LEX LOCALIS-JOURNAL OF LOCAL SELF-GOVERNMENT
ISSN:1581-5374 E-ISSN:1855-363X
VOL. 23, NO. 11(2025)

IMPLEMENTATION OF EXTENSION PROGRAMS OF THE FACULTY MEMBERS OF ABRA STATE INSTITUTE OF SCIENCES AND TECHNOLOGY

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I. Abstract

Community Extension Programs is an activity where an individual can experience a different way of learning. It doesn't teach what is written in the book but how to apply it in the outside world. Moreover, the meaning of Community Extension Programs varies to every person. It somehow kind and caring to others or to help out those who are less fortunate. The study aimed to determine the extent of implementation of the Extension Services of Abra State Institute of Sciences and Technology. Specifically, it sought to answer the following questions: how effective are the strategies in the implementation of the Extension Programs of ASIST? What is the extent of implementation of the Extension Programs of ASIST? Is there a significant relationship between the effectiveness of strategies and the extent of implementation of the Extension Programs of ASIST? What are the challenges in the implementation of the Extension Programs of ASIST

Findings of the study revealed that; Training services has the highest mean value of 4.49 described as Very Much Implemented. Information and Communication services has the highest mean value of 3.98 described as Much Implemented. There is a significant relationship between the effectiveness of strategies and the extent of implementation of extension services of Abra State Institute of Sciences and Technology. Financial challenges has the highest mean value of 3.75 described as Moderately serious.

Most of the program implementers perceived the level of effectiveness of strategies in training services. Most of the program implementers perceived the extent of implementation in Information and communication services. The null hypothesis is rejected since there is a significant relationship between the effectiveness of strategies and the extent of implementation of extension services among the program implementers of Abra State Institute of Sciences and Technology. Program implementers perceived that most of the enumerated financial challenges were moderately serious to affect their extension programs.

The Extension Department should come up with sustainability plan in order to uplift other services. The Extension Department should strengthen more other programs and look into the increase of frequency of the Radyo Kabinulig in order that the programs to be aired will be province wide. Program implementers should look for more linkages from the different agencies and organizations such as local, national and international arena. From the shortcomings of the implementers as being analyzed from the study, it is hoped that these should not be taken negatively, but rather should serve as a basis for reliable assessment and evaluation for the improvement of the implementation process.

II. Rationale:

Community Extension Programs is an activity where an individual can experience a different way of learning. It doesn't teach what are written in the book but how to apply it in outside world. Moreover, the meaning of Community Extension Programs varies to every person. It somehow to be kind and caring to others or to help out those who are less fortunate. To work in a group and share their ideas is not easy for some students. The Community Extension Program helps in cultivating hidden personality of an individual, like, leadership skills, public speaking, self-confidence, etc. The growth of community is a dynamic process involving all segments of the locality, including the often-overlooked youth population. The key component to this process is found in the creation and maintenance of channels of interaction and communication among diverse local groups that are otherwise directed toward their more individual interests

Abra State Institute of Sciences and Technology envisions to become a university that produces graduates who are academically competitive, locally responsive and globally sustained. "As for its mission, it states: We are committed to be agents in the development of Abra through enhanced instruction, creative and innovative researches and projects for public and community services towards globally competitive professionals who contribute to the realization of a nation that enjoys strongly rooted comfortable and secure life". The Abra State Institute of Sciences and Technology commits a continual improvement of its system process to ensure effective and efficient delivery of the services towards sustained clientele satisfaction.

The goals of ASIST as an academic institution are the following: 1) To produce quality graduates who are locally and globally competitive. 2) To develop/generate new knowledge and verify client-oriented technologies and other solutions to development problems. 3) To disseminate and showcase client responsive technologies and other solutions to development problems toward an improved welfare of local communities. 4) To engage in viable income-

generating projects (IGPs) to augment the finances of the college. 5) To realize ASIST as a dynamic and responsive learning and performing organization efficiently and effectively managing its resources.

On the part of Abra State Institute of Sciences and Technology (ASIST) the following are the projects and services conducted by its extension department (ASIST, BOT Resolution No. 21, series of 2008) technical assistance and support services, information, education and communication services, training services, techno-transfer, utilization and commercialization services

The Extension Services has four objectives: (1) to undertake innovative, relevant, and socially accepted extension programs, projects and services for technology dissemination and utilization. (2) to establish, strengthen and sustain linkages and networking with NGA's, LGU's, SUC's and PO's in local, national and international levels for effective resource generation and management. (3) to enhance the capabilities of LGU's in technology promotion, agribusiness and related skills or expertise through advanced and practical human resource development and (4) to develop information, education and communication (IEC) materials and strategies appropriate for target clientele to enhance adoption, utilization, productivity, and profitability, and to develop a decision-support system to better achieve extension programs and improve livelihoods of poor farmers in the province of Abra.

The Extension Department has its annual operating expenses. For the past five (5) years from 2015 to 2019, the annual budget were the following; 1, 949, 000.00; 961, 000.00; 1, 057, 000.00; 1, 242, 000.00, and 1, 234, 000.00 respectively. This budget comes from the General Appropriation Act (GAA) of the Department of Budget and Management. The allocation of the budget is based on the performance of the department if the unit targets are met.

III. Conceptual Framework

Andres and Limcaoco (1989) observed that community development formed the key of the continuing efforts towards rural development. The strategy for rural development in the earlier years included a part from Community Development, improvements in land tenure, liberalized credit, technology dissemination and construction of rural farm to market road. The Community Development Approach helped in meeting some of the basic needs, but failed because of some structural constrain as in raising rural income inequalities. Therefore, a number of programs were undertaken to support the life and consumption of the poor. The concept of Integrated Rural Development as defined in the Philippines included a mutually reinforcement of programs with benefits flowing to a particular area.

The aforementioned study also found three levels of positive impact. The first level benefits accrued to the direct beneficiaries of specific physical, social and institutional inventions. The second level benefits were intended to have an impact on the socio-economic condition of the entire program area including the population sector that did not directly participate in sharing project-specific benefits. On the other hand, the third level benefits were those that affected impact indicators as applied to the whole region.

Basil and Bera (2002) examined the impact of development programs on women in terms of their access to and control over resources along with their standard of living and also the necessity for empowerment in the context of development and group awareness both at the individual as well as group/community level. Promotion of sustainable eco-friendly livelihood systems through animal husbandry, encouraging small entrepreneurship, promotion of savings habit and provision of credits for SHG members through different financial institutions created good effect on village women. In spite of this, no member women showed interest in savings. DWCRA project has made a significant contribution by providing financial assistance for self-employment, which has been considered a tool for community development, which helps the women accept a particular model of empowerment through income and awareness generation programs.

Boraian (2003) assessed the process of empowerment of women through SHGs. promoted by eight non-government organizations (NGO's) which received funds from a donor agency in Andhra Pradesh and Tamil Nadu. The study observed that cash flow in the group and their family has increased, members with greater access to credit and their families has multiplied, members have greater access to credit and their emergency as well as other needs have been met with case.

The gatherings of women in SHG meeting were not merely meant for collection of savings, distribution of credit, and recovery of loan, it is much beyond all these. Self Help, Groups served as a forum for human resource and social relations development too. These enhanced their exposure, awareness and knowledge about the external world. SHGs contributed to their over-all personality development. Alcoholism among the husbands is treated as their archrival by the SHGs. The groups have taken active part in the proceedings of the Gram Sabha. An impact study of an NGO in Andhra Pradesh observed that the control village resources and services were mainly male dominated whereas Awaka village showed a curtailment of male monopoly and a shift towards joint decisions, joint ownership and control. It is concluded that there is a steady reversal from subservience to self- dependence, and secondary citizenship to partnership resulting in greater equality and gender balance.

According to Moreland (2003), an erudite British agricultural officer the "idea of agricultural development was already present in the fourteenth century." There is considerable evidence to show that ancient and medieval rulers in South Asia invested to increase productivity, especially in organizing irrigation. By the fourteenth century, the state was engaged in expanding markets and manufacturing by building transportation infrastructure. However, Moreland argued that the political and social environment during the period before the British was "unfavorable to modern goals of development because military and political struggles undermined investments in farming, manufacturing, and banking, as pillage and plunder fed destructive armies and rapacious taxation fattened unproductive ruling elites.

Development theorists have raised, however, the inefficacy of adopting a dichotomous development of the two sectors. Koppel (1991), in arguing that the choice of a rural or urban alternative seems to be a deceptive dilemma, has called it an "ersatz" debate. Misra (1981), summarized the arguments by raising three fundamental questions: 1) whether it is possible to develop rural areas without urban development and urban areas without rural development; 2) whether there is a country that has developed relying solely either on rural and urban sector; and 3) whether poverty and underdevelopment are divisible in clear-cut rural and urban components. A negative response to these questions would lead to the proposition that the issue is not which to develop first between rural and urban areas but rather in finding ways to develop both in order to meet various national, regional and local needs. Thus, development process should be redefined in such a way that urban development promotes rural development and rural development supports urban development. Such linkage can lead to the reduction of gaps in income, productivity, social services and quality of life in general between urban and rural areas.

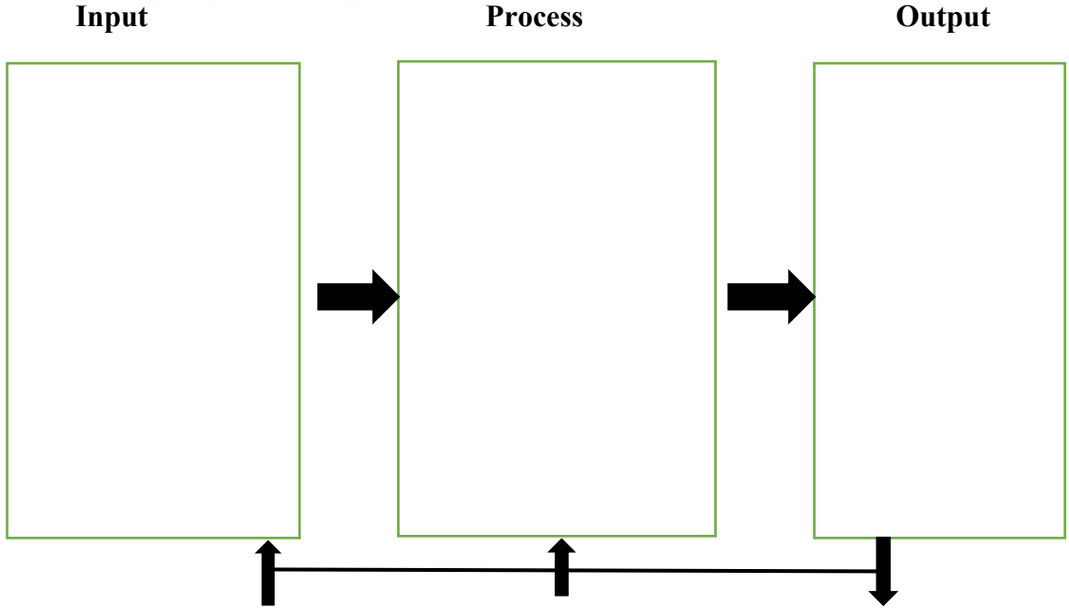

Figure 1: Research Paradigm

IV. Statement of the Problem

The study aimed to determine the extent of implementation of the Extension Services of Abra State Institute of Sciences and Technology.

Specifically it sought to answer the following questions;

1. How effective are the strategies in the implementation of the Extension Programs of ASIST?
2. What is the extent of implementation of the Extension Programs of ASIST?
3. Is there a significant relationship between the effectiveness of strategies and the extent of implementation of the Extension Programs of ASIST?
4. What are the challenges in the implementation of the Extension Programs of ASIST?

V. METHODOLOGY

Research Design

A master plan was designed which specified the methods and procedures for collecting and analyzing needed information. This study utilized qualitative and quantitative research, which is a descriptive-correlational method. Qualitative is a scientific method of observation to gather non-numerical data. This type of research refers to the meanings, concepts definitions, characteristics, metaphors, symbols and description of things and not to their counts or measures. Quantitative methods emphasize objective measurements and the statistical, mathematical, or numerical analysis of data collected through polls, questionnaires, surveys or by manipulating pre-existing statistical data using computational techniques. Descriptive-correlational method measures two or more relevant variables and assesses a relationship between or among them.

Population and Locale of the Study

The respondents of the study were the program implementers the Vice President for Academic Affairs (VPAA), Director for Extension, College Coordinators and Faculty involved in the Extension Programs. The total number of respondents is presented in the table below (Table 1).

Table 1. Distribution of the respondents

GROUP OF RESPONDENTS	NUMBER OF RESPONDENTS
Program Implementers	
Lagangilang Campus	93
Bangued Campus	77
Total	170

The study was conducted in the province of Abra. Respondents were permanent faculty members both Lagangilang and Bangued.

Data Collection Instruments

This study utilized the structured questionnaire as the main data-gathering instrument with interview.

Data Collection Procedures

The respondents were the faculty members of both Lagangilang and Bangued Campuses. To attain the objectives of the study, the researcher forwarded a letter to the President of Abra State Institute of Sciences and Technology (ASIST) requesting the approval to conduct the study. After he was given permission, the researcher explained the purpose of the study to the respondents. The researcher personally administered the questionnaire from January 2020 to Ma 2020.

Treatment of the Study

To come up with valid and reliable results, the following Statistical tools were used: weighted mean, and Pearson Product Moment Correlation Coefficient (PPMCC). The extent of implementation, level of effectiveness and challenges used of weighted mean.

The relationship between the effectiveness of strategies and the extent of implementation of the Extension Programs of ASIST used the Pearson Product Moment Correlation Coefficient (PPMCC).

RESULTS AND DISCUSSION

Level of Effectiveness of Strategies in the Implementation of the Extension Programs

Table 2 shows the level of effectiveness of strategies in the implementation of the Extension Programs of ASIST. Noticeably, training services have the highest average mean value of 4.49 described as Very much effective. This implies that the use of lecture, workshop and

return demo were effective strategies in the implementation of Extension Programs of the Abra State Institute of Sciences and Technology.

According to the program implementers, they claim that the program services were Much implemented. However, program beneficiaries have moderate awareness, participation and satisfaction in the implementation of the extension services of ASIST due to limited distribution of farm implements, low supplemental of pesticides and insecticides.

Comia (2017) stated in her findings that majority of the respondents are married adults and master's degree graduates with education as their area of specialization. They are permanent in status and have considerable

Table 2. Level of effectiveness of strategies in the implementation of the Extension Programs

SERVICES/STRATEGIES	MEAN	DR
Technical assistance and support services		
1. Establish demonstration projects	4.14	MuE
2. Conduct trainings	4.33	VME
3. Conduct of radio programs	3.96	MuE
4. Used of printed materials	4.15	MuE
5. Conduct exhibit	3.82	MuE
6. Makes visits to farmers and farms	4.17	MuE
7. Conduct group meetings	4.18	MuE
8. Distribution of inputs (Fertilizers, seeds, etc.)	4.13	MuE
9. Conduct field trips	3.72	MuE
Average Mean	4.07	MuE
Information and communication services		
1. Conduct radio programs	4.08	MuE
2. Distribution of flyers/brochure	4.03	MuE
3. Distribution of handouts	4.13	MuE
4. Tarpaulin/use of LCD	4.24	VME
Average Mean	4.12	MuE
Training services		
1. Conduct Lecture Discussion	4.49	VME
2. After the discussion/Workshop	4.51	VME
3. Return Demo	4.46	VME
Average Mean	4.49	VME
Techno-transfer Utilization and commercialization services		
1. Conduct of radio programs	4.13	MuE
2. Making visits to farmers	4.19	MuE
3. Training (Livelihood, Processing, etc.)	4.42	VME
4. Adopt a barangay school	4.28	VME
5. Farmer's Field Day	3.88	MuE
Average Mean	4.18	MuE

Statistical Limits

RELATIVE VALUE	RANGE	DEGREE OF EFFECTIVENESS DR
5	4.21 – 5.00	Very Much Effective (VME)
4	3.41 – 4.20	Much Effective (MuE)
3	2.61 – 3.40	Moderately Effective (MoE)
2	1.81 – 2.60	Slightly Effective (SE)
1	1.00 – 1.80	Lowly Effective (LE)

years in the University serving as research or extension officers. Research of SUs have common research thrusts in terms of environment and natural resources management but differ in their own respective agenda; similarly the SUs share common extension thrusts and concerns but differ in their programs, activities and projects related to community services. Commonly encountered problems concern inadequate funds and inability to access the available technology. Officers

utilized educational innovations on research and extension to a moderate extent but software and hardware were utilized to a great extent; likewise internet-based communication was utilized to a great extent for research but used moderately for extension. This implies that compared to research, most of the extension functions do not require the use of internet-based communication. From the results of the study, it was recommended that review of the existing allocation of funds for technology development may be done to improve the existing hardware, software and communication facilities.

This conform with the study of Magulod (2016) that there exists a strong positive relationship between school effectiveness and school performance. The factorial analysis revealed that among all the correlates of school effectiveness, school leadership competency and professional collaboration influenced the performance of both schools. Recommendations of the study can help the government and school officials to plan appropriate strategies in improving the quality of effectiveness of schools.

This study conform with the study of Babua *et al.* (2013) that Agricultural Extension in India has undergone several changes since their independence. Yet, a large number of smallholder farmers and other vulnerable groups remain unreached by the public extension system. A number of organizational performance issues hinder the effectiveness and efficiency of public extension system. These include inadequate staff numbers, low partnerships, and continued top-down linear focus to extension. This paper has presented a critical review of the current state of agricultural extension reforms in India and based on the field case studies in four states —Bihar, Himachal Pradesh, Maharashtra, and Tamil Nadu —has identified policy priorities and strategic options for further refining the on-going reform process and effective implementation of the public agricultural extension system.

Extent of Implementation of the Program Implementers on the Extension Programs

Table 3 shows the extent of implementation of the Extension Programs of ASIST. It was shown in the table that technical assistance and support services with Technical advisory services and Anti-rabies vaccination/dog vaccination with a mean value of 3.53 and 3.39 described

Table 3. Extent of implementation of the program implementers on the Extension Programs

SERVICES	MEAN	DR
Technical assistance and support services		
a. Anti-rabies vaccination/dog vaccination	3.39	MuI
b. Technical Advisory Services/Deworming of Carabao/Casting down of large animals	3.53	MuI
Average Mean	3.46	MuI
Information and communication services		
a. Nutri –Eskwela Radyo Kabinnulig	4.08	MuI
b. Extension on Air/Radyo program	4.04	MuI
c. Distribution of flyers	3.83	MuI
Average Mean	3.98	MuI
Training services		
Cluster 1 (Organic Farming)		
a. Rehabilitation and protection strategies for sustainable watershed productivity	3.65	MuI
b. Production and management of small scale mushroom enterprise	3.64	MuI
c. Homemade vegetable gardening sprays and concoction	3.69	MuI
d. Formulation and Utilization of fermented organic fertilizer	3.57	MuI
e. Weanling production	3.64	MuI
f. Training on Animal organic farming	3.65	MuI
g. Organic vegetable production focused on organic soil management	3.68	MuI
h. Management practices of cattle and swine	3.57	MuI

i. Herbal Management of common health problems	3.69	MuI
Average Mean	3.64	MuI
Cluster 2 (Food Processing)		
a. Mango fruit, ube, peanut processing	3.47	MuI
b. Tamarind champoy, veggie balls training and formulation drive on the nutritional guidelines for Filipinos	3.50	MuI
c. Siomai making and 10 Kumainments information drive	3.61	MuI
d. Training on meat processing (longanisa, embutido and siomai)	3.83	MuI
Average Mean	3.60	MuI
Cluster 3 (Governance)		
a. Training on parliamentary procedure	3.49	MuI
b. Mathematical literacy of out-of-school youths	3.67	MuI
c. Orientation on public service through radio communication	3.67	MuI
Average Mean	3.61	MuI
Techno-transfer Utilization and commercialization services		
a. Goat Dispersal Project	3.56	MuI
b. ASIST Extension Technology Demonstration	3.89	MuI
Average Mean	3.72	MuI

Statistical Limits

RELATIVE VALUE	RANGE	DEGREE OF IMPLEMENTATION DR
5	4.21 – 5.00	Very Much Implemented (VMI)
4	3.41 – 4.20	Much Implemented (MuI)
3	2.61 – 3.40	Moderately Implemented (MoI)
2	1.81 – 2.60	Slightly Implemented (SI)
1	1.00 – 1.80	Poorly Implemented (PI)

as Much Implemented On information and communication services, Nutri-Eskwela Radio Kabinulig, Extension on air/radio program and Distribution of flyers with a mean value of 4.08, 4.04 and 3.83 described as Much Implemented respectively. This implies that implementers claims that extension programs of ASIST are much implemented. This further implies that implementers are committed in attaining the goals and objectives of the extension department.

On training services (Organic Farming); Rehabilitation and protection strategies for sustainable watershed productivity, Production and management of small scale mushroom enterprise, Homemade vegetable gardening sprays and concoction, Formulation and utilization of fermented organic fertilizer, Weanling production, Training on animal organic farming, organic vegetable production focused on organic soil management, Management practices of cattle and swine and herbal management of common health problems with a mean value of 3.65, 3.64, 3.69, 3.67, 3.64, 3.65, 3.68, 3.57, 3.69 described as Much Implemented respectively.

On training services (Food Processing); Mango fruit, ube, peanut processing, Tamarind champoy, veggie balls training and formulation drive on the nutritional guidelines for Filipinos, Siomai making and 10 Kumainments information drive and Training on meat processing (longanisa, embutido and siomai) with a mean value of 3.47, 3.50, 3.61, 3.83 described as Much Implemented respectively.

On training services (Governance); Training on parliamentary procedure, Mathematical literacy of out-of-school youths and Orientation on public service through radio communication with a mean value of 3.49, 3.67, and 3.67 described as Much Implemented. On Techno-transfer

Utilization and commercialization services; Goat Dispersal Project and ASIST Extension Technology Demonstration with a mean value of 3.56, 3.89 described as Much Implemented. This implies that implementers and extension staffs were well involved in the implementation of the extension programs of ASIST. This further implies that one of the function of ASIST is to help the needs and in the development of the community.

Bidad and Campiseno (2010) conform in their study that extension program of SUCs was well-implemented. Faculty and students were well involved. However, there was no significant difference on the ratings of the implementers and beneficiaries along education, livelihood generation, health and nutrition, good governance and environmental awareness implementation. No significant difference existed on the perceptions of the implementers and beneficiaries on their involvement in the extension programs on education, livelihood generation and good governance. However, there was a significant difference in their involvement on the program on health and nutrition and environmental management. Therefore, the extension programs should continue to reach out to the beneficiaries for the sustainable development of the community.

This conform with the study of Mojares (2015) that 58% of the respondents are female; 54% are contractual; 1-10 years in service; 1-5 years in doing extension with 1-5 extension involvement commonly gift-giving and clean- up drive; gender is related to extension involvement: There is a substantial positive relationship between employment status and extension involvement; only 41% of the variance in extension involvement can be attributed to the combined effect of years in service and years in doing extension; nature of extension is service; the purpose of extension is formative; and the level of engagement is already engaged. Based on the obtained results, the study concluded that there are more female contractual faculty members involved in extension activities; gender, employment status, years in service and years in doing extension are related to number of extension involvement of faculty members; the construct of extension is perceived as HEIs' function to help the needs and in the development of the community since extension is still on the nature of service with formative purpose. Yet, they agree that university extension is already engaged.

Correlational Analysis Between the Level of Effectiveness and the Extent of Implementation

Table 4 shows the correlation coefficient between the level of effectiveness and the extent of implementation. It was observed in table 10 that there is a significant relationship between the effectiveness of strategies and the extent of implementation of extension services of Abra State Institute of Sciences and Technology with a correlational value of 0.533. This indicates that the higher the level of effectiveness, the extent of implementation of the programs services is also high.

Table 4. Correlation analysis between the level of effectiveness and the extent of implementation

VARIABLES	r_{XY}	PROB.	DECISION
Level of effectiveness x Extent of Implementation	0.533**	0.000	Reject Ho

** Highly significant at 0.01 level

This conforms with the study of Tacbas *et al*. (2010) which stated that "high" level of administrative capability of the University of Northern Philippines (UNP) Extension Services Office in terms of executive leadership, personnel capability, and financial capability; the extent of participation of the development partners in extension services; of the extent of implementation of the extension programs of the University of Northern Philippines (UNP) Extension Services Office in terms of mission, goals and objectives and execution of the criteria in the selection of service area for Extension Services Program (Adopt-a-Community and School Program); of program outputs of the University of Northern Philippines (UNP) Extension Services Office in terms of Skills Training, Information Drive, Medical/Dental Mission and Livelihood Organizations should still be sustained or improved. The economic and social impacts of the programs of the University of Northern Philippines (UNP) Extension Services should also be improved.

This conforms with the study of Cabardo (2016) which aimed to evaluate the levels of participation of the school stakeholders to the different school-initiated activities and the implementation of school-based management (SBM) in selected schools in the Division of Davao del Sur for the school year 2014-2015 using a descriptive-correlational survey research design. A researcher-restructured questionnaire was answered by the 13 school heads, 56 teachers, and 50 stakeholders who formed part as respondents of this study. The data were statistically analyzed using mean, analysis of variance (F test), t-test for independent sample, Pearson r and t-test for the significance of r as statistical tools.

In terms of the level of participation of the school stakeholders to the different school initiated activities, a moderate descriptive rating was found. The level of SBM implementation was found to be at Exceeding the Minimum Standard. The level of participation of the school stakeholders to the different school-initiated activities was significantly affected by the level of SBM implementation.

This conforms with the study of Chilensk (2015) that community collaborative prevention work should consider the collaborative nature of the technical assistance provider – prevention community team relationship when designing and conducting technical assistance activities, thus it is important to continually assess these dynamics to support high quality implementation.

Challenges in the Implementation of the Extension Programs

Table 5 shows the challenges in the implementation of the Extension Programs of Abra State Institute of Sciences and Technology (ASIST). On financial challenges; limited allocation of funds, delayed release of funds, inappropriate use of funds, inadequate finance, high cost of adoption of technology, agency insufficiency of funds and lack of budget for monitoring and evaluation of projects with a computed mean of 3.90, 3.76, 3.78, 3.58, 3.89, 3.63, 3.71 respectively described as moderately serious.

This implies that implementers felt that funds was really a limiting factor in the implementation of extension programs of Abra State Institute of Sciences and Technology. The result indicates that implementers feel a more challenges on the release of funds that caused a not successful implementation of extension programs.

On human resources challenges; cooperation of other personnel/faculty/staff, exposure and technical knowhow of the of the implementers, high turnover of extension staff, Inefficient services rendered by extension staff, lack of mobility for extension staff to deliver service, and inadequate knowledge and skills in monitoring/evaluating extension projects with a computed mean value of 3.63, 3.57, 3.61, 3.21, 3.47, 3.36 described as moderately serious and quite serious respectively. This indicates that it is moderately serious with the human resources challenges as perceived by the implementers. This further implies that due to political intervention, staff are not properly selected.

On physical challenges; lack of logistics and accessibility, outdated technology to used, delayed purchase of supplies, materials and equipment, unavailability of facilities to use, lack of training facilities for technology dissemination with a computed mean value of 3.38, 3.67, 3.57, 3.57, 3.44 described as quite serious and moderately serious respectively.

This implies that the problem on the purchase of supplies needed for their implementation was due to the lack or insufficiency of funds. This further implies that implementers are aware on the problem on transportation, especially to the highland municipalities and barangays that few vehicles are available in the institution.

On political challenges; influence/control of politicians, government inference, and bureaucracy in government, political system with a computed mean of 3.58, 3.51, 3.56, and 3.56 described as moderately serious respectively. This implies that it is a normal problem with the political intervention as perceived by the implementers. This further implies that this culture in the province of Abra is very common especially in deploying applicants.

Table 5. Challenges in the implementation of the Extension Programs

CHALLENGES	MEAN	DR
Financial		
1. Limited allocation of funds	3.90	MS
2. Delayed release of funds	3.76	MS
3. Inappropriate use of funds	3.78	MS

4. Inadequate finance	3.58	MS
5. High cost of adoption of technology	3.89	MS
6. Agency insufficiency of funds	3.63	MS
7. Lack of budget for monitoring/evaluating of projects	3.71	MS
Average Mean	3.75	MS
Human Resources		
1. Cooperation of other personnel/faculty/staff.	3.63	MS
2. Exposure and technical knowhow of the implementers	3.57	MS
3. High turnover of extension staff	3.61	MS
4. Inefficient services rendered by extension staff	3.21	QS
5. Lack of mobility for extension staff to deliver service	3.47	MS
6. Inadequate knowledge and skills in monitoring/evaluating extension projects.	3.36	QS
Average Mean	3.47	MS
Physical		
1. Lack of logistics and accessibility	3.38	QS
2. Outdated technology to used	3.67	MS
3. Delayed purchase of supplies, materials and equipment	3.57	NS
4. Unavailability of facilities to use	3.57	MS
5. Lack of training facilities for technology dissemination	3.44	MS
Average Mean	3.53	MS
Political		
1. Influence/control of politicians	3.58	MS
2. Government inference	3.51	MS
3. Bureaucracy in government	3.56	MS
4. Political system	3.56	MS
Average Mean	3.55	MS
Environmental		
1. Strong/severe typhoon	3.65	MS
2. Unpredictable earthquake	3.22	QS
3. Improper solid waste disposal/management	3.68	MS
4. Uncertainty of weather due to climate change.	3.66	MS
Average Mean	3.55	MS

Statistical Limits

RELATIVE VALUE	RANGE	DEGREE OF SERIOUSNESS DR
5	4.21 – 5.00	Very Serious (VS)
4	3.41 – 4.20	Moderately Serious (MS)
3	2.61 – 3.40	Quite Serious (QS)
2	1.81 – 2.60	Least Serious (LS)
1	1.00 – 1.80	Unserious (US)

On environmental challenges; strong/severe typhoon, unpredictable earthquake, improper solid waste disposal/management, uncertainty of weather due to climate change with a computed mean value of 3.65, 3.22, 3.68, 3.66 described as moderately serious and quite serious respectively. This indicates that it is moderately serious (normal) with the environmental factors as perceived by the implementers. This further implies that climate could affect their implementation of the extension programs of Abra State Institute of Sciences and Technology especially when strong typhoon arises.

As a whole, it was shown in the table that Financial problem has the highest mean value of 3.75 with a descriptive equivalent as Moderately serious, followed by Environmental, Political, Physical and Human Resources with a mean value of 3.56, 3.55, 3.53 and 3.47 respectively with a descriptive equivalent of Moderately serious.

The results of this endeavor conforms with the study of Ammakiw (2013) which revealed that the extension programs and services of the Kalinga Apayao State College were "continuing" as supported by the obtained total average weighted mean of 2.22. It also disclosed that the impact of extension programs and services of the Kalinga-Apayao State College as to political, social, economical, ecological, and cultural was "high" with a total average weighted mean of 2.41 when the responses of both respondents were taken as a whole. The study further disclosed that there was a significant difference between the responses of the program implementers and the clientele beneficiaries on the impact of extension programs and services of the Kalinga-Apayao State College. It further revealed that the extent of utilization of monitoring and evaluation of extension programs and services of the Kalinga-Apayao State College was "seldom utilized" as supported by the obtained total average weighted mean of 2.18. However, it shows that the impact is "high." Likewise, the results showed that the two groups of respondents have significant difference perception on the impact of the implementation of the monitoring and evaluation instruments of the extension program. On the problems encountered, this study revealed that the responses on the problems encountered in monitoring and evaluation of extension programs and services of the Kalinga-Apayao State College program implementers were "quite serious problems." Based on the findings of this study, the following recommendations were offered. Program implementers should come up with a very comprehensive and detailed benchmark data as pre-requisites in piloting and adopting a barangay; The college should establish monitoring and evaluation team to formulate evaluation system and feedback mechanism for extension programs and services; There is a need for the extension program implementers to use the format on monitoring and evaluation tool as a model; clientele beneficiaries' participation in the monitoring and evaluation process to motivate them to plan and manage activities in a sustainable manner; There is a need to integrate extension services to one adopted barangay in order to sustain the impact that will change the way of life of the stakeholders; Research Thrust and Agenda should be anchored on technology development and commercialization to serve as materials for extension programs and services; and There is a need for extension activities to generate income to sustain the continuity of the programmed; The College should review its policies on de-loading extension and research coordinators to give them.

This conforms to the dissertation finding of Semwenda (2016) that extension system has identified challenges which include low level of participation of stakeholders in the design and implementation of policy, deficit and delays of extension funds, shortage of human resources, and low sense of accountability and as a result farmers' opinions have shown unsatisfactory performance of extension. District Government has to focus on the above challenges so as to improve the performance of extension. Increased involvement of private extension providers, diversification of funding sources and timely supply of funds to the district, deployment of Agricultural Officers and Livestock Officers to the village level and strengthening accountability system will overcome the challenges.

Nwarieji *et al.* (2016) pointed out in their study that Administrative constraints include inadequate market for disposing farm produce, poor coordination of activities of farmers, inadequate training of extension staff; Financial constraints include high cost of adoption of technology, inadequate finance; and Logistics constraints include low level of education, use of traditional implements were the challenges associated with implementation of UAES program. Based on the findings of the study, conclusions were drawn and recommendations were made which include among others the need for adequate provision of agricultural inputs at a subsidized rate and training of extension agents for effective implementation of UAES program to sustain agricultural production in Imo State, Nigeria.

According to the program implementers, there were some solutions to satisfy the challenges like proper allocation of funds and strong linkages to other funding agencies. This implies that the institution was looking for immediate solutions particularly in environmental in order that the implementation of the extension programs to the beneficiaries which will lead to more effective and efficient extension programs.

According to Babu *et al.* (2019) achieve extension programs strengthen both public and private actors with pro-active policies and program interventions for functional participation and linkages. Such strengthening will require the involvement of diverse R and D actors in the planning, monitoring and sharing of resources, incentives and recognition. Government organizations commitment to promote agricultural R and D by enabling policies, funding and capacity building which are vital for sustainable impacts. Implementation of the recommendations reform and strengthen research and extension systems and promote linkages among actors, service providers and key stakeholders.

Semwenda (2016) reveals in his study cited several problems the: 1) lack of farmer participation; lack of funding; unavailability of a cross-sector extension forum; lack of skills to work with agents from other organizations; and unavailability of extension tools. Assess the training needs of extension agents in implementing the new approach. Almost 95.2% (n=120) expressed the need for in service training to enhance their job performance. The most needed areas of training were: a) the use of new media/information technology (cited by 75.40% respondents, n=95); marketing of agricultural products (65.87%, n=83), and appropriate agricultural technology (64.29%, n=81). Lastly, Objective 5 assessed the need for Communication for Development (C4D) in strengthening extension in Indonesia. The study revealed a need for training on: 1) contemporary issues of development and communication (such as integrated rural development, participatory extension; a system view of extension, and integrated communication media); and 2) communication skills (such as listening, supervision, lobbying, grant writing and fund raising, leadership, and ICT operation/social media). A general conclusion is that the new extension system is not working as effectively as it should be due to communication problems. Therefore, the study concluded that a C4D strategy framework will provide extension agents with the communication skills they need in mobilizing farmers for participatory decision-making. Thus, the researcher recommends incorporating C4D methodology in Indonesia's extension system.

Cabrera (1999) stated in his study that included production functions, linear programming, and extension programming. Production functions for seven geographical zones were generated based upon multiple regression of cotton yield as a function of fertilization and environmental factors. Linear programming was used to simulate and better understand the current situation of individual households. Following statistical validation, a projection of future production, income, and consumption was undertaken at the household level. These simulation models are "interactive working models." Based upon the survey, production functions, linear programming, and secondary data a list of nine extension programs were proposed. These programs were based upon priority needs as identified by small farmers.

Program implementers were also benefited in conducting extension. Based on the interviews conducted, most of the program implementers benefited from Individual Performance Commitment Review (IPCR) and National Budget Circulation (NBC 461). This implies further that program implementers conduct extension programs to extend their expertise to the rural communities in the province of Abra.

Rubio *et al.* (2016) stated in their study the benefits of extension programs that students can expect outcome that will help them grow to a more productive and efficient students and member of the community. Moreover, there are also some expected problems in joining this kind of activity like funds, location and the logistics. The extension programs may continue to reach out for the sustainable development of the students and community.

Llenares and Deocaris (2018) pointed out that based on the framework of community empowerment, the researchers measured the long-term impact of a 44-month community extension program in the Philippines. The extension program described in this study was implemented between March 2009 and December 2015 to address the capacity-building needs of a low-income community. This paper highlights some key development activities which includes partnership with local government, training needs assessment through grassroots-level participation and design of practical education-training programs.

Program implementers have best practices in the implementation of extension services in the community. On the interviews conducted by the researcher the best practices in the implementation of the Extension Programs of ASIST were research based Extension Programs and Radio Programs to extend new technologies to farmers. This indicates that program

implementers of the Abra State Institute of Sciences and Technology prioritize to extend the new technologies that had been undertaken through research.

Duerden *et al.* (2012) stated in their study that simply assessing program impact without a clear understanding of the degree to which a program was actually implemented can result in inaccurate findings. The effective evaluation of both program impacts and evaluation can provide Extension educators with a more holistic perspective of their programs and an increased ability to identify and disseminate best program practices.

Suvedi (2016) pointed in his study that farmer engagement and empowerment are direct advantages of these monitoring and training systems. Evaluators also can benefit from farmers' adoption and use of these technologies. Ultimately, data collected regularly through such methods can be used as baseline data for comparative evaluations as well as used as partial sources for other types of evaluation. Farmers who have become familiar and comfortable with using technology increasingly will be able to respond effectively and in a timely manner to technology-based surveys and other evaluation tools. Additionally, because program evaluation expertise tends to originate from international aid agencies and organizations, there is a need to develop evaluation capacity at the national level in many countries. Extension organizations should identify and train staff to serve as national leaders for program evaluation. International aid agencies may contribute to the development of a network of evaluators so evaluation practitioners can share empirical studies to benefit each other. Building national in-country and local capacity is a major step toward sustainability of extension services.

Summary

Based on the data gathered, the following are the findings:

1. Training services has the highest mean value of 4.49 described as Very Much Implemented.
2. Information and Communication services has the highest mean value of 3.98 described as Much Implemented.
3. There is a significant relationship between the effectiveness of strategies and the extent of implementation of extension services of Abra State Institute of Sciences and Technology.
4. Financial challenges has the highest mean value of 3.75 described as Moderately serious.

CONCLUSIONS AND RECOMMENDATIONS

This chapter presents the findings and conclusions arrived at. It also presents the recommendations offered.

Conclusions

In the light of the findings, the following conclusions were derived:

1. Most of the program implementers perceived the level of effectiveness of strategies in training services.

2. Most of the program implementers perceived the extent of implementation in Information and communication services.

3. The null hypothesis is rejected since there is a significant relationship between the effectiveness of strategies and the extent of implementation of extension services among the program implementers of Abra State Institute of Sciences and Technology.

4. Program implementers perceived that most of the enumerated financial challenges were moderately serious to affect their extension programs.

Recommendations

Some recommendations arising from the conclusions are offered for the improvement of the Extension Services of Abra State Institute of Sciences and Technology:

1. The Extension Department should come up with sustainability plan in order to uplift other services.
2. The Extension Department should strengthen more other programs and look into the increase of frequency of the Radyo Kabinulig in order that the programs to be aired will be province wide.
3. Program implementers should look for more linkages from the different agencies and organizations such as local, national and international arena.

4. From the shortcomings of the implementers as being analyzed from the study, it is hoped that these should not be taken negatively, but rather should serve as a basis for reliable assessment and evaluation for the improvement of the implementation process.

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