



## RESEARCH PAPER

## OPEN ACCESS

## Impact Evaluation of the Extension Program on Goat Production Conducted by the College of Agriculture in Calaoagan, Piat, Cagayan

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### Abstract

Evaluation may give visibility to a good idea and new language that can communicate new ways of viewing extension to others who also may want to share an experiment. This study was conducted in Barangay Calaoagan, Piat, Cagayan, on October 20, 2023. The methodology employed in this undertaking includes a descriptive design utilizing a weighted mean through simple random sampling among the respondents. This study aimed to assess the extent of the contribution of the extension activity of the College of Agriculture to the social, economic, cultural, and environmental status of the community. The salient findings of this study reveal a little impact on the lives of the recipients in the community. In particular, the income derived from selling goats was used by the beneficiaries for the education of their children and the purchase of goods for family living. However, great challenges were encountered along the way, such as; insufficient coordination with barangay officials; inadequate technical assistance due to the restrictions brought by the COVID pandemic; mortality of some animals due to the unpredictable weather conditions coupled with poor housing facilities, thereby causing illness among the animals; there was no dispersed buck (male goat) to cater to the breeding needs of the doe (female goat) during their estrus period that could facilitate their pregnancy; and tracing the beneficiaries of the next dispersal among the original recipient was not evident. In order to assure the success of the next project, the engagement of barangay officials in all facets of the extension program should be in place. It is likewise encouraged that the project should have a project team that always bases their intervention on needs assessment, crafts a sustainability plan toward self-reliance, and implements project monitoring and coaching.

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## Introduction

One of the main roles of academic institutions is to effect change by giving community members more power through extension programs and services. The Cagayan State University is envisioned as a university with a global framework in the domains of science, technology, professional fields, agriculture, and fisheries. This is consistent with national development and committed to improving communities and individual lives through its primary missions of education, research, extension, and production.

The College of Agriculture at Piat Campus was mandated to conduct an extension program anchored on its niche program on Dairy Production and Agri-Tourism. The project community empowerment towards sustainable Agri-based development in the western town of Piat (Calaoagan) of Cagayan was initiated and implemented in 2018 through the Agricultural Training Institute as a funding agency.

The project aimed to build relatively permanent structures and people's organizations and improve their quality of life. These modalities are being seen as possibly helping the target communities of CSU-Piat, such as the municipality of Piat.

CSU-Piat College of Agriculture partnered with the Rural Improvement Club (RIC). This women's organization adopted one of the components of the project on "goat production". In the said municipality, after careful community assessment, it came out that their main problem is herd health and forage management. Hence, the solution raised by the LGU is the construction of a small water reservoir, which materialized through the joint effort of LGU-Piat and CSU-Piat College of Agriculture. Likewise, capacity building on herd health, forage management, and livelihood activities was provided.

The project was initiated through a Memorandum of Agreement (MOA), and the extension programs and activities are implemented in collaboration and coordination with the Local Government Units

(LGUs) and other partner agencies. The creation of Adopt-a-Municipality resulted from years of collaboration between the extension and training department and the LGUs, particularly the barangays, through the academic divisions of CSU.

The expertise of the faculty members and the available resources used in this project were sponsored both internally from the general fund and externally generated funds and from partner organizations. In order to meet community needs and challenges, CSU faculty members who are involved in extension work supplement what they have to offer from instruction and research. DeBord (2007) asserts that in order to mobilize the resources required to address community challenges, it is crucial to work with a multi-disciplinary team.

After more than three years of implementation, it is crucial to assess the impact of the implemented projects on community families, particularly their social, economic, cultural, and environmental well-being. This impact assessment effort will rigorously look into the feasibility and benefits of the extension programs that will influence future extension efforts and the gaps that will serve as a basis for planning not only future extension programs and projects but also on instruction, research, and production mandates.

Generally, it aimed to assess the extent of the contribution of the extension intervention to the social, economic, cultural, and environmental status of the community. Specifically, it aimed to: (1) determine the profile of the beneficiaries before and after the implementation of the extension services; (b) determine the extent of implementation of the goat project in the said barangay; (c) determine the impact of the program on improving the quality of life brought about by the project; and (d) challenges encountered by the recipients of the program or projects before and during the implementation.

## Research methods

This chapter presents the methodology used in the study. It includes the research design, respondents to

the study, data gathering procedures, and statistical tools.

#### *Research design*

The descriptive design was utilized in the conduct of the study. The correlation technique was utilized to determine the significance of the relationship between the level of program outputs and the impact of the extension program conducted by the College of Agriculture.

#### *Locale of the study*

This study was conducted in Calaoagan, Piat, and Cagayan, where the program was implemented.

#### *Respondents of the study*

The sampling technique used in selecting the community resident-respondents was simple random sampling technique.

#### *Research instrument*

A survey questionnaire was employed to gather data. Interviews were likewise conducted to supplement the responses given in the questionnaire.

#### *Data gathering procedure*

The following activities were undertaken by the researchers in gathering the needed data for the study: A letter of permission was personally presented to the Office of the Mayor of the Municipality through the Office of the Municipal

Agriculturist Office to seek approval and to ensure the cooperation of the respondents during the conduct of the study. In coordination with the barangay officials, the researchers met the respondents personally and administered the questionnaires using scheduled interviews. The data gathered from this study were kept confidential. Moreover, a group of third-party evaluators from Kalinga State University validated the results of the study through a Focus Group Discussion (FGD).

#### *Data Analysis*

The frequency and percentage counts and weighted mean were used in the study. A three-point Likert scale was used with the following descriptions:

Numerical Value	Numerical Range	Descriptive Value
3	2.34 - 3.00	Strongly Agree
2	1.67 - 2.33	Agree
1	1.00 - 1.66	Disagree

## **Results and discussion**

### *Demographic and Socio-Economic Profile of the Respondents*

#### *Demographic profile of the respondents*

Table 2 shows the age distribution of the respondents based on goat production. The majority of beneficiaries fall into the age groups of 41–50 and 51–60, with 30% and 40%, respectively. In terms of civil status, the majority are married (8, or 80%), with smaller percentages for single and widowed individuals.

**Table 1.** Distribution of Respondents of the Study.

Respondents	Population	Sample (N)
Community residents	13	10

On the range of years individuals have resided in the barangay, the distribution is somewhat even, with 20% of individuals in each of the first three categories and 40% in the 57-63 years category. On the other hand, based on information about the number of household members for each individual, the most common household size is 4 members, accounting for 40% of the group. Moreover, in the category indicating the number of years each individual has been involved in goat production, the majority (90%)

have been involved for 5 years, while a smaller percentage (10%) have been involved for 7 years.

#### *Socio- economic profile of the respondents*

Table 3 below provide information about educational attainment and changes in the number and types of animals before and after a specific event or time, with the percentages and totals provided for clarity and completeness.

**Table 2.** Demographic Profile of the Respondents

	Category	Frequency	Percentage
1.	Age		
	41-50	3	30
	51-60	4	40
	61-70	3	30
2.	Civil Status		
	Single	1	10
	Married	8	80
	Window	1	10
	Separated	0	0
3.	Length of residence in the barangay		
	39-44	2	20
	45-50	2	20
	51-56	2	20
	57-63	4	20
4.	Number of household members		
	3	2	20
	4	4	40
	5	1	10
	6	3	30
5.	Number of years in goat production		
	5 years	9	90
	7 years	1	10

**Table 3.** Socio- Economic Profile of the Respondents.

A.	Highest Educational Attainment	Frequency	Percentage
1	No Formal schooling	0	0
2	Elementary undergraduate	1	10
3	Elementary graduate	3	30
4.	Highschool undergraduate	1	10
5.	Highschool graduate	0	0
6.	Vocational Level	0	0
7.	College undergraduate	2	20
8.	College graduate	3	30
	Total	10	100

  

A.	Kind and Number of Animals		
	Kind	Before	After
	Goat	7	10
	Cattle	1	2
	Carabao	3	3
	Swine	2	2
	<i>Number of Animals</i>	Before	After
	1-2	14	27
	2-4	3	2
	5-6	4	6
	7-8	5	2
	TOTAL	26	37

#### *Farm size and crops planted*

The following table presents the size, crops planted, and type of land ownership. Results revealed that there was no significant change in the types of crops grown, the sizes of land areas planted with rice and corn, or the ownership status of farms before and after the event or period. The percentages remained

consistent, indicating that these factors did not undergo significant shifts during the specified period (Table 4).

#### *Trainings/seminars on goat production attended*

The data shows that before the event, none of the surveyed individuals attended any seminars (0%),

while all of them did not attend (100%). After the event, all individuals attended seminars (100%), and none of them did not attend (0%). This part of the table provides information on the types of seminars

individuals attended before and after the event. In this case, all individuals attended both types of seminars (Goat Production and Management, Silage Production) both before and after the event (Table 5).

**Table 4.** Farm Size and Crops Planted.

<i>Crops Grown</i>	Before		After	
	Frequency	Percentage	Frequency	Percentage
Rice	4	40	4	40
Corn	6	60	6	60
<b>TOTAL</b>	<b>10</b>	<b>100</b>	<b>10</b>	<b>100</b>

  

<i>Area Planted With Rice</i>	Before		After	
	Frequency	Percentage	Frequency	Percentage
0 – 2,500	5	50	5	50
2,501-5,000	3	30	3	30
5,001-7,500	1	10	1	10
7,501-10,000	1	10	1	10
<b>TOTAL</b>	<b>10</b>	<b>100</b>	<b>10</b>	<b>100</b>

  

<i>Area Planted With Corn</i>	Before		After	
	Frequency	Percentage	Frequency	Percentage
0 – 2,500	2	20	2	20
2,501-5,000	6	60	6	60
5,001-7,500	2	20	2	20
<b>TOTAL</b>	<b>10</b>	<b>100</b>	<b>10</b>	<b>100</b>

  

<i>Land Tenure</i>	Before		After	
	Frequency	Percentage	Frequency	Percentage
Owner	9	90	9	90
Tenant	1	10	1	10
<b>TOTAL</b>	<b>10</b>	<b>100</b>	<b>10</b>	<b>100</b>

**Table 5.** Trainings/Seminars on Goat Production Attended.

<i>Attending seminars?</i>	Before		After	
	Frequency	Percentage	Frequency	Percentage
YES	0	0	10	100
NO	10	100	0	0
<i>What type of seminars?</i>				
Goat production and management	0	0	10	100
Silage production	0	0	10	100

#### *Membership to association/organization*

The table shows the membership in an organization and provides data on the types of organizations individuals are members of, both before and after a particular event or time. On the types of organizations, individuals are members before and after the event. In this case, all individuals are members of the Rural Improvement Club both before and after the event, and there are no members of the other two types of organizations (Table 6).

#### *Communication-related information*

The table below indicates several changes in communication-related factors in the context of goat production. The result shows that the respondents listened to a radio program before and after the event or intervention. "Before," 30% of respondents said "YES," indicating that they listened to a radio program, while 70% said "NO." "After," there was a significant change: 60% of respondents said "YES," indicating that more people started listening to the

radio program, and only 40% said "NO." It also asked about the specific program listened to. "DWDA" had no listeners before but had 40% of the listeners after the event. "Others" had 30% before and 20% after. The table further shows the time the respondents

spent listening to the radio program. At "5:00 AM–6:00 AM", there were no listeners before, but after the event, 40% of the respondents had already listened to a radio program. "12:00 PM-1:00 PM" had 30% before and 20% after.

**Table 6.** Membership to Association/ Organization.

<i>Are you a member of the organization?</i>	Before		After	
	Frequency	Percentage	Frequency	Percentage
Yes	10	100	100	100
No	0	0	0	0
<i>What type of organization?</i>				
Rural Improvement Club	10	100	10	100
Farmer cooperatives	0	0	0	0
Irrigators Association	0	0	0	0
Total	10	100	10	100

The next part dealt with the reading of printed materials about goat production before and after the event. This section focused on whether respondents read printed materials on goat production before and after the event. "After," there was a significant change: 100% of respondents said "yes," indicating

that everyone started reading printed materials on goat production. The table also asked where respondents got these printed materials. "DA" had 20% of the respondents' obtaining materials before, but none after. "CSU" had no respondents before but had 100% after.

**Table 7.** Communication-Related Information.

A.	Listening to radio program	Before		After	
		Frequency	Percentage	Frequency	Percentage
	YES	3	30	6	60
	NO	7	70	4	40
	<i>What program do you listen to?</i>				
	DWDA	0	0	4	40
	Others	3	30	2	20
	<i>What time do you listen to radio program</i>				
	5:00 AM – 6:00AM	0	0	40	40
	12:00 PM-1:00 PM	3	30	20	20
B.	Reading printed materials on goat production				
	YES	2	20	10	100
	NO	8	80	0	0
	<i>Where did you get the printed materials?</i>				
	DA	2	20	0	0
	CSU			10	100
C.	Frequency of Visit				
	<i>CSU-Extensionist</i>				
	Once a month			0	0
	One every quarter			0	0
	Once a year			10	100
	<i>Other Agencies</i>				
	Once a month			0	0
	One every quarter			0	0
	Once a year			10	100
D.	What kind of assistance is extended to you by CSU Extension Agent				
a.	Artificial Insemination			0	0
b.	Castration			0	0
c.	Treatment of Sick animals			0	0
d.	Deworming			0	0
e.	Book keeping			0	0
f.	Forage management			10	10
g.	Production management			10	10
h.	Milking			0	0

In terms of the frequency of visits by extensionists from CSU (Cagayan State University) and other agencies before and after the event, for CSU-Extensionists, "Once a month" and "One every quarter" had no visits before or after, while "Once a year" had 100% visits both before and after. For other agencies, "Once a month" and "One every quarter", there were no visits before or after, while "Once a year" recorded 100% visits both before and after. As to the types of assistance they received from CSU Extension Agents before and after the event, results

revealed that no assistance was made except for "Forage management" and "Production management," wherein 10% of respondents reported receiving assistance both before and after the event.

The perceived changes included an increase in radio program listenership, a shift in reading printed materials, and more frequent visits from CSU Extension Agents for specific types of assistance. These changes may be the result of an intervention or campaign aimed at improving communication and knowledge sharing in goat production.

**Table 8.** Extent of implementation of program outputs of the College of Agriculture extension services in terms of skills training.

	Skills Training	Numerical Value	Description
1.	The skills learned are effective in my farming activities	2.3	Agree
2.	The skills taught helped me increase my income.	2.0	Agree
3.	I became gainfully employed after the training.	1.9	Agree
4.	I adopted the technology I learned from the training.	2.1	Agree
5.	I started my own business after the training.	1.8	Agree
	MEAN	2.0	Agree

#### *Extent of Implementation of the Goat Project*

##### *Skills Training*

Table 8 shows the extent of implementation of the program outcomes for skill development provided by the College of Agriculture at Piat extension services is shown in Table 7. Results showed that this component had a verbal interpretation of "agree" and an overall mean of 2.0. The information acquired demonstrates the community's understanding of the

numerous skill-training programs offered by the College of Agriculture at Piat. Moreover, there were perceived advantages that the respondents gained from the college's extended programs. Olavides *et al.* (2019), in contrast to the findings of this study, discovered that recipients were unsure as to whether the extension activities had assisted them in increasing their income, had improved their living conditions, or had led to the reduction of poverty.

**Table 9.** Extent of implementation of program outputs of the College of Agriculture extension services in terms of advocacy initiatives.

	Advocacy Initiatives	Numerical Value	Description
1.	The advocacy program benefited us to learn new knowledge and information.	2.3	Agree
2.	It contributed on the improvement of our way of living.	2.4	Strongly Agree
3.	I disseminated the knowledge and skills I learned to the community.	2.1	Agree
4.	It has improved the quality of our lives.	2.0	Agree
5.	Extending the skills learned helped me develop my self-esteem	2.1	Agree
	MEAN	2.18	Agree

##### *Advocacy initiatives*

The level of program outputs for the College of Agriculture's advocacy programs is displayed in Table 9. The mean along this parameter is 2.18, with "agree" being the verbal meaning. The results demonstrate that the college has run advocacy initiatives that have benefited the community's marginalized or

underprivileged groups. These advocacy campaigns emphasize issues like gender equality and environmental awareness. Similar to these findings, Chua *et al.* (2014) study concentrated on the evaluation of various extension projects and activities, like environmental clean-up, that were well-practiced, appraised, and implemented.

**Table 10.** Extent of implementation of program outputs of the College of Agriculture extension services in terms of livelihood program.

	Livelihood Program	Numerical Value	Description
1.	The livelihood program enhanced our entrepreneurial skills	2.2	Agree
2.	It helped me augment my income.	2.4	Strongly agree
3.	It has improved the quality of my life.	2.1	Agree
4.	It has made me more cohesive member to the community.	2.3	Agree
5.	It helped me developed my self-worth	2.2	Agree
	MEAN	2.24	Agree

*Livelihood programs*

The level of program outcomes for livelihood programs from the College of Agriculture at Piat extension services is displayed in Table 10. The mean along this parameter is 2.24, with "agree" being the verbal meaning. The information received suggests that the college has really run livelihood programs

that have helped the members of the Rural Improvement Club in Calaogan, Piat, Cagayan. The same conclusions were reached by Abrea (2017) in regards to the livelihood programs offered to its participants, who firmly agreed that the Badjaos, as participants, are capable of putting the skills picked up through such extension services to use.

**Table 11.** Impact of the program in improving the levels of living brought by the Goat Production project.

	Category	Numerical Value	Description
1.	Kitchen facilities	2.22	Little
2.	Household possession	2.11	Little
3.	Household furniture/appliances	2.00	Little
4.	Electricity as source of Lighting	2.00	Little
5.	Household amenities	1.89	Little
6.	Bedroom facilities	1.44	Not at all
7.	Toilet facilities	1.44	Not at all
8.	Source of water	1.33	Not at all
9.	House construction	1.11	Not at all
	TOTAL	1.73	Little

*Impact of the program in improving the levels of living brought by the Goat Production project*

Table 11 provides an assessment of the impact of the goat dispersal project on various aspects related to the level of living. The numerical value of 1.73 summarizes the overall impact of the goat project, wherein it resulted in a modest overall improvement in the living conditions, with a description of "little".

There have been some improvements in certain living conditions, such as kitchen facilities and household possessions, but there seems to be little to no improvement in other critical areas like bedroom facilities, toilet facilities, sources of water, and house construction. The findings could be related to the

results of the study by Felicenet *al.* (2014), whose extension program has a great impact on the economic status of its beneficiaries. They were able to put into practice what they had learned and earn additional income from the project.

*Challenges encountered by the recipients of the program/projects before and during the implementation*

Table 12 displays the difficulties experienced during the design, execution, and monitoring of extension efforts in the chosen community. The focal point to contact when there are problems turns out to be problematic for both parties throughout the planning stage. This was mostly brought on by the lack of a



designated point person for extension concerns among barangay officials. Second, during the planning phase, there was a lack of cooperation among them, which made matters worse. Officials whose homes are close to the barangay hall are those who can be mobilized. Additionally, at this level, problems are dealt with more than planned interventions to address the problems; plans are less

of a focus. Given the numerous procedures to go through before budget approval, a lack of financial resources was the main issue during the implementation stage. Although sharing of resources was a very explicit requirement in the Memorandum of Agreement signed by the institution and the community, this has become difficult for both organizations due to budgetary restrictions.

**Table 12.** Challenges encountered by the recipients of the program/projects before and during the implementation.

A. PLANNING		Frequency	Percentage
1.	There is no direct focal person to contact with and discuss the concerns	1	10
2.	Lack of involvement of barangay officials in the planning stage.	2	20
3.	There is no clear understanding between the Barangay and the College in the conduct of extension activities.	2	20
4.	Lack of communication between the Punong Barangay and the extension coordinator of the college.	1	10
5.	Lack of proper consultation by the college to the Barangay.	4	40
TOTAL		10	100
B. IMPLEMENTATION		Frequency	Percentage
1.	Lack of financial resources to fund extension activities that demand barangay counterpart.	4	40
2.	Lack of support from barangay officials.	3	30
3.	Lack of time to participate/attend in the activities conducted by the college.	3	30
Total		10	100
C. MONITORING		Frequency	Percentage
1.	Lack of time by the College Extension Coordinator and implementers to monitor the project	6	60
2.	The proximity of the adopted barangay was far that somehow makes it difficult to conduct regular on-site monitoring.	4	40
TOTAL		10	100

For monitoring, the distance of the adopted community posed a major problem. The area is inaccessible because there are only a few vehicles routing through it. The support given to transportation by the administration is largely dependent on the availability of the vehicles, and at the time of implementation, the campus has only one vehicle that caters to the needs of the different colleges. This was also attributed to a lack of time for the implementers to monitor the project due to their teaching load.

### Conclusions

Based on the findings, it can be observed that the college has evidently shown that the College of Agriculture at CSU-Piat was indeed engaged with community involvement in their partner barangay. The college evidently has funds available for the

conduct of extension programs. Along with the extent of participation of the development partners in CSU-Piat extension services, the local and barangay officials are not involved in the extension services such as skills trainings, advocacy and outreach programs, and livelihood programs. The clients must involve themselves in the process of planning programs and activities until their implementation. The extension program has a great impact on the economic and social status of the respondents. This is validated by the number of adaptors who are engaged in entrepreneurial and other similar activities.

The study proposed that, given the result of the assessment, CSU-Piat extension programs must be sustained and enhanced. The college, through its extension services office, should be responsive to the needs of the members of the Rural Improvement

Club, which will continually improve the effectiveness of its extension program. The same shall continue to envision the consolidation of the roles of the office and the development of a strategic framework for institutional and community engagement, with particular emphasis on meaningful poverty alleviation programs to uplift the socio-economic status as well as the sustainable development of the partner barangays and their people.

#### References

- Abrea Rowena R.** 2017. Impact of Batstateu-College of teacher education socio-economic extension services to Badjao Community in Libjo, Batangas City. *International Journal of Innovation and Research in Educational Services* **4(2)**, 209-213.
- Chua VD, Caringal KP, De Guzman BRC, Baroja EAD, Maguindayao JB, Caiga BT.** 2014. Level of implementation of the Community Extension Activities of Lyceum International Maritime of Academy. *Asia Pacific Journal of Education, Arts and Sciences* **3(3)**, 73-77.
- Felicen SS, Mendoza EO, Buted DR.** 2014. Impact of hotel and restaurant management livelihood program to the beneficiaries in one the university adapted communities. *International Journal of Academic Research in Progressive Education and Development* **3(2)**, 125-136.
- Olavides Ma Marilyn L, Mendoza AD, Bacalla JP.** 2019. PIT Community Extension Programs: The three-year engagement. *International Journal of Science and Management Studies* **2(2)**, 81-87.
- Salazar, Teresita B.** 2020. An Impact Study of the Community Extension Programs in a State College in the Philippines. *International journal of educational sciences* **29(1-3)**, 16-23.  
<http://dx.doi.org/10.31901/24566322.2020/29.1-3.1129>