

UNIVERSITY TECHNOLOGY DIFFUSION FOR GRASSROOTS LIVELIHOOD SUSTAINABILITY

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ABSTRACT

This study assessed the extent of the implementation of the livelihood extension programs in the three adopted barangays of Surigao del Sur State University Cantilan Campus in the aspects of technical consultancy, trainings, technology transfer and implementing strategies during the Academic Year 2012-2013 as basis for upgrading. Specifically, it gathered the perceptions of the beneficiaries on the adequacy of instructional facilities and the perception of the extensionists on the sufficiency of sourced funds for community extension services. Moreover, it identified the problems encountered by the beneficiaries during and after the implementation. It also identified the upgraded livelihood trainings which are much needed by the beneficiaries in their respective barangays. The descriptive survey method was used with an adopted questionnaire from Gulle (2005) aided with an unstructured interviews with the beneficiaries. The two respondent groups were composed of 25 extensionists and 75 beneficiaries. On the extent of implementing the community extension services, results revealed that both the extension workers and the beneficiaries perceived that technical consultancy, trainings, technology transfer and implementing strategies were properly implemented and accomplished ahead of time. It further revealed that the instructional facilities of the University were always adequate and the sourced funds for extension programs were very much sufficient. The most serious problem encountered by the beneficiaries was lack of tools and equipment after the training and the much needed upgraded courses identified by the respondents were: Fish and Meat Processing, Food Preparation with Culinary Arts,

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Bread and Pastry Making, Advanced Computer Literacy and Automotive Mechanics.

Keywords: Extension Services, Sustainability, echnology transfer, Livelihood trainings, Beneficiaries

INTRODUCTION

Republic Act 7722, otherwise known as the Commission on Higher Education (CHED) mandates Higher Education Institutions (HEIs) 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. In response to this mandate, Surigao Del Sur State University (SDSSU) Cantilan Campus, as a higher education institution, performs the four-fold functions in which extension services is one of its thrusts. It is an inherent function of the university with the purpose of initiating, catalyzing and sustaining the development of various communities, specifically the adopted barangays using its expertise, research outputs and available resources for both academic and non-academic pursuits.

Most of the SUCs extension programs are in demand and accreditation-driven. Demand-driven extension programs are community-based programs that encompass basic functional needs and demands designed to establish and promote the general well-being of the rural and urban populace. On the other hand, the accreditation-driven extension programs are implemented in response to the requirements by an accrediting body (Bidad and Campesiño, 2010). The Area VI-Extension Services and Community Involvement of Surigao Del Sur State University Cantilan Campus were ranked second in the result sent by the 2 Accrediting Agency of Chartered Colleges and Universities of the Philippines (AACUP). Although they emerged differently, yet the implementation of the livelihood extension programs of the University complement its curricular offerings. Both kinds of program provide opportunities for the target clientele to improve their standard of living and uplift the quality of their life. Likewise, as mandated in the General Appropriation Act (GAA) of 1996, Surigao Del Sur State University Cantilan Campus, as an educational institution, has a responsibility to participate actively in the socio-economic development of the country. As a result, its extension programs involve packaging, demonstration and application of technologies, tools, materials, processes and products generated through research and technical studies. The extension programs also include the conduct of livelihood trainings or Non-Formal Education (NFE) for individuals, groups and organizations who would like to benefit from technology. Moreover, it encompasses other community outreach activities for other government and non-government agencies/organizations (NGAs/NGOs) that are interested in the programs and are

expressly mandated to organize and conduct similar extension activities with the thrusts of the University. Furthermore, the constitution mandates that the state shall establish, maintain and support complete, adequate and integrated systems of education relevant to the livelihood needs of the people and society. It encourages non-formal, informal and indigenous learning systems as well as self-learning, independent and out-of-school study programs particularly those that respond to community needs.

Pursuant to this, Surigao del Sur State University Cantilan Campus has established and maintained a complete, adequate, and integrated system of education that focused on instruction, research, extension and 3 production. It has not just moved forward unmindful of the realities of the outside world but has ensured that its existence has relevance to the needs of the people and society, especially those within its sphere of influence. It has programs that has addressed societal transformation by serving the less privileged, the deprived and the oppressed which are accomplished mainly through its extension programs. In addition, Surigao Del Sur State University Cantilan Campus, with its extension programs, responded aggressively by optimizing its efforts to alleviate poverty with its limited resources. It has committed to meet the learning needs of those unable to avail of the educational services and programs of formal education; provide opportunities for the acquisition of vocational or technical skills necessary to enhance and ensure continuing employability, efficiency, productivity and competitiveness in the labor market; and to served as a means of expanding access to educational opportunities to citizens of varied interests, demographic characteristics, socio-economic origins and status. Eventually, SDSSU Cantilan Campus, with its extension works undertook precise steps in order to fulfill its commitment to skills training and technology transfer that contribute to the improvement of the communities in the town of Cantilan by offering wide variety of extension programs and services namely: degree and non-degree training programs, technical assistance, extension community outreach activities and information support services. Specifically, it initiated skills training programs, livelihood projects or activities and demonstrations designed primarily to sustain and increase livelihood security of the beneficiaries in the three adopted barangays in the municipality of Cantilan, Surigao Del Sur.

For many years, the University has been extending and 4 implementing community extension works that are contributory, aligned with the objectives of both the local and national development, and more relevant to the needs of the community. Attaining an integrated extension toward livelihood sustainability of the grassroots is a manifestation that the University is upholding its goals and objectives of accessible education by the poor, pursuing

an excellent and socially relevant education centered on the young, poor and the youth at risk, promoting the Filipino spirit of solidarity and upholding justice and human dignity. Assessing how well the extension services and programs are implemented or delivered is crucial to measuring success and identifying any changes required so that the University can come up with a more integrated extension toward responsive, practical and tailored-fit services and programs for livelihood sustainability of the grassroots. Hence this study was conceptualized and carried out.

The Human Development Report (1993) of the United Nations Development Program states that communities drive the development process thru empowerment. In the foreword this report, it said it must be “woven around people, not people around development” and added that we “ensure development cooperation should focus directly on people, not just on nation-states”.

Consequently, an integrated extension approach is needed to effectively address the issues of the multi-faceted community; it is one of the major functions of the academic community in enhancing the capacity of its faculty in their field of expertise by way of 12 extending it to the partner communities (Gonzales, 2008). The Commission on Higher Education of the Philippines through Memorandum Order No.8 series of 2008 delineated what to include for an Integrated Extension Program as follows: (1) training programs – these include non-degree and non-credit courses by a college or unit; (2) technical assistance and advisory services – for agencies, organizations, associations and other groups; (3) communication/information services – communication and/or dissemination of knowledge and skill to particular client groups through the various means of dissemination such as person-to-person, radio, television, newspaper and other printed materials; (4) community outreach activities – extension activities conducted in areas outside the university e.g. community services, pilot projects, mobile clinic, etc.; and (5) technology transfer, utilization and commercialization – the process of circulating promoting and marketing research outputs or technologies to potential users.

Participation and sustainability are keys in extension and development. Participation means that people are closely involved in the economic, social, cultural and political processes that affect their lives (HDR, 1993). The challenge for the extensionists is to move people from passive – mere beneficiaries of development programs, to active participation – initiators who control their decisions, actions and destiny. The people themselves must be the prime agents or movers of their own development, not capital, technology or knowledge.

In the process of implementing extension services and programs for community development, faculty members, staff and students should be involved. Specifically, the University should coordinate its extension services with the target group in the communities. Packaged technologies and new information should be disseminated through appropriate extension delivery systems and the extension projects and activities should also be well-documented. The proof of these extension projects are the programs distributed, the pictorials and the accomplishment reports.

The mechanism that should be used to evaluate the effectiveness of the extension programs and services will be embodied in the extension manual of the University. Monitoring of the extension projects and activities shall be done within the inclusive dates and the evaluation of such shall be done annually in order to provide an adequate and comprehensive feedbacks and related facts that are essential for strategic and tactical planning of the University through its extension services unit or division.

THE PROBLEM

This study assessed the technology diffusion for grassroots livelihood programs of Surigao del Sur State University Cantilan Campus. Specifically, this study sought answers to the following sub-problems:

1. What is the profile of the respondent groups as to:
 - 1.1 beneficiaries in terms of: age and gender; civil status; number and age of children; highest educational attainment; occupation or means of livelihood; average monthly family income, and membership in socio-economic and civic organizations
 - 1.2 university extensionists in terms of: age and gender; civil status; highest educational attainment; field of specialization; competency level, and number of years of involvement in extension services?
2. To what extent is the implementation of the livelihood extension programs as perceived by the respondent groups in the aspect of: technical consultancy; trainings; technology transfer, and implementing strategies?
3. Is there a significant mean difference between the perceptions of the respondent groups on the extent of implementation of the livelihood extension programs in the adopted barangays in terms of the aforementioned?
4. To what extent do the beneficiaries consider the adequacy of the instructional facilities of the University?

5. To what extent do the University extensionists perceive the sufficiency of sources of funds for livelihood extension activities?
6. What are the problems encountered by the beneficiaries in the adopted barangays during and after the implementation of the livelihood extension programs extended by Surigao del Sur State University Cantilan Campus .

RESEARCH METHODOLOGY

The research has utilized the descriptive survey method of research with the aid of adapted questionnaire checklist from Maximiano T. Gulle (2005) as the main instrument in gathering the primary data. This method is a fact-finding investigation which gathered data based on the current condition when the study was conducted. Unstructured interviews and direct observations by the researcher who is also an extensionist were conducted to verify the data and to ascertain the validity of the responses. Moreover, both 20 published and unpublished theses and dissertations were also utilized in order to gain and establish insights. The questionnaire for the beneficiaries was translated into vernacular in order to obtain a better feedback from the respondents. All the data gathered were formed into useful information which was an essential basis for discussion and interpretation.

It covers the entire activities that were involved in its development. The input contains data from the survey on the profile of the two (2) respondent groups – the beneficiaries and the university extensionists – in terms of their social, educational and economic background; their perception on the extent of the implementation of the livelihood extension programs in the aspects of technical consultancy, trainings, technology transfer, and implementing strategies; perceptions of the beneficiaries on the adequacy of instructional facilities; perceptions of the university extensionists on the sufficiency of sources of funds; and the problems encountered by the beneficiaries in the adopted barangays during or after the implementation of the livelihood extension programs of Surigao del Sur State University Cantilan Campus. These variables gathered from the input were processed, underwent a statistical treatment, analyzed and interpreted accordingly.

The output of this study is a training proposal on livelihood training programs of Surigao del Sur State University designed for grassroots livelihoods sustainability.

RESULTS AND DISCUSSION

Profile of the Respondents Beneficiaries. The married female groups in the three adopted barangays had been a strong target rural group for the livelihood extension programs of the

University. The 75 beneficiaries were composed of 10 males and 65 females. Most female were already matured in terms of age which is 46-50 years old.

Most of the beneficiaries had medium household size to feed or attend to. Out of ten (10) married male beneficiaries, eight (8) or 80 percent had 1-4 children and only two (2) or 20 percent had 5-8 children. In addition, out of 41 married female beneficiaries only 24 or 59 percent had 1-4 children; and 14 or 34 percent had 5-8 children. They need a steady cash inflow allocation for sustaining the formal studies of their children until they finish college. The ten married male beneficiaries had a total number of 36 children of which 15 or 42 percent were within the age bracket of 10-19 years old. The 41 married female had a total number of 168 children of which 63 or 37 percent were within the age bracket of 10-19 year old.

They were highly capable and literate enough to receive instructions on livelihood programs from the extensionists. Out of the 75 beneficiaries, only 18 or 24 percent were college graduates and 13 or 17 percent had some college course units but had not graduated. Their intellectual ability necessary to comprehend the techniques and methods involved will be augmented through non-formal education such as the livelihood trainings. The university extensionists had more opportunities to motivate those who had not reached higher level of education as self-employed entrepreneurs.

The beneficiaries ventured on diverse jobs in order to generate more income. Mostly of these jobs were related to their geographical location or settlement like farming and selling fish. But, however diverse their jobs were, their average monthly family income was nonetheless below poverty threshold. Thirty six or 51 percent of them had an average monthly family income of 3,500 or less. With an average number of children of 1 to 4 who are formally schooling, this income level is not sufficient to sustain them.

They had strong linkages and access with the economic organizations in the community in which they satisfy their need of belongingness and empowerment. They were mostly engaged or members of Women's Club and Rural Clubs.

University Extensionists

Most of the university extensionists had reached plateau in their career as faculty members and female faculty members of the University had more opportunities to perform extension services in the community than male faculty members. Out of the six (6) male extensionists, three (3) or 50 percent were within the age bracket of both 41-50 and 51-55 years old; and seven (7) out of 19 or 37 percent female extensionists were within the age bracket of 46-50.

Time management should be observed on their part because of the huge responsibilities of being married.

The pool of university extensionists had qualified themselves to perform efficiently the serious responsibilities of being an extension worker. They were highly competent to perform extension works and services in the community assigned to them because of their level of competency in their own field of specialization. But there is a need to encourage the master's degree graduates to pursue doctorate degree in order to upgrade their knowledge on technology diffusion for the grassroots.

There is a need to encourage or motivate especially the new faculty members to engage in extension works in order to train and equip them on how to organize extension works thereby sustaining the University a pool of extension workers and experts in the future. Out of the 25 extensionists, nine (9) or 36 percent had been extending to the communities for 7 to 9 years already; eight (8) or 32 percent had been doing it for 4 to 6 years, and only two (2) or 8 percent had been doing it for 16 years and above.

Perceptions on the Extent of Implementation Trainings Attended. The beneficiaries had been trained mostly on Food Preparation with Culinary Arts, Fish Processing, Meat Processing and Bread and Pastry Production belongs to food industry. It is therefore necessary for the University to conduct assessment on food industry to be able to anchor well its policies with regard particularly to the type of updated skills and core competencies that are actually needed which the trainees must enhance in order to compete globally if they chose to get employed than self-entrepreneur. The University must uncover or identify the gap that needs to be filled up and what industries are already saturated or oversupplied.

Perceived Extent of Implementation on Technical Consultancy

This aspect is perceived as fully and properly implemented and the implementation is accomplished ahead of time. Consultancy services need to be dynamic such that even when the number of clients does not reach the required minimum number, consultancy services must be delivered immediately in order to respond quickly to their urgent need. Moreover, the University must fully implement of providing a pool of consultants from various discipline. These human resources are needed for better implementation of extension activities because a successful project needs the expertise and collaboration of more minds to ensure it will not fail.

Perceived Extent of Implementation on Trainings

Both the university extensionists and the beneficiaries perceived the conduct of trainings on livelihood as fully and properly implemented and accomplished ahead of time. However, the

University must take a careful consideration on fully implementing or imposing the collection of commitment fees. To increase motivation of all concerned, barangay officials, the university officials and partner agencies or NGO officials, they must collaborate to arrive with mutually beneficial and sound policies on collecting fees. In terms of the number of participants, it needs balancing depending on the financial, physical and human resource capacity of both parties involved to ensure an optimum utilization of those resources. This would require feasibility studies from time to time in order to gauge where to invest the resources that will have a higher return. Finally, stakeholders must also assess the willingness of the prospect participants to ensure that time is used productively. This entails level of willingness assessment of the community to engage in trainings in order come up with an optimal number of trainees.

Perceived Extent of Implementation on Technology Transfer

In the process of systematically transferring the knowledge for the manufacture of a product, application of a process, or rendering of a service, the University policy makers must analyze the relative advantage of technology for the clientele in order to get an idea on the rate of adoption of technologies by the communities. The rate of adoption is an important aspect because it will indicate the particular perception and needs of the users. Thus, in the process of social change, understanding the needs of user segments is of vital importance because technology will only spread when it evolve to meet the needs of successive user segments.

Perceived Extent of Implementation on Implementing Strategies

The formulated strategic and action plans by the University's extension office on delivering the livelihood programs were fully and properly implemented and accomplished ahead of time . Conducting surveys, information dissemination to expected clientele, coordinating with other government and private agencies and the evaluation of the implemented programs magnifies the fact that for every project or community services to become successful in promoting local self-sustained development especially in less privileged communities, it must require interdependence.

Summary of Perceived Extent of Implementation. The programs of the University were fully and properly implemented, and accomplished ahead of time. The university extensionists were the ones who really had the full understanding of the internal policies of the University with regard to community involvement or services. It could be recognized that they exercise some degree of prudence in responding to the aspect of technology transfer.

SIGNIFICANT MEAN DIFFERENCE BETWEEN THE PERCEPTIONS OF THE BENEFICIARIES AND THE UNIVERSITY EXTENSIONISTS ON THE EXTENT OF IMPLEMENTATION OF LIVELIHOOD EXTENSION PROGRAMS

Table 1. Mean Difference of Perception on the Extent of Implementation

Aspects	Beneficiaries (n=75) Average Mean	Extensionists (n=25) Average Mean	F	P-value	Interpretation
Technical Consultancy	3.25	3.79	31.64	<.001	Very Highly significant
Trainings	3.28	3.81	33.57	<.001	Very Highly significant
Technology Transfer	3.17	3.73	34.60	<.001	Very Highly significant
Implementing Strategies	3.44	3.84	12.69	.001	Highly significant
AVERAGE	3.78	3.83			

Table 1 presents the mean difference of perception of the two respondent groups on the four aspects. It includes the p-values with verbal interpretation for each aspect.

The beneficiaries and extensionists were found to have significant difference of perception in four aspects of extension implementation as to Technical Consultancy, Trainings, Technology

Transfer and Implementing Strategies. This is based on all the f-values for each aspect which has P- values all lesser than 0.05.

On technical consultancy aspect which is verbally described as very highly significant, it can be attributed in a way that the beneficiaries are always encouraged by the Extension Personnel to visit and collaborate in the activities of the academe. The three adopted barangays are taken care of in such a way that the officers of each organization being formed are attending regular meetings in the university called for the extension office. Aside from the needs assessment being conducted, the extension office also regularly implements the pre-planning and re-planning conference for each adopted barangay. Accepting consultancy is based on the curricular offerings of the university where pool of experts from various disciplines can be tapped to become resource speaker. With university's vision for successful extension project implementation, collaboration of more expert minds is vital as the saying goes 'two heads are better than one'

In addition, consultancy services were dynamic that even professor's time for classes were sacrifices to immediately deliver responses to clients needing consultation. However, few cases evidently showed no responses to some clients due to their full-time responsibilities to the students. To resolve this issue, the extension head scheduled consultation once a week only with exception to urgent matters and if the professor has vacant time.

The training aspect of extension services being described also as very highly significant takes into account that the offices has established linkages to different government and non-government offices on the conduct of the training on the conduct of the training not only national but also international linkages. Aside from the financial assistance they availed, the extension personnel sought experts from other agencies to become speakers in the conduct of training. The trainings conducted were based on the felt needs of the clientele and related to the offerings of the university. Adjustments on the number of participants depend on the financial and human resource capacity of both parties involved. Commitment and registration fees were collected as strategic approach to ensure optimum utilization and productivity of the resources. To provide feedbacks on the training programs offered, periodic monitoring and evaluation were conducted by concerned extensionist of the university.

On the other hand, the aspect of technology transfer implied system hand-over of knowledge and process application. To clientele's better understanding of the process, each project leader discussed the advantages and disadvantages to clients to be aware of the responsibilities prior to the start of technology transfer. Being part of the university, there is a need to analyze the relative advantage of the technology clientele like its economic benefits, convenience and

satisfaction in order to acquire an idea of technology adoption. In addition, the rate of adoption will indicate their particular perceptions and needs thus, this is of vital importance because technology will only spread when it meets the users in the community. The appreciation of the technologies per se will encourage the clientele to engage in entrepreneurial endeavour that will assist them in uplifting and sustaining their means of livelihood.

With regards to implementing strategies, the extension unit of the university conducted surveys on the target area and disseminated information of the formulated strategic and action plans. With this concerned action the clienteles were aware of the implementation strategies for them to decide to be part of the program or not.

To gain moral and financial support, extension office coordinated with other government and private agencies to promote local self-sustained development especially in less privileged communities. Ensuring success in its program implementation, monitoring and evaluation were done once a week by coordinators in each discipline.

CONCLUSION

Salient findings of this research endeavor confirm the importance of extension appraisal to identify gaps on its role on livelihoods sustainability of the grassroots. The assessment on the extent of implementation of the livelihood extension programs of SDSSU Cantilan Campus on the aspects of technical consultancy, trainings, technology transfer, and implementing strategies have established a basis and guide for policy makers of the University in the formulation of an efficient and well-structured strategies and tactical plans that best fit to the needs of its three (3) adopted barangays. Policy makers need to delineate extension strategies, how they should allocate scarce resources, what training the extension workers require to carry out their role effectively, and how they can work better or collaborate with other partners, and with new technologies to improve their extension services. Through an integrated extension, the University will be able to effectively address the issues on livelihood sustainability in these multi-faceted communities. Extension will be sustained only when the people's needs are addressed and disclosed properly with the University. Through regular training needs assessment, the University will be able to capture the current socio-economic conditions of these people, assess their skill effectiveness, identify current gaps and opportunities for collaboration, and share resources and future priorities thereby create an avenue to aggressively and strategically help eradicate unemployment and poverty, and attain livelihood sustainability.

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