals, academic institutions must also monitor and evaluate the outcomes of their community programs at the grassroots level (Virtual Knowledge Centre, 2010).

According to Sattanno et al. (2016), to implement a strategy for sustainable development, members of the community must believe that they can resolve their problems and shape their future. A spider's web looks fragile, but it can withstand extraordinary force with minor damage. Strengthening the community's capacity is like weaving a web that creates a social network throughout the community, providing support for all and extending and enhancing cooperation and collaboration among people, institutions, organizations, and businesses. Even if it starts small, the network expands and incorporates more and more of the stakeholders. The network increases community cohesion and resilience through innovative partnerships, increased collaboration, and a shared future vision.

Republic Act 7722, otherwise known as The Commission on Higher Education, mandates institutions of higher learning like State Universities and Colleges (SUCs) to respond to the call for societal transformation. The aim is to serve the poorest of the poor, the less privileged, the deprived, and the oppressed. (Elman1998) Among SUCs, most extension programs are demand and accreditation-driven. Demand-driven is community-based that encompass basic functional needs and directives designed to establish and promote the general well-

being of the rural and urban populace. Usually, this is requested by the Local Government Unit concerned with identifying the specific needs of their constituents.

Higher Education Institutions or HEIs, particularly SUCs or the State Universities and Colleges, are committed to fostering quality education through its four-fold function, namely instruction, research, extension, and production. Nowadays, internationalization initiatives are also a part of a SUC's function; one way of doing this is through partnership and collaboration in research and extension, students and faculty exchange programs, cultural experiences, and immersion programs to name a few. In addition, there is a connection between community engagement, research and extension, and State Universities and Colleges. Each SUC is mandated to research, create knowledge, and apply this generated knowledge through extension services. Furthermore, community engagement could be sustainably promoted by conducting extension services. Therefore, higher education institutions are mandated to render extension service hand in hand with instruction, research, and production. It is in recognition of the vital role of colleges and universities in demonstrating the development of communities, especially the underserved and depressed (Medina, 2014).

It is a directional and purposive process of bringing relevant education to the people, a dynamic diffusion process. It requires that an extension work be defined and a well-planned program of bringing research and technology results to the rural people to help them solve their production problems. It is a democratic and cooperative endeavor among many agencies and groups designed to provide the clientele with the latest scientific information. The Extension Program of the university continuously figures as the university's main link to farm families and various (IJARMSS, 2013).

College or University extension is not an indispensable activity, and it renders the university program and activities that are educational and economically boosting. It involves revitalizing the old practices and traditions and patches the gap between traditional and modern. The potential usefulness of extension programs has prompted SUCs to initiate programs of various types to reach out to a more significant number of youth and adults who are likely to benefit from their programs. Program approaches tend to be more realistic and attainable since they are validated at the community level, making them people-based. They are more relevant and responsive to the needs of the community people.

One of the functions is to meet social needs or provide the social services needed to combat society's social and economic ills. Therefore, SUCs have to move ideas along the road to action, develop the required knowledge, and apply valuable knowledge to solve society's major problems. It is carried on through the establishment of extension programs and services. An extension program provides opportunities for the target beneficiaries to improve their standard of living and uplift the quality of life of the clienteles. To serve and strengthen community life, SUCs offer a wide variety of extension programs and services. These are designed primarily to increase the security of livelihood, alleviate poverty, reduce illiteracy, improve health and nutrition, create a system of governance that promotes support and sustains human development, and protect and preserve the environment. The poor must be empowered in mind, body, and resources for the poor to benefit.

Extension services are focused on capability building through education. The conduct of livelihood skills training to unemployed adults, underemployed adults, or who want to upgrade their skills, out-of-school youth, technical assistance to support government programs, and the transfer of technology to the depressed barangays where resources are available.

Evaluation of such programs is a dire need to help determine the strengths and weaknesses in implementing extension programs. The need for a systematic perspective is emphasized that technology complements the technical, social, political, and economic environment. It facilitates interaction with partners in research, education, agribusiness, and other relevant institutions. The extension then is an essential facilitative instrument for a needs assessment. It encourages participants to promote the efficiency and effectiveness of technology development and use, emphasizing finding the needs between innovation from research and farmers' practices. (GFRAS, 2012).

Monitoring and evaluation can be used to demonstrate that program efforts have a measurable impact on expected outcomes and have been implemented effectively. It is essential in helping managers, planners, implementers, policymakers, and donors acquire the information and understanding they need to make informed decisions about program operations. It will also help identify the most practical and efficient use of resources. It is critical for developing objective conclusions regarding the extent to which programs can be judged a "success". Monitoring and evaluation together provide the necessary data to guide strategic planning, design and implement programs and projects and allocate and re-allocate resources in better ways.

At the program level, the purpose of monitoring and evaluation is to systematically track implementation and outputs and measure programs' effectiveness. It helps determine precisely when a program is on track and when changes may be needed. Monitoring and evaluation form the basis for modifying interventions, assessing the quality of

activities being conducted, and guiding its course of action (FAO, 2010).

Objective

The researchers embarked on this study to assess the food processing extension program implemented by ISPSC College of Fisheries during the AY 2013-2018. It determined the socio-demographic characteristics of the beneficiaries, extension intervention received, level of satisfaction, applications of the lesson learned, and identified the extension beneficiaries' empowerment and resiliency. As an output of this research, a plan of action will be submitted/ disseminated to concerned officials of the college and partner LGUs for proper action.

METHODS

Research Design

The study made use of the descriptive and evaluative methods of research. Moreover, documentary analysis was utilized to gather data on the names, the number of clientele, and the extension program implemented and was obtained from existing documents of the college.

Population and Sampling

Purposive sampling was utilized depending on the availability of the clientele when the visitation/monitoring was scheduled. The selection of respondents was delimited based on the number of attendees during the different extension programs given during the year 2013-2018.

Procedure

Prepared schedule interviews with the respondents to give ample time for them to free themselves from work in the family and on the field. Question aided interview was employed to elicit the information needed in the study. An open-ended question was also be made in some specific topics/questions to gather the exact reasons regarding the questions asked, particularly on the intervention received, the level of extension satisfaction, and climate change adaptation and mitigation experiences. The questionnaire was adopted from the monitoring and evaluation tool used by the Regional Agriculture and Fisheries Network (RAFEN UNO, 2019).

Ethical Consideration

The researchers observed all ethical principles such as privacy, confidentiality, prevention of risk or harm, voluntary participation, and other humane treatments of the participants in the conduct of the research.

Data Analysis

The questionnaire was floated, and the responses of the seventy beneficiaries who attended the different pieces of training provided by the college were collected. Then, the gathered data were tallied, summarized, analyzed, and interpreted using frequency count and percentage, rank, and mean.

RESULTS and DISCUSSION

Table 1. Demographic Characteristics of the Food Processing Extension Beneficiaries

Profile	Frequency	Percentage
Gender		
Male	10	13.89
Female	57	79.17
Transgender	5	6.94
Total	72	100.00
Age		
51 and above	9	12.50
41-50	23	31.94
31-40	21	29.17
21-30	19	26.39
Total	72	100.00
Marital Status		
Married	40	55.56
Single	20	27.78
Separated	4	5.55
Widow/er	8	11.11
Total	72	100.00
Educational Attainment		
College Graduate	12	16.67
Vocational Graduate	17	23.61
High School Graduate	37	51.39
Elementary Graduate	6	8.33
Total	72	100.00
Household Size		
Ten and above	9	12.50
7-9	21	29.17
4-6	24	33.33
1-3	18	25.00
Total	72	100.00
Membership in Organization		
Senior Citizen		
RIC/Balikatan	3	4.17
4P's	17	23.61
Farmer/Fishermen	27	37.50
Sanggunian Kabataan	15	20.83
	10	13.89
Total	72	100.00

Most of the college food processing extension programs are females (79.17%). The female outnumbered the male, indicating the female counterparts are more concerned and interested in food processing activities. Brandzaeg (1982) explicated that the role of women in the food systems, although the economic importance of women as producers of food, has been documented rather than male counterparts.

The ages of the beneficiaries ranged from 21 to 51 and above. The majority are 23 (31.94%) are on the age bracket of 41-50 (31.94%), and the lowest are those age brackets of 50 and above (12.50%). The results show that they are on maturity age and capable of performing their work prerequisite of the needed skills in food processing. As to marital status, most of the beneficiaries (40 or 55.56%) were primarily married, indicating that married people tend to be more engrossed in attending the extension program, which could be used later as a means of livelihood activities. The beneficiaries' educational

attainment are high school graduates (51.39%), and the lowest are those who only attained elementary graduation (8.33%). Academically, an indication, therefore, that they need to acquire more knowledge and skills to use not only for their household chores but can also be applied to upgrade themselves, particularly in putting up a small business on their own. The educational attainment they acquire dictates the minimal learning opportunities to capacitate them to become productive women in the community due to their meager literacy (Leach, 1998). Seventy-three extension beneficiaries, 24 (33.33%), have household sizes of 4-6, and the lowest are those found in the range of 10 and above (9 or 12.50%). The extension beneficiaries are primarily members of the 4P's (37.50%), and the least are those senior citizens. Therefore, it is an indication that 4P's individuals desire to improve their socio-economic well-being through their active participation in the organization.

Extension Intervention and Support Services Received

Table 2. Extension Intervention and Support Received by the Beneficiaries

Extension Intervention	Frequency	Rank
Food Processing	49	1
Fish Deboning	4	4
Fish Smoking	48	2
Fish Canning	6	3
Training Support Given	**Frequency**	**Rank**
Food Processing Tools and Materials	45	1
Smoking Materials	2	4
Fish and Other Ingredients	10	3
Training Materials (Fliers)	24	2
Services Received	**Frequency**	**Rank**
Sponsored Training	48	1
Cash Grant	14	3
Food Processing Equipment and tools	5	4
Livelihood Project	15	2
Additional Services Received	**Frequency**	**Rank**
Sponsored Training	48	1
Cash Grant	14	3
Food Processing Equipment and tools	5	4
Livelihood Project	15	2
Agency Sponsoring the services		
Local Government Unit	22	2
Department of Social Welfare and Development	48	1
Technical Education Skills Development Authority	2	3

Based on the table, there are four training programs initiated by the college attended by different groups of individuals, as seen in table 2a. The majority of the beneficiaries mostly participated in the food processing training, which includes acquiring skills in vegetables, fruits, and meat recipes. Other services provided are fish smoking and rank as no. 2, and the least attended are those training in fish smoking as rank no. 3. It indicates that most beneficiaries select this training because it consists of several topics that help them develop more skills and increase opportunities for livelihood activities. Aside from this, the availability of potential raw materials in the community used during the said training was considered.

Other training provided was concentrated in the fisheries sector and prioritized those dwellers in coastal areas. Four specified training support to beneficiaries includes providing food processing tools and materials, smoking materials, fish and other ingredients, and training materials. Out of these, most beneficiaries are given food processing tools and materials as rank no. 1. Fish and other ingredients were distributed only during the practicum period.

The Campus has to find ways and means to pursue its mandate by charting its course of action based on the philosophy, objectives, priorities, approaches, and other considerations to respond to the needs of the civil society. Thus, partnership with other agencies in implementing extension programs for HEIs is crucial, especially when dealing with financial matters.

In the conduct of the extension program in partnership with other agencies, services provided were requested in the form of sponsoring training and identified as rank 1. Lastly, others were also providing food processing equipment or tools.

This table shows the different agencies that supported and sponsored the conduct of ISPSC extension programs. Financial assistance provided by the Department of Social Welfare and Development ranks 1, followed by the service given by Local Government Units and the least given by the TESDA. Thus, it can be realized that any extension program conducted in partnership with the funding agency is beneficial to the college, particularly in reaching out to people at the grassroots level. Further, it also implied that collaboration between HEIs and the community should also be mutually beneficial because community counterparts, particularly local government units in the area, can contribute in terms of financial means and their active participation in any extension activities. Moreover, the Local Government Units are at the forefront of delivering essential services to all primary sectors, whether agricultural or non-agricultural (Limbo, 2018).

Beneficiaries Level of Attainment on the Extension Intervention

Table 3. Beneficiaries Level of Attainment on Extension Intervention Provided

Level	Mean	Description
Satisfaction with the	4.57	Excellently Satisfied

intervention received		
Relevance of the training given	4.67	Very Relevant
Knowledge and skills obtained from the technology intervention given	4.63	Excellent

The extension given in terms of its relevance, attainment of knowledge, and skills, the beneficiaries express and react that they are excellently satisfied. Furthermore, knowing the beneficiaries' level of accomplishment is a key to maintaining or improving the provision of extension intervention. Jaka and Shava (2018) stressed that empowering beneficiaries through extending livelihood programs and various commercial activities makes them resilient, as seen in Peru.

Evaluation of the Use and Application of the Lesson Learned in the Extension Program

During the interview, questions were raised asking the beneficiaries if the activities they planned were accomplished or not. The majority of them responded Yes (37 or 51.39%), and the rest responded No (35 or 48.61%). An indication, therefore, that though attendance to training is successful, this does not guarantee that all the beneficiaries adopt the extension program. As evidenced by the presented data, several reasons crop up why their plan did not materialize due to the unavailability of personal resources and limited LGU support

Use and Application of the Lessons Learned

Table 4.a. Technologies Applied by the Beneficiaries and Description of the Technologies Learned.

Technologies Applied	Frequency	Rank
Food Processing	51	1
Fish Deboning	1	3.5
Fish Smoking	32	2
Fish Canning	1	3.5
Description of the Technologies Learned		
Applied and shared the use of the technologies with others	27	2
Applied the technology to regular household activities	40	1
I tried a couple of times only	5	3

It indicates that most of the beneficiaries opted to adopt the food processing technology, which is multi-faceted, thus involving many skills to develop due to the coverage of the topic presented. Besides, the time duration was mainly conducted on a staggered basis longer than the other kinds of training provided.

When beneficiaries were asked about their idea on the technologies learned, most of them applied the technology to regular household activities. However, others also claimed that the technologies they knew were involved and shared with others, and the least were tried a couple of times only.

Furthermore, the technologies/training received were solely learned from the college (61), and other beneficiaries claimed that another similar training was given by other sources (11). Ultimately, it is agreed that they willingly continue to use the technologies learned (35) and others responded unfavorably due to unavailability of resources to use and apply the technology (34), limited time (12), and the technology taught are not suitable to the area (10).

Monitoring and Evaluation of the Food Processing Technology Intervention. Monitoring and evaluation in any extension program could help in improving community engagement. It is also a means to measure the attainment of any implemented project and an avenue to gather problems and feedback. Though university-community partnership proved to be extensive, it seldom demonstrates the importance of monitoring and evaluation in partnership sustainability (Hutchins, 2013).

Productivity

Efforts begin at the production stage, with activities to reduce postharvest losses and increase the use of by-products to maximize the conversion of raw materials into consumer products. Through food processing extension programs, efforts to ensure that raw materials available in the locality will be maximized are used most efficiently for food and economic security. Thus, monitoring and evaluation of the extension program are essential to know whether the technologies learned by the beneficiaries are attained at the maximum. When asked about the main reasons to continue the technologies learned, some beneficiaries responded for personal/family consumption only (65). Others claimed to earn an income depending on the condition and time availability of the resource.

It is also known that most of the technologies adopted by the beneficiaries helped increase their household income (65). The degree to which the technologies adopted helped increase their income obtained an overall mean rating of 3.82, which is described as "Very Much Attained". In addition, some of the beneficiaries also engaged in other sources of income like vendor, animal raising, vegetable gardening. Another source of their income depends on the weather condition, availability of raw materials, and funding.

Beneficiaries Empowerment and Resiliency

Economic participation and beneficiaries' empowerment are fundamental to strengthening their rights and enabling them to control their lives and exert influence in society. (OECD 2011). Their active

participation in any technology provided determined engaging activities that boosted their production. However, some beneficiaries are still not yet empowered, as indicated by their no responses (49), and 23 claimed they are licensed (23) through marketing their products only. Others re-invest their proceeds for the subsequent food processing. It implied that their limited engagement in starting a business needs to be further empowered by mentoring, particularly on group information and product market, rather than conducting individually. As cited by Diharto (2018), it explains that members of small and medium enterprises (SMEs) have a high level of resilience because it is easier for them to find a solution rather than those that operate individually. They are more empowered, mentoring knowledge, information, and market in the group.

The beneficiaries' confidence level in case of unfortunate events such as typhoon, flooding, drought, earthquake, and others, the findings came out that they are "slightly confident" with a mean rating of 2.35. It was supported by their claim that that did not include climate adaptation and mitigation techniques, measures, and practices during the said training program provided. As pointed out by Tsai (2001), it is an indication that can strengthen the confidence level of the beneficiaries if training programs are conducted as part of the extension program in SUCs. However, none of these training programs, which are undoubtedly helpful, are included in the formal education system. Yet, the information learned at school is more scientific and permanent than the information known by chance from family and the environment.

When also asked their experiences of any disastrous events that affected their project and suffered damages and losses, most of them responded "yes" and to cope with the situation. They stated that they must be ready, attentive, and alert in listening to the news in the radio or television. The results imply that the training, particularly on client empowerment and resiliency, is part of any extension program provided to the beneficiaries. As stressed by Gerdan (2014); IFRC (2011), it is necessary that community awareness and preparedness towards disasters be transpired within the community level and needs to consider the individual characteristics within the community and parts of communities across space. Consequently, the Regional Office for the Arab States of the United Nations Office for Disaster Risk Reduction (formerly UNISDR-ROAS) (USAID 2011) have also indicated that depending on the type of community, access to information may vary depending on the social grouping and, therefore one's awareness of disaster risks. Lastly, IFRC (2011) suggests that most people become disaster-aware based on their own experiences with disaster events over time.

Conclusion

Based on the study's findings, most of the extension beneficiaries are females; age ranges from 41-50 years old, married, high school graduate with 4-6 household size and members of the 4Ps organization. The provision of fliers, tools, and materials is instrumental for the training and collaboration by partner agencies like DSWD and LGUs. The training given was very relevant; beneficiaries' level of satisfaction on the training provided was "excellently satisfied" and excellent in terms of knowledge and skills obtained from the technology intervention given. The use and application of the lesson learned are essential, and the accomplishment of the plan serves as a guide in achieving the beneficiaries' objective or goal. Food Processing Technology adopted by the beneficiaries and the degree to which the technologies used helped increase their income as "Very Much Attained"—a "Slightly Confident" level with climate adaptation and mitigation techniques, measures, and practices. Beneficiaries' readiness, attentiveness, and alertness in listening to the news on radio and television are signs of beneficiaries coping mechanisms in any disastrous events which affect the extension program or projects.

Strengthen partnership with other agencies to support other extension programs to be implemented. Climate adaptation and mitigation techniques, measures, and practices are included in any extension training program to be conducted. Client empowerment and resiliency to be part of any extension program provided to the beneficiaries. Continued monitoring and evaluation of implemented extension programs are recommended to measure the attainment of objectives, gather problems and feedback, use as a basis for re-planning extension activities and ultimately improve extension performance and increase its efficiency. Consultation with partner agencies and other stakeholders should be strongly encouraged to establish and use monitoring procedures and evaluation to enhance extension programs, projects, and activities and communicate the results of extension programs to policymakers and clientele being served.

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