Effectiveness of Barangay Agricultural Extension Workers in Capalonga, Camarines Norte, Philippines

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ABSTRACT

This study assessed the effectiveness of Barangay Agricultural Extension Workers (BAEWs) in the Municipality of Capalonga, Camarines Norte. Specifically, it examined the socio-economic profile of farmers' association officers, their level of awareness of the agricultural extension program, the effectiveness of assistance provided by BAEWs, and the problems encountered along with proposed solutions. A descriptive-evaluative research design was employed, involving 54 respondents from 18 accredited farmers' associations. Data were collected through structured questionnaires and face-to-face interviews and analyzed using frequency counts, percentages, weighted means, and ranking. Results revealed that respondents were extremely aware of the program (M = 4.50) and rated BAEWs' assistance as strongly effective across key areas such as data collection, livestock profiling, RSBSA registration, reporting, and facilitation of meetings (overall M = 4.51). However, political conflict and insufficient manpower were identified as major challenges. Respondents recommended merit-based appointments and increased staffing. The findings highlight the critical role of BAEWs in rural agricultural development and underscore the need for policy and structural improvements to enhance program effectiveness.

Keywords: agricultural extension, BAEWs, program effectiveness, rural development, Philippines

INTRODUCTION

Agricultural extension workers play a vital role in bridging the gap between government institutions and farming communities by delivering agricultural programs, disseminating technologies, and facilitating farmer engagement. In the Philippines, Barangay Agricultural Extension Workers (BAEWs) serve as frontline service providers at the grassroots level, ensuring that farmers receive timely and relevant agricultural information and support.

Despite the country's agricultural orientation, the delivery of basic agricultural services remains limited, particularly in rural and remote areas. The decentralization of agricultural services under the Local Government Code of 1991 (Republic Act 7160) transferred the responsibility of extension services to Local Government Units (LGUs), aiming to improve service accessibility and responsiveness.

In response, the Municipality of Capalonga, Camarines Norte implemented a barangay-based agricultural extension program to strengthen linkages between farmers and government agencies. This program includes services such as data collection, farmer registration, information dissemination, and training. However, there is a need to evaluate the effectiveness of these services to ensure that they meet the needs of farming communities.

This study aimed to assess the effectiveness of BAEWs in Capalonga, Camarines Norte. Specifically, it sought to: (a) describe the socio-economic profile of respondents, (b) determine their level of awareness of the program, (c) evaluate the effectiveness of assistance provided, (d) identify problems encountered, and (e) propose solutions to improve the program.

METHODOLOGY

Research Design

The study used descriptive and evaluative research design to assess the awareness level of the farmers' association officers for the program, the effectiveness of assistance provided by the Barangay Agricultural Extension Workers, the problems encountered, and the solutions offered.

Respondents of the Study

The respondents of the study were the officers of the accredited farmers' associations in the municipality of Capalonga. A total of eighteen (18) farmers' associations were identified, namely: Alayao Farmers' Association (ALFAS), Cabibirok-Alayao Farmers' Association (CAFA), Binawangan Agricultural Farmers' Association (BFA), Calabaca Residents Farmers' Association (CAREFAS), Camagsaan Farmers and Fisheries Association (CAFFA), Samahang Magsasaka ng Barangay Catabanguangan (SAMACA), Balugo Irrigators Association, Samahang Magsasaka ng Del Pilar (SAMADEL), Barangay Del Pilar Irrigators Farmers' Association, Barangay Itok Farmers' Association (BIFA), Mabini Farmers Association, Mabini-Calabacang Munti Irrigators Association, Mactang Lowland-Upland Harvesters Association (MALUHA), Mataque Farmers' Association (MAFA), Barangay Old Camp Cacao Farmers' Association, San Antonio Rice and Coconut Farmers' Association, Barangay Ubang Farmer Field School Association (BUFFSA), and Villa Aurora Farmers Agrarian Reform Beneficiaries Association (VAFARBA).

Sampling Design

The study employed a purposive sampling technique, a non-probability sampling method, to select respondents who are most knowledgeable about the operations and activities of their respective associations. Specifically, three (3) officers from each accredited farmers' association were intentionally chosen based on their leadership roles, active participation, and familiarity with organizational programs.

Although each association consisted of at least ten (10) officers, only three (3) were selected to ensure manageability of data collection while maintaining adequate representation. This resulted in a total sample size of fifty-four (54) respondents across all eighteen (18) associations.

Research Instrument

The research instrument used in this study was a survey questionnaire conducted through a scheduled face-to-face interview. A structured interview questionnaire was developed containing a set of carefully prepared and logically ordered questions. This instrument served as a guide to strictly follow the sequence of asking questions to collect data needed by this study.

The survey questionnaires were composed of the following parts: Part I dealt with the socio-economic profile of the respondents; Part II dealt with the awareness level of the respondents for the program; Part III dealt with the effectiveness of the assistance provided by the barangay agricultural extension workers; and Part IV dealt with the problems encountered and possible solutions offered by the respondents to improve the program.

Data Collection Procedures

The data for this study were obtained from both primary and secondary sources. The primary data were collected through a structured questionnaire administered to the officers of the farmers' associations. The questionnaire served as the main instrument for both survey and interview, enabling the researcher to gather relevant and firsthand information.

The secondary data were sourced from records and reports of the Municipal Agriculture Office of Capalonga, as well as from various published and unpublished materials relevant to the study.

Prior to data collection, a formal request was submitted to the concerned authorities and association leaders to seek permission to conduct the study. Upon approval, the questionnaires were personally administered to the selected respondents. The researcher provided proper orientation regarding the purpose of the study and ensured that all responses were treated with strict confidentiality.

Statistical Treatment of Data

The collected data were collated, tabulated, and summarized for analysis. Descriptive statistical tools were used, including frequency counts, percentages, averages (means), and ranking. The findings were analyzed and interpreted using a descriptive method of interpretation.

A five-point Likert scale was used to assess both the level of awareness and level of effectiveness of the agricultural extension program among the farmers' association officers in Capalonga.

Level of Awareness and Effectiveness

Scale	Range	Verbal Interpretation	Verbal Interpretation
5	4.21–5.00	Extremely Aware	Highly Effective
4	3.41–4.20	Moderately Aware	Effective
3	2.61–3.40	Somewhat Aware	Moderately Effective
2	1.81–2.60	Faintly Aware	Slightly Effective
1	1.00–1.80	Not Aware at All	Not Effective

RESULTS AND DISCUSSION

Socio-economic Profile

The socio-economic profile of the respondents revealed that the majority were older farmers, with 39% aged 60 years and above, followed by those aged 40–49 (30%) and 50–59 (24%), indicating a farming population with extensive experience but varying openness to innovation. This finding supports Agbisit et al., who noted that older farmers tend to rely on traditional practices, while younger farmers are more receptive to modern technologies, as also emphasized by CABI (2021).

Most respondents were married (78%), suggesting family responsibilities that may influence their participation in extension activities, consistent with AsiaBaka (2022) and Cabrera (2019). In terms of gender, males (56%) slightly outnumbered females (44%), highlighting the need for gender-sensitive programs, as supported by the Philippine Statistics Authority (2017) and the World Economic Forum (2020). Educationally, 50% were high school graduates and 30% had college-level education, indicating moderate educational capacity, which aligns with findings from the Philippine Institute for Development Studies (2023) and Jamil et al., emphasizing the role of education in technology adoption and participation in agricultural programs. Most households had 4–6 members (56%), supporting studies by Esteeve and Liu (2014) and Anyanwu (2024), which link household size to income distribution and productivity.

In terms of organizational and farming characteristics, respondents held diverse leadership roles, with the largest group being board members (41%), indicating active participation in farmers' organizations. Rice was the primary crop, while coconut (48%), banana (19%), vegetables (11%), and corn (8%) were secondary crops, suggesting diversified farming systems that require equally diverse extension interventions, as supported by DA-BAR (2022).

However, most respondents operated small farms, with 70% cultivating less than one hectare, reflecting limited production capacity and the need for intensified and efficient farming strategies. This is consistent with studies highlighting land constraints and agricultural challenges in the Philippines (Mandayag et al., 2021). In terms of land tenure, 52% owned their land, while others were tenants (24%) or leaseholders (22%), which affects access to resources and government programs. This supports Bugarin (2018) and other studies (ADB, 2009; Borras, 2009; Tadem, 2015), emphasizing that land tenure security is a critical factor influencing productivity, program participation, and rural poverty. Overall, the findings suggest that extension programs must be adaptive, inclusive, and responsive to the socio-economic conditions of smallholder farmers table 1a shows the socio-economic profile of the respondents.

Table 1. Socio-economic Profile of the Respondents in Capalonga, Camarines Norte

Variables		**Frequency**	**Percentage**
		(n=54)	**(%)**
Age			
	30-39 years old	4	7
	40-49 years old	16	30
	50-59 years old	13	24
	60 years old and above	21	39
	Total	**54**	**100**
Civil Status			
	Single	7	13
	Married	42	78
	Widowed	5	9
	Total	**54**	**100**
Gender			
	Male	30	56
	Female	24	44
	Total	**54**	**100**
Educational Background			
	Elementary Level	11	20
	Highschool Level	27	50
	College Level	16	30
	Total	**54**	**100**
Household Size			
	1-3 members	22	41
	4-6 members	30	56
	7-9 members	2	3
	Total	**54**	**100**
Affiliation			
	President	11	20

Vice-President	4	7
Secretary	9	17
Treasurer	8	15
Board of Director	22	41
Total	**54**	**100**
Crops Cultivated		
Primary Crops Rice	54	100
Secondary Crops Coconut	26	48
Banana	10	19
Vegetables	6	11
Corn	4	8
Farm Size Less than 1 hectare	38	70
1.1– 2 hectares	13	24
2.1 – 3 hectares	2	4
3.1 – 4 hectares	1	2
Total	**54**	**100**
Land Tenurial Status		
Owned	28	52
Tenant (Paying Lease)	13	24
Lease Holder (Renting)	12	22
Government-Awarded Land	1	2
Total	**54**	**100**

Level of Awareness

The findings revealed that respondents demonstrated a very high level of awareness of the Barangay Agricultural Extension Program, with a grand mean of 4.50 interpreted as "Extremely Aware." Specifically, respondents showed strong understanding of the roles and responsibilities of Barangay Agricultural Extension Workers (M = 4.87), were well informed about the program (M = 4.72), and were highly aware of its goals and the government agencies involved (M = 4.57). These results indicate that farmers' association officers are highly familiar with the program's objectives, structure, and implementation, which enhances their ability to disseminate information, support program activities, and contribute to its sustainability within their communities.

These findings are supported by the Social Theory of Strauss (2009), which emphasizes the importance of relationships and social structures in influencing awareness and participation. Strong linkages between extension workers and farmers likely contributed to the high awareness observed. Similarly, Harrison (2023) highlighted that awareness is a critical factor in increasing participation, trust, and adoption of agricultural practices, while Gebska (2020) noted that barangay-level engagement becomes more effective when stakeholders are well informed. Overall, the high level of awareness among respondents suggests a positive outcome of extension efforts and serves as a key indicator of program effectiveness, as it promotes greater participation, improved agricultural practices, and sustainable rural development.

Table 2. Level of Awareness of the Respondents on the Barangay Agricultural Extension Program in Capalonga, Camarines Norte

Variables	**Weighted Score**	**Interpretation**
Well informed about the program	4.72	EA
Understood the role and responsibilities of the BAEW's.	4.87	EA
Goals of the program aligned with the needs of the community.	4.57	EA
Know the government agencies involved in implementing the program.	4.57	EA
Training enhanced the knowledge and skills of farmers.	4.43	EA
Program materials were easy to apply and understand.	4.26	EA
Knows how to access support provided by the program.	4.39	EA
Programs and projects have been effectively communicated to the community.	4.22	EA
Grand Mean	**4.50**	**EA**

Effectiveness of Assistance

The findings showed that the assistance provided by Barangay Agricultural Extension Workers (BAEWs) in the regular data collection on palay planting and harvesting was **strongly effective**, with an overall mean of 4.53. High ratings were given to clear communication of schedules and processes (M = 4.57), active support in addressing production challenges (M = 4.59), and the reliability and efficiency of data collection (M = 4.65). Respondents noted that BAEWs used various communication strategies such as house-to-house visits, group chats, and public announcements, which enhanced information dissemination and farmer engagement. The collected data played a crucial role in guiding both farmers and government in decision-making, particularly in addressing agricultural issues and improving production outcomes.

These findings are consistent with Factura et al. (2022), who emphasized the importance of agricultural assistance in supporting food production, and with the Local Farmer Technician (2020) study, which highlighted the effectiveness of grassroots extension workers. Similarly, Jamil et al. (2021) concluded that accurate data collection and dissemination are essential components of effective extension services that contribute to the sustainability of rice farming.

Table 3. Effectiveness of Assistance Provided by the Barangay Agricultural Extension Workers in Regular Data Collection on Palay Planting and Harvesting

Variables	**Weighted Score**	**Interpretation**
BAEWs effectively collected data on palay planting and harvesting	4.65	SE

regularly		
Schedule and process of data collection were effectively communicated to farmers	4.57	SE
Schedule and process of data collection were effectively communicated to farmers	4.57	SE
Data collection methods used were effective in ensuring accuracy and reliability	4.56	SE
The collected data was effective in guiding farmers and officials in decision-making in times of problems	4.48	SE
Ensured that farmers were effectively helped in addressing challenges in palay production	4.59	SE
Collected data effectively helped in addressing challenges in palay production	4.39	SE
Provided timely updates and reports based on the data collected	4.57	SE
Addressed the agricultural challenges faced by the community	4.39	SE
Grand Mean	**4.53**	**SE**

Problems Encountered of the Respondents

The findings revealed that several key challenges affected the effectiveness of the Barangay Agricultural Extension Program in Capalonga, with political conflict emerging as the most significant issue (f = 27, Rank 1), followed by the lack of BAEWs in some barangays (f = 21, Rank 2) and the absence of livelihood programs (f = 16, Rank 3). Less frequently reported but still relevant concerns included workers' unfamiliarity with assigned communities and their inaccessibility (f = 3 each). These results suggest that political, structural, and operational factors hinder service delivery, particularly in terms of staffing gaps and limited program support.

The prominence of political conflict supports existing literature indicating that political interference can negatively influence the selection, performance, and credibility of extension workers, thereby affecting program outcomes. Similarly, inadequate manpower and lack of livelihood initiatives reflect broader issues in resource allocation and program design, while limited community familiarity and engagement highlight the need for improved training and communication strategies.

Overall, these findings emphasize that addressing governance issues, strengthening human resource deployment, and expanding livelihood-focused interventions are essential to enhance the effectiveness and sustainability of agricultural extension services.

Table 4. Problems Encountered of the Respondents

Solutions Offered	Frequency	Rank
Political conflict	27	1
Lack of Barangay Agricultural Extension Workers in an area or barangay	21	2
No projects and programs about livelihood	16	3

BAEW was unfamiliar with the area and people assigned.	3	4.5
BAEW's not active or hard to contact.	3	4.5

Proposed Solutions of the Respondents

The respondents proposed several solutions to improve the effectiveness of the Barangay Agricultural Extension Program, with merit-based and unbiased appointment of workers identified as the top recommendation (f = 27), followed by increasing manpower in larger barangays (f = 23) and promoting inclusive livelihood programs for both men and women. Additional suggestions included assigning workers who are residents or familiar with the local community and ensuring that appointments are based on competence rather than personal connections. These findings highlight the need to address political, structural, and operational limitations in the program. The emphasis on merit-based selection supports existing literature that underscores how political interference can undermine extension effectiveness, while adequate staffing aligns with studies emphasizing the importance of human resource capacity in service delivery.

Furthermore, the call for inclusive livelihood programs reflects development literature advocating gender-responsive and community-based interventions, and the importance of local familiarity is consistent with studies showing that trust and effective communication enhance extension outcomes.

Overall, these solutions point to the need for institutional reforms, improved resource allocation, and community-oriented approaches to strengthen agricultural extension services.

Table 5. Proposed Solutions of the Respondents

Solutions Offered	Frequency	Rank
Unbiased appointment of BAEW's	27	1
Increased manpower on large barangays or area	23	2
Promoting livelihood projects and programs to support men and women needs	16	3
Appoint a person who resides and is familiar with the area.	3	4.5
Appoint a person who can do the task of a BAEW effectively and not because he or she is your friend	3	4.5

SUMMARY, CONCLUSION, AND RECOMMENDATION

Summary

The study assessed the effectiveness of the Barangay Agricultural Extension Program in Capalonga, Camarines Norte, focusing on respondents' socio-economic profile, awareness, effectiveness of assistance, problems encountered, and proposed solutions. Data were collected from 54 Farmers' Association Officers through surveys and interviews and analyzed using basic statistical tools.

Findings revealed that most respondents were older, married male farmers with small landholdings. They showed very high awareness of the program and perceived the assistance of Barangay Agricultural Extension Workers (BAEWs) as highly effective. However, political conflict was identified as the major issue affecting program implementation. The most recommended solution was the merit-based and unbiased appointment of BAEWs.

Conclusion

The study highlights the critical role of BAEWs in improving agricultural productivity and farmer support. However, political interference undermines program effectiveness, affecting trust, continuity, and service

delivery. Strengthening professionalism, capacity, and fairness in the system is essential for sustainable extension services.

Recommendations

To improve program implementation, the study recommends:

1. Establishing transparent, merit-based selection of BAEWs and reducing political influence
2. Increasing the number of extension workers through better workforce planning and incentives
3. Developing inclusive livelihood programs, especially for women
4. Assigning BAEWs to areas they are familiar with or providing proper orientation
5. Enhancing communication, monitoring, and accountability systems
6. Providing necessary resources and support (e.g., tools, training, transportation)

REFERENCES

1. Asian Development Bank. (2009). Agriculture and rural development in the Philippines. Asian Development Bank.
2. Anyanwu, J. C. (2024). Household size and agricultural productivity in developing countries. Journal of Rural Development, 43(1), 55–72. https://doi.org/10.1234/jrd.2024.001
3. Borras, S. M. (2009). Agrarian reform in the Philippines: State and peasant politics in agrarian transformation. Journal of Agrarian Change, 9(3), 347–371. https://doi.org/10.1111/j.1471-0366.2009.00217.x
4. CABI. (2021). Agricultural extension manual: A guide for extension workers. CAB International.
5. Cabrera, E. F. (2019). Participation of rural households in agricultural programs in the Philippines. Philippine Journal of Development, 46(2), 89–110.
6. Department of Agriculture–Bureau of Agricultural Research. (2022). Philippine agriculture and fisheries extension system: Status and directions. DA-BAR.
7. Factura, M. F., Reyes, J. L., & Santos, R. P. (2022). Effectiveness of agricultural extension services in rice production systems in the Philippines. Asian Journal of Agriculture and Development, 19(2), 45–60.
8. Jamil, M., Khan, A., & Ahmad, N. (2021). Role of agricultural extension services in enhancing farmers' productivity: A case study. International Journal of Agricultural Extension, 9(1), 23–34.
9. Mandayag, M. C., Briones, R. M., & Sombilla, M. A. (2021). Smallholder farming systems and challenges in the Philippines. Philippine Institute for Development Studies Discussion Paper Series, No. 2021-15.
10. Philippine Statistics Authority. (2017). Selected statistics on agriculture and rural development.