

# OUTCOMES OF THE ADAPTION OF VISAYAS STATE UNIVERSITY (VSU)-TOLOSA FOOD TECHNOLOGIES ON THE LIVES OF BENEFICIARIES

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## Abstract

Extension activities of a university are aimed at the well-being and development of the community it serves. Thus, food technologies developed from VSU - Tolosa's research programs are being disseminated to the beneficiaries for them to be motivated to use appropriate practices and help augment their income. This study determined the experiences of the respondents who are members of the three women's associations of Tolosa, Leyte in the adaption, production, and marketing of their products. Using the case study method utilizing interview and FGD, results showed that respondents participated in the training to acquire knowledge and skills in food processing techniques, gain knowledge in simple marketing, bookkeeping, and accounting, acquire new experience, and to avail of an opportunity offered by the program. The adoption of the food technology has led to increased income, enhanced knowledge and awareness of the proper and appropriate practices of producing safe and quality food products, empowerment, enhanced social relationship with their co- members, and brings honor to the municipality. This led to a conclusion that the adoption of VSU-Tolosa generated technologies contributed to the enhancement of the knowledge, skills, economic and social conditions of the beneficiaries which resulted in some changes in their lives. Further, an adoption of the technology has caused gainful employment to the beneficiaries through entrepreneurship. It is recommended that more training and sustainable projects be implemented for the respondents.

**Keywords:** extension activities, monitoring, and evaluation, women's association training outcomes

## I. INTRODUCTION

Unemployment and underemployment are some of the problems in developing countries which is a primary concern of all sectors of society. To help the unemployed people, especially the marginal women, improve their living conditions, many government agencies (GAs), government institutions and non-government organizations (NGOs) implement various

kinds of development programs. For instance, the Research and Development (R&D) institutions continue to generate technologies aimed to improve people's productivity and income. But for research to be effective, there must be an efficient mechanism whereby its result can be used by the end users which is the function of extension (Asiabaka, 2002). The technologies are disseminated to clients using various approaches and strategies.

According to Rivera and Sulaiman (2009) extension is both an object of reform and an engine of innovation. As an object of reform, it is called upon to adopt; and as an engine for advancing innovation, it is called to take on new roles beyond traditional technology dissemination. The role of extension is to educate reluctant beneficiaries e.g. farmers and marginalized women in new technologies and techniques, primarily through demonstration (Ilvento, 1997).

For the beneficiaries to benefit from extension programs, they must be empowered in mind, body, and resources (Bidad and Campiseño, 2010). In the studies of Cagasan and Velasco (2009) and Velarde, et. al. (2007) development programs were found to have contributed to the improvement of economic, social skills, decision-making capability, self-confidence, and the development of leadership skills of the stakeholders. Whereas, learning online project improved clientele's knowledge on the technology and capability in using the technology (Federicos and Gravoso, 2012).

Visayas State University (VSU)-Tolosa in Tanghas, Tolosa, Leyte through its extension program has developed the practice of extending generated technologies and expertise to the community and other beneficiaries as a collaborative approach to development. The university has its mission of implementing extension programs with the hope that it will improve and sustain productivity among its beneficiaries through the application of appropriate knowledge and technologies using various extension approaches such as training, demonstrations, and production of flyers.

However, since then no study has been conducted to monitor if its goal of helping people improve their living conditions has been achieved. Hence, this study was done to gain an understanding of the reason for participating in the training and adapting the technology, the potential outcomes

experienced by the beneficiaries as well as the challenges met. Further, determining the impact on the beneficiaries will greatly help improve the planning of a specific program and the incoming extension activities of the university. Instead of examining the impacts using surveys based on pre-identified quantitative impact indicators, this study used a case study utilizing interviews and FGD.

## II. METHODOLOGY

### 2.1 Research Design, Setting and Respondents

This study used the case study research technique. A case study is an intensive and in-depth description of a particular situation (Alicay, 2014). Further, the researcher utilized quantitative and qualitative research designs wherein, questionnaire and FGD were conducted to solicit needed information. It emphasizes questions which are more on the how's and why's of the behavior of a person. This approach was used in the researcher's desire to capture the respondents' behavior and significant experiences of the adaption of the technology.

The study was conducted in the different barangays of Tolosa, Leyte; namely: Telegrafo, Burak, and Tanghas (Map 1) where the different associations under study are located. The municipality of Tolosa is a coastal town and 5<sup>th</sup> class. It is approximately 32 km away from Tacloban, the capital of Leyte. The main source of income of the populace is farming and fishing. There are many existing women's associations in Tolosa, Leyte formed to uplift the well-being of the members. These associations have undergone food processing training, and have adapted, produced and marketed VSU-Tolosa's generated technologies at a small scale level. Most of the members of the associations are wives of marginal fisherfolks and farmers whose purpose in

joining the association is to have an alternative income to help augment the meager income of their husbands.

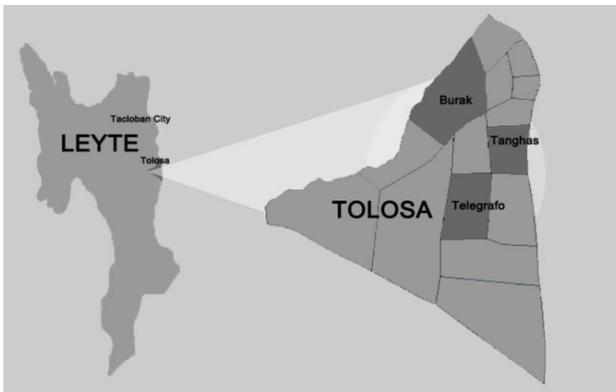


Figure 1. Map of the study sites

In this study three associations were chosen as the object of the study as these associations are registered with the Department of Labor and Employment (DOLE), were assisted by Japan International Cooperation Agency (JICA) and United Nations Development Program (UNDP); and currently are producing and marketing their products. The associations with their corresponding food technologies are Tanghas Women's Association on 'milkfish deboning,' Burak Magkaisa Small Business Association on 'vege-fish noodles' and Telegrafo Women's Association on 'meat embutido'. The respondents in the interviews were 20 members of the three associations under study [9 from Burak Magkaisa Small Business Association; 5 from Tanghas Women's Association; 6 from Telegrafo Women's Association]. Further, these 20 respondents were purposively chosen by the researcher with the basis of setting criteria.

### 2.2 Data Gathering Instrument and Procedure

Data were gathered from October 2015 to April 2016 through open-ended interviews and focus group discussions (FGD) with members of the associations and key informants. Before the interviews

started, the purpose of the interviews was explained, and the consent of the informants was obtained. The respondents were asked about their socio-demographic characteristics, their reasons for participating in the training and adapting the technology, their experiences in adapting and production of the technology, and further, the challenges met.

To supplement the data obtained from the interviews, FGD was conducted involving eight females composed of members not included in the interview and inactive members of the associations. Discussions centered on questions similar to the ones used in the interviews.

## III. RESULTS AND DISCUSSIONS

### 3.1 Background Profile of the Respondents

The profile of the respondents is presented in Table 1. Based on the age classification by Petri (2002), four (4) respondents were young adults, thirteen (13) were the middle-aged adults, and three (3) were older adults. Based on the data, the age range was 28-73 (Mean= 39, SD=12.3). Moreover, a greater number were high school level (6), mostly were married (15) and a majority were married to farmers (10).

### 3.2 Reasons for Participating in the Food Processing Training

All of the respondents said that the training benefited them even those who had already attended a similar training before because their pre-existing knowledge and skills was enhanced. Twelve (12) of the respondents gave the reason that they participated the food processing training conducted by VSU-Tolosa to gain knowledge and skills in producing safe and quality food products for the family and for sale to help augment their family income. According to them, they dreamed of producing and marketing a food product that is comparable with other quality

products in the market. An example of this is:

Table1. Socio-demographic characteristics of the participants

Variables	f	%
<b>Age (years)</b>		
Young adults (19-35 years old)	4	20.0
Middle-aged adults (36-55 years old)	13	65.0
Older adults (56-75 years old)	3	15.0
Total	20	100.0
<b>Educational Attainment</b>		
Elementary Level	4	20.0
Elementary Graduate	3	15.0
High School Level	6	30.0
High School Graduate	5	25.0
College Level	2	10.0
Total	20	100.0
<b>Civil Status</b>		
Single	2	10.0
Married	15	75.0
Widow	3	15.0
Total	20	100.0
<b>Occupation of Husband</b>		
Farmer	10	50.0
Fisherman	7	35.0
carpenter	3	15.0
Total	20	100.0

*"I participated in the training because I wanted to learn more about the food technologies of the university and those that we can adapt, produce and market to help augment our income. I also wanted to learn the safety measures in producing quality and safe food products. I know that this is important as this is food."*[Respondent #18]

Eight (8) respondents said that cooking and processing food is their interest. Knowing that the university conducts training of their food technologies and their association was among those beneficiaries

made them happy. A member of the Burak Magkaisa Business Association puts it:

*"I really love and enjoy all sorts of cooking. At home, if I have money, I cook delicacies and native foods. When I learned that our association will undergo a food processing training, I was really happy."*[Respondent #8]

The training is a rare opportunity for some of the respondents. Five (5) of the respondents reported that they were lucky enough that their associations were among those endorsed by LGU-Tolosa as DOLE's beneficiary under its 'Pantawid Program.' They undergo food processing training conducted by VSU-Tolosa.

Four (4) of the respondents said that they participated the training because of their curiosity considering that they attended a food processing training for the first time. They wanted to get a new experience. A respondent narrated:

*"I participated in the training because I wanted to experience it [milkfish deboning]. We were thrilled on the getting of spines. Oh, my! It was tedious work. It was really an exciting experience."*[Respondent #2]

Treasurers of women's associations reported that they participated the training to gain knowledge on record keeping, and simple marketing and bookkeeping. According to them when they read the program of activities, they were happy because it was a packaged. They will gain knowledge and skills in proper handling and processing, develop skills in producing new food products, at the same time gain knowledge in basic principles of record keeping, and simple bookkeeping and accounting. A quote that captures this is from a respondent that said:

*"I was chosen as the treasurer and secretary of the association. But I don't know well of what will I do. I was interested in the training because I learned that aside from the hands-on training and demonstration of the food technologies they will teach us record keeping, bookkeeping, and accounting."* [Respondent #8]

Two of the respondents reported that they participated in the training because they wanted to make use of their spare time productively. These women were the elders in the associations. They reported that they are happy because they have work to do which they enjoyed and more importantly they are exercised. A respondent said that her time has become worthwhile, productive and healthful.

### 3.3 Reasons for Adapting the Technology

One among the reasons for adapting the technology is the respondents wanted to apply the knowledge and skills learned in training. This is contained in the phrases to apply the knowledge and skills learned, to make use of the knowledge and skills gained. Seventeen (17) of the respondents gave a reason, such as this:

*"Of course, we want to apply the knowledge and skills learned from the training because we want to develop a food product that we could sell and are comparable to the other processed foods in the market so that we can at least earn to augment the meager income of our husbands."* [Respondent #13]

When asked about the volume of their production, respondents confided that depending on the season and orders, the Telegrafo Women's association process an average of 10 kg of meat per day producing an average of 100 pieces of meat embutido; the Burak Magkaisa Business Association

produces an average of 70 packs of veggie-fish noodles per day; and the Tanghas Women's Association 30 kg of deboned milkfish per day. Also, they said that they apply the good manufacturing and hygiene practices in their work. This was confirmed by a participant saying:

*"Before going to the working area, I always say to it that I take a bath. I use my working outfit . . . We clean and disinfect the working area and facilities using 'zonrox' before and after we work . . . cleanliness has become a part of our work."* [Respondent #6]

A reason raised by twelve (12) respondents why they adapted and produced the food technologies is that they make use of the processing equipment and facilities provided by donors and funders (e.g. DOLE and DTI). Further, they elaborated more saying that when typhoon Yolanda made its 3<sup>rd</sup> landfall in Tolosa, All their processing materials were destroyed, but they were assisted by JICA with the Multi-Purpose Livelihood Building and UNDP with processing equipment and facilities. Participants also reported that the raw materials such as flour, egg, squash, and fish of low-value [vege-fish noodles]; pork, carrots [meat embutido]; and milkfish [milkfish deboning] are available at an affordable price in the market and the locality.

According to eight (8) respondents, they adapted and produced the food technology because they work in the association and can still attend to the needs of their families. Members of women's association are wives of marginal fisher folks and farmers living in the same barangay and do their production usually in the house of the president of the association or the barangay hall, hence, their houses is just a few meters away. They just walk to the processing area. During noon and when

they are done with their assigned work, they can have a glimpse of their properties and pets and attend to their children's needs. After the work, they can go home at once.

The trainers or resource persons [faculty] are approachable and accommodating when they need technical assistance was the reason given by five (5) respondents. They cited that they were encouraged by the trainers to adapt the technology and seek for technical assistance if they encountered problems. In the trainer's view, the transfer and acquisition of knowledge and the development of skills cannot be done perfectly within the span of few days. Hence, they are willing to entertain questions even after the training. Here is a statement from a participant:

*"I am really indebted to VSU-Tolosa, because of them I learned how to produce 'meat embutido'. What is good is, anytime I need their help I can ask their assistance. Our trainers are our customers too. When they taste and not according to what they expect, they correct us."* [Respondent #10]

### 3.4 Outcome of the adaption of the food technologies on the lives of the participants

All of the respondents reported that the production and marketing of the food technology have helped improve their sustenance. Respondents reported that they received a good income from the products they sold. Regarding financial aspect, there was an improvement on it. Cheston and Kuhn (2002) cited that women have been shown to spend more of their income on their households for the welfare of the whole family. As a practice, the associations produce the product, market it and after two (2) months, they divide the net proceeds. Members [milkfish deboning] are also paid in getting the spines of the fish [Php5 each] and for vending [Php5/pack]

and the person who operates the noodle cutter machine in veggie-fish noodles production [Php100 per day]. Aside from the cash they get from the production, they also get food for the family. A respondent reported that she can now buy things that she likes without bothering her husband because it's her own money. A respondent narrated:

*"When I received my share, I was happy. I bought rice, fish and the remaining Php1000 was for my medicine and fare of my children to school. The amount would have been more than that had I always attend the production. But I don't always participate because my children are still young"*. [Respondent #10]

Increase in their knowledge and awareness of the proper way of handling and preparing safe and quality food products were the outcome of the adaption of the technology reported by fifteen (15) participants. In the interviews and FGD, their responses manifested that their knowledge and awareness on the proper and appropriate practices of producing safe and quality food products increased.

According to them, they become aware of the importance of sanitation and hygiene in the production of any food product, the path of microbial contamination in food products, and the techniques of preventing microbial contamination. As a consequence of what they observed and acquired during the training a respondent reported:

*"Before I leave the house to work, I always say to it that I take a bath, wear clean clothes and bring my apron and a clean towel. Also, I have my fingernails cut short. Cleanliness and hygiene are necessary for cooking as this is food. If we prepare the food well, the quality is good,*

*many will buy, and continuously you will have the customer.*" [Respondent #11]

There were responses about empowerment. This was revealed by a president of an association who was turned into a trainer [milkfish deboning]. As told due to the training and the hands-on production of deboned milkfish, she was able to master the procedure and find a more effective and easier way of getting the spines of the fish. Because of her expertise, she is invited as a resource person in milkfish deboning and good manufacturing practices. She also shares her knowledge with her friends and housewives, and this made her popular. She said:

*"I benefited a lot. My sacrifices and exposure are all worth. The skills I acquired was maximized. I am now invited as a trainer, sometimes without honorarium. I experienced talking with mayors and other dignitaries and staying in hotels which I have not experienced before."*  
[Respondent #7]

Her story was complemented by the presidents of the other associations. According to them they were able to attend series of training on food processing and good manufacturing practices; invited in trade fairs with other groups of food producers in Samar and Leyte; and came face to face with probable funders [NGOs & GAs], and would be market prospects of their products. The adaption and production of the technology not only improved their processing skills and income but also increased their confidence and widened their circle of friends. Also, they have felt their value and worth.

Another empowerment was the case of a treasurer of an association. The empowerment, in this case, was related to her decision-making skills after she learned how to keep records and simple

bookkeeping and accounting. She cited that the knowledge learned in record keeping, and bookkeeping and accounting during the training served as the basis for making important decisions related to the sale, expenses, and profit. This is similar to the case of a president which narrated that she was hesitant to lead the group because it was her first exposure. However, the series of training, group feed backing, and the lessons learned in the activities provides her for leadership development and in making decisions. Cheston and Khun (2002) held that women's ability to make decisions that affect their lives and their futures is one of the principal components of empowerment.

Still another empowerment was the case of that in-charge of marketing. As told by six (6) participants, before they were shy and did not have any confidence in facing other people. However, because of vending their products, they were able to face different people with confidence. Further, the participants reported that they become more self-reliant, entrepreneurial, and responsible.

Note taking is the enhancement of their camaraderie and social relationship with the members of the organization. According to four (4) participants, they become more intimate friends with the other members of the association. Before they joined the association, they ignore each other and just smile when they meet. A participant, further, elaborated saying that unlike before, now she is not afraid when her child is sick because she can ask help from her friends in the association.

Three (3) participants mentioned that because of the adaption, production and marketing of the food technologies, their barangay and the municipality of Tolosa, in general, had become famous. Under the One Town One Product Program (OTOP) of the government, their products are identified as the OTOP of said barangays and the municipality of Tolosa. Hence, these products have become the identity

specifically by the associations and in turn by the barangays where the association is situated and the town in general. According to Parilla (2013), OTOP highlights the key concepts of pride, a rediscovery of indigenous products, entrepreneurship, and public-private partnership. Under the program, LGU-Tolosa, GAs (e.g. DOLE, DTI, DOST) and some NGOs support the food processors [members of associations] through training, business counseling, financial assistance, and promotions and marketing of their products.

### *3.5 Challenges Met in the Production, Marketing, and Commercialization of the Adapted Food Technologies*

One of the challenges encountered as reported by (8) respondents was the maintenance of individual's momentum in working with the association or the ningas-kugon attitude of the members. Ningas-kugon attitude is a Filipino value shown when they postpone the things they plan to do for the next day (Bayani, et. al., 2009). Respondents said that at the start of the production members of the association showed eagerness and interest. They actively participated in the production and marketing of their products. However, months after the initial division of the proceeds from their income they were not anymore as active. It seemed as all their excitement and energy die down.

Concerns regarding maintenance of momentum are a little bit depending on what's going on, commented by a participant. A president of an association stressed that active member's participation is related to her purpose in joining the association. According to her and was confirmed hesitantly by a participant there were those that joined the association because they just wanted to avail of the opportunity that will be given to an association more than acquiring the food processing skills.

Four (4) participants cited that there are members that do not participate in the production regularly as they have to attend to their young children and their family. Others said that they find other means of income that at the end of the day they have the cash for the sustenance of their daily needs, unlike in the production where you have to wait until the end of a month to divide their proceeds from the income of their production.

Two (2) respondents mentioned the conflict among some of the members as a cause of their stopping from working in the association. According to a respondent, some of the members claimed that there was a usurpation of powers by a few. Usually, officers of the association and there is no transparency in the proceeds from the production. According to Oliver (1998), the type and quality of leadership a leader provides to his subordinates influence the satisfaction of the latter, and in turn, the sustainability of their cooperation can only be achieved when they are satisfied. In parallel to this, a participant reported that her satisfaction is measured by what she receives as the payment or the money worth for her work, transparency of the proceeds, harmonious interaction among the members, and recognition. But a president of an association [Telegrafo Women's Association] said that maintenance of group momentum is not a problem in her association. The members are active, everybody cooperates, and there is a division of labor.

Another challenge encountered was the delayed and non-payments of their products by the customers. Three (3) participants said that there are customers that give delayed payments. There are even those that do not pay. Hence, these become a burden in the cash availability for the purchase of raw materials and other expenses to sustain their production. They reported that the sustainability of the on-going activities of the association is heavily influenced by the financing capital which

relies mostly on their personal and proceeds from the income. The associations have insufficient capital; hence, if the customers will not pay their orders, the association will have no cash to finance their venture.

Two (2) participants cited that they do not feel the full support of the local government unit (LGU). The associations were formed with the coordination and assistance of the Municipal Social Welfare and Development (MSWD) under its program on poverty alleviation. Moreover, funding assistance and support from NGOs to the associations are through LGU. According to a participant, they do not have a processing area and stock room for their products. JICA financed the construction of a processing building for the associations with the LGU to manage the design and construction of the building. However, the building has not passed the criteria set by BFAD. A participant narrated:

*"I am invited to trade fairs, food demonstrations as resource persons through the office of MSWD. I bring honor and pride to the town, yet there is no recognition. We gave the data of our association which led to the donation of the Processing Building of JICA to LGU. Now, that the building is there for us. But it seemed that we have no place there as the building has not passed the standards set by BFAD."* [Respondent #7]

### 3.6 Summary of Results

Findings revealed that the adaption, production, and marketing of VSU-Tolosa generated technologies have caused some changes in the lives of the women respondents. These changes included improvements in knowledge and skills in producing safe and quality food products, enhanced economic and social conditions, and empowerment. This implies that the food processing training has already achieved some successes regarding

attaining its goal of helping people improve their living conditions.

Findings also showed a clear link between the sincerity of the extension staff in sharing their expertise to the beneficiaries and the interest of the beneficiaries in adapting the technology.

## IV. CONCLUSIONS

Looking at the reasons for adapting the food technologies, it can be argued that the respondents [mostly mothers] prefer to work near their families as they still have time to attend to their domestic and child care responsibilities. This recommends for possible development programs for mothers so that these mothers can still have an opportunity in attending such programs and at the same time provide financial support for livelihood programs specifically on food processing.

In conclusion, it discloses that the main problem met by the respondents in adapting the technologies is the unfamiliarity on the utilization of technology, in other words, this technological literacy skills of the respondents should be the central focus first before integrating technology into livelihood activities. Moreover, there is a need for training on values reorientation and social preparation to the beneficiaries and a close monitoring of the project by implementing agencies to achieve better community engagement. Lastly, strong linkages among government and not – government stakeholders and agencies should be initiated for a sustainable programs for the respondents.

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