

The Impact of Sustainable Anti-Poverty Project in Buhi, Camarines Sur

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Abstract

This study evaluated the Sustainable Anti-Poverty Project (SAPP) implemented in Buhi, Camarines Sur, focusing on the socioeconomic characteristics of farmer and fisherfolk beneficiaries, development interventions, perceived effectiveness, livelihood and environmental outcomes, and changes associated with project participation. Anchored in theories of human needs, motivation, and sustainable development, the study employed a descriptive research design using survey questionnaires, face-to-face interviews, observations, project documents, and secondary data. Descriptive statistical tools and a t-test were used to examine socioeconomic conditions before and after SAPP implementation. Findings showed that beneficiaries were predominantly low-income farming and fishing households whose development interventions generally improved knowledge and skills in agricultural production, financial management, marketing, environmental stewardship, and disaster risk reduction and climate change adaptation. Of 120 trained participants, 58 (48.3%) engaged in livelihood and entrepreneurial activities, while taro production recorded the highest reported return on investment at 153.3%. Beneficiaries also reported increased income, savings, per capita income, and environmental and community benefits, although income remained below the identified poverty threshold. Challenges included inadequate agricultural inputs, difficulties sustaining starter kits, and constraints affecting livelihood adoption. The study recommends continuous technical and resource support, training, mentoring, monitoring and evaluation, community partnerships, and comprehensive project management. The study supports SDG 1 (No Poverty), SDG 2 (Zero Hunger), and SDG 8 (Decent Work and Economic Growth) through poverty alleviation, agriculture-based livelihood development, and productive employment opportunities. Its sustainability impact lies in strengthening socioeconomic conditions, community capacity, responsible resource use, institutional extension programs, and partnerships for sustainable community development.

Keywords: Agricultural Livelihood, Capacity Building, Community Development, Poverty Alleviation, Socioeconomic Conditions, Sustainable Development, Sustainable Anti-Poverty Project

1. Introduction

Poverty remains a major concern among rural and marginalized communities in Camarines Sur. In response, the Sustainable Anti-Poverty Programs (SAPP), under the Accelerated and Sustainable Anti-Poverty (ASAP) initiative, was implemented through collaboration among State Universities and Colleges (SUCs), the Commission on Higher Education (CHED), and their Extension Services Offices. The program provides livelihood opportunities, competency training, capability building, and knowledge and technology transfer, particularly for farmers and fisherfolk in priority municipalities such as Buhi, Presentacion, and Balatan. This study evaluates SAPP in Buhi, Camarines Sur, focusing on the interventions provided by the Central Bicol State University of Agriculture (CBSUA), their perceived effectiveness, and changes in the socioeconomic and environmental conditions of community beneficiaries.

Camarines Sur recorded a poverty incidence of 33.5 percent in 2012, ranking third in the Bicol Region. Despite a declining percentage trend, poverty remained a concern due to population growth and related socioeconomic

challenges. SAPP was therefore introduced in high-poverty municipalities to improve livelihoods through skills development, capacity building, sustainable employment, and agricultural support. The program is consistent with Tabardillo et al. (2022), which discusses a CHED-NAFES-funded initiative in Camarines Sur that used training and skills development to support marginalized communities despite procurement and environmental challenges. Similarly, Harold Jan R. Terano (2025) found that skills training and advocacy initiatives positively influence community social and economic conditions while emphasizing continuous evaluation, strategic planning, sustainability, and community partnerships.

SAPP has undergone monitoring, evaluation, and field validation to assess its implementation and outcomes. By 2025, the project had completed its seventh year, providing an opportunity to examine its longer-term effects on participating communities. The present study assesses beneficiary characteristics before and after SAPP participation, the development interventions provided by CBSUA, their perceived effectiveness, and the socioeconomic and environmental benefits experienced by beneficiaries. The findings may support CBSUA, Local Government Units (LGUs), policymakers, development planners, NGOs, and other stakeholders in strengthening and replicating appropriate poverty-alleviation and rural development initiatives.

The study is anchored in theories of human needs, motivation, and sustainable development. Abraham Maslow (1954) identifies physiological and safety needs as fundamental requirements, while higher-level needs involve belonging, esteem, and self-actualization. Esteem and social relationships are relevant to rural livelihoods (Study.com, 2003-2020), particularly because farmers interact through agricultural production, trade, and community activities (Asian Agricultural Research, 2015). Livelihood opportunities may therefore help beneficiaries meet basic needs while supporting broader socioeconomic and personal development. According to Maslow (1943), motivation is associated with fulfillment and personal growth. Abraham Maslow (1943, 1954) further emphasized individuals' capacity to realize their potential, while Maslow (1962) viewed personal development as a continuing process. Pathways toward self-actualization may differ among individuals (Kenrick et al., 2010). Sustainable development further supports the study. According to Passet (1979) and Dreo (2007), sustainability integrates environmental, social, and economic dimensions. For farming communities, these dimensions involve responsible resource use, social well-being, productive livelihoods, and economic viability. Sustainable agricultural practices and appropriate technologies can therefore contribute to livelihood improvement while protecting environmental resources.

The study assesses beneficiaries' socioeconomic conditions before and after SAPP implementation, the development interventions provided by CBSUA, their effectiveness, and resulting socioeconomic and environmental benefits. These elements provide the basis for determining the program's influence and developing policy recommendations for strengthening CBSUA extension programs among partner LGUs. Although SAPP has undergone previous monitoring and evaluation, assessment of its longer-term beneficiary outcomes remains important. This study therefore examines thirty farmer-beneficiaries in Buhi using information on their conditions before and after project implementation to determine changes associated with SAPP and generate evidence for improving future community-based interventions.

The study directly supports SDG 1 – No Poverty, SDG 2 – Zero Hunger, and SDG 8 – Decent Work and Economic Growth. SAPP addresses poverty through livelihood and capacity-building interventions, supports food security through agriculture-based development, and promotes productive and sustainable employment opportunities among marginalized communities.

The study contributes to socioeconomic, community, environmental, institutional, and policy sustainability. It examines how livelihood development, agricultural practices, capacity building, and community partnerships can improve beneficiaries' socioeconomic conditions while considering responsible resource use. Institutionally, the findings may strengthen CBSUA extension programs and assist LGUs and other stakeholders in designing responsive and sustainable poverty-alleviation initiatives. Overall, the evaluation provides evidence that may guide the improvement and appropriate replication of community-based development programs in areas facing similar socioeconomic challenges.

2. Material and methods

2.1 Research Design

The study used a descriptive research design to characterize and analyze the socio-demographic and economic conditions of the respondents and the project's cultural management. Primary data were obtained through interviews with farmer-beneficiaries and key informants and through observation, while secondary data were primarily derived from the project's terminal report and other existing documents. Preliminary data collected before project implementation and information recalled by respondents during interviews were used to assess changes associated with the project.

2.2 Locale of the Study

The study was conducted in identified barangays in Buhi, Camarines Sur, where SAPP was implemented among farmer and fisherfolk beneficiaries.

2.3 Respondents of the Study

The respondents consisted of SAPP farmer and fisherfolk beneficiaries from the identified project areas in Buhi, Camarines Sur. The list of eligible respondents was obtained from the project's terminal report.

2.4 Sample and Sampling Procedure

Respondents were purposively selected from the identified SAPP beneficiary communities. A total of 60 samples were taken from each project component and interviewed using survey questionnaires developed for the study.

2.5 Research Instrument

The study used a survey questionnaire containing prepared and logically ordered questions designed to obtain information relevant to the research objectives. The instrument was administered through scheduled, face-to-face interviews conducted by the researcher with assistance from barangay personnel.

2.6 Data Gathering Procedure

A written request approved by the Panel and Thesis Adviser was submitted to the barangay captain of the identified research sites to secure permission to conduct the study. After authorization, the researcher scheduled and personally conducted interviews with the respondents, with assistance from barangay personnel. Information from interviews and observations was supplemented by available project documents and secondary data.

2.7 Data Analysis Techniques

The collected data were analyzed using appropriate descriptive statistical tools. A t-test was employed to determine whether a significant difference existed in the socioeconomic characteristics of farmer-beneficiaries before and after SAPP implementation. The hypothesis was tested at a 5% significance level, with the null hypothesis stating that there was no significant difference between the socioeconomic characteristics of farmer-beneficiaries before and after implementation of SAPP.

3. Results and Discussion

3.1 Characteristics and Socioeconomic Conditions of SAPP Beneficiaries

3.1.1 Demographic Characteristics

The beneficiaries were predominantly adults engaged in agriculture and fishing. Most were married, had completed formal education primarily at the high school level, and belonged to households averaging five members. The findings indicate that SAPP primarily served farming and fisherfolk households with demographic characteristics consistent with the intended target population. These characteristics are important to SAPP implementation because age, education, household composition, and livelihood experience influence beneficiaries' capacity to participate in agricultural training and livelihood activities. Despite relatively low educational attainment and the older age of many participants, beneficiaries remained actively involved in farming and fishing activities.

3.1.2 Socioeconomic Characteristics

Most beneficiaries owned their houses and cultivated land, while smaller proportions were tenants or lessees. Sixty percent cultivated between 0.25 and 1.0 hectare, indicating that most were small-scale farmers. Their major income sources were fishing, fish vending, farming, and small businesses. Monthly income ranged from Php 6,000.00 to Php 18,000.00, with an average of Php 10,000.00. Average household size was five, and per capita income remained below the reported poverty threshold. The findings confirm that SAPP beneficiaries generally belonged to low-income farming and fishing households targeted by the project. Despite limited income, beneficiaries maintained their farming activities and demonstrated some capacity to save, with savings commonly directed toward farm operations and management. Financial management training and project monitoring were also identified as contributing components of project implementation.

3.2 Development Interventions and Capacity-Building Outcomes

3.2.1 Swine Production and Enterprise Training

Participants' knowledge and skills in swine production increased from a low pre-training mean of 1.6 to a moderate post-training mean of 2.2, with a significant difference between the assessments. The improvement indicates that training enhanced beneficiaries' technical knowledge of swine production and entrepreneurship, including breeding, feeding, housing, health and sanitation, management, marketing, and economics. The training therefore **provided participants with knowledge necessary for engaging in swine-based livelihood activities.**

3.2.2 Native Chicken Production and Enterprise Training

Participants initially demonstrated moderate knowledge and technical skills in native chicken production (wm=1.7), which improved after training to a higher level (wm=2.4). The improvement was statistically significant (prob 2.36E-09), particularly in selection, breeding, feeding, and housing management. The findings demonstrate that capacity building strengthened technical competencies needed for native chicken production. However, subsequent implementation showed that environmental adaptation, appropriate housing, breeding methods, vaccines, and biologics were important considerations for sustaining poultry enterprises.

3.2.3 Taro Production and Enterprise Training

Knowledge and skills in taro production and commercialization increased from low (wm = 1.6) before training to moderate (wm=2.2) afterward. The improvement was highly significant (prob = 0.0000), and participants subsequently applied their acquired knowledge in their taro plantations. The results indicate that technical training was important because beneficiaries initially viewed taro as a crop that could grow easily without specialized management. Training expanded their understanding of the scientific, entrepreneurial, and commercialization aspects of taro production.

3.2.4 Smoked Tilapia Processing Training

Training in smoked tilapia processing produced a significant improvement in participants' existing knowledge (p = 0.0002). Some beneficiaries subsequently applied the acquired skills to their existing smoked-fish processing activities. The training was relevant because smoked tilapia processing provided an alternative approach to preserving fish during periods of abundant supply and marketing difficulties. However, its development as a larger livelihood component was constrained by declining tilapia supply, procurement requirements, fish kills, and inconsistent market demand.

3.2.5 DRRM/CCA Integration

Participants demonstrated moderate knowledge of Disaster Risk Reduction and Management and Climate Change Adaptation (DRRM/CCA) both before and after training. Unlike the other training components, substantial improvement was not observed because beneficiaries already possessed knowledge and experience related to disasters. This existing knowledge reflects the local context of Buhi as a disaster-prone area. Nevertheless, integrating DRRM/CCA into livelihood training remained relevant because agricultural productivity and livelihood sustainability are vulnerable to climatic and disaster-related risks.

3.2.6 Financial Management, Marketing, and Environmental Stewardship

Financial management training significantly improved beneficiaries' financial literacy (prob. = 0.0002). Product packaging and marketing training increased knowledge and skills from moderate (wm=1.9) to high (wm=2.3), with a significant result (Prob.=0.00010). Environmental stewardship and resource management training likewise improved participants' knowledge from low (wm=1.2) to moderate (wm=2.4), with a highly significant result (prob. =0.00040). These findings demonstrate that SAPP capacity building extended beyond agricultural production. Financial management helped beneficiaries understand costs, revenues, income, savings, and return on investment, while packaging and marketing supported enterprise sustainability. Environmental stewardship emphasized production, utilization, conservation, and protection of natural resources, integrating livelihood development with responsible resource management.

3.3 Livelihood and Entrepreneurial Outcomes

3.3.1 Adoption of SAPP Livelihood Enterprises

Of the 120 trained SAPP participants, 58 (48.3%) engaged in actual livelihood and entrepreneurial activities. Among 30 participants trained in each commodity, 15 adopted swine production, 17 adopted poultry production, and 26 adopted taro production. No starter capital was provided for smoked tilapia processing because of procurement difficulties, declining fish supply, fish kills, processing limitations, and uncertain market demand. The findings show that training alone did not automatically result in livelihood adoption, as participation depended partly on access to starter capital and the feasibility of each enterprise. Taro had the highest adoption because its start-up requirements allowed more farming families to participate, whereas the higher capital requirements of swine and poultry limited the number of beneficiaries receiving starter kits.

3.3.2 Income and Return on Investment

Among adopting beneficiaries, eight of 15 swine producers, 11 of 17 poultry producers, and 24 of 26 taro producers generated positive returns. Taro recorded the highest reported ROI at 153.3%, compared with 25.6% for swine and 22.5% for poultry. Taro emerged as the most productive of the three implemented livelihood components because it generated relatively rapid returns and demonstrated resilience under local environmental conditions. Swine and poultry enterprises also generated income but required greater attention to inputs, animal health, housing, feeding, breeding, and other production requirements.

3.4 Perceived Effectiveness of SAPP Training and Capacity Building

The eight training and capacity-building components were generally perceived as effective. Weighted means ranged from 3.53 to 3.83. Integration of DRRM/CCA received the highest rating (3.83), followed by financial management and environmental stewardship and resource management (3.70 each), taro production and enterprise (3.67), product packaging and marketing (3.65), swine production and enterprise (3.63), smoked tilapia processing (3.60), and native chicken production and enterprise (3.53). Overall, the findings indicate that beneficiaries considered SAPP training relevant to their livelihood activities. Perceived effectiveness was associated not only with acquired knowledge and skills but also with beneficiaries' opportunities to apply them through livelihood activities and starter resources. Even without starter kits, some participants applied the skills gained from smoked tilapia processing independently.

3.5 Environmental and Community Benefits of SAPP

Beneficiaries reported environmental and community benefits from SAPP, particularly increased knowledge and adoption of natural farm inputs, improved environmental resource management, and greater awareness of DRRM/CCA. The use of natural farm inputs received the highest environmental-benefit rating (2.5), while a safe environment and fresh air and atmosphere each received 2.1. Technical knowledge and skills (3.2) and environmental resource management/DRRM/CCA training (3.1) were also positively assessed. These outcomes reflect SAPP's objective of promoting climate-smart, resilient, productive, gender-sensitive, and responsible communities. Training on hygiene and cleanliness in swine and poultry production encouraged better waste management and healthier surroundings, while DRRM/CCA strengthened preparedness for environmental risks. Participation of both women and men in training, livelihood activities, monitoring, and project responsibilities also supported community involvement. Regular participatory monitoring and evaluation further contributed to project implementation. The project management approach emphasized beneficiary selection, clearly defined responsibilities, monitoring, accountability, and partnership arrangements. These mechanisms were intended to support the sustainability of livelihood enterprises and strengthen beneficiaries' responsibility for project resources.

3.6 Socioeconomic Changes Before and After SAPP

3.6.1 Sources of Income and Monthly Income

The beneficiaries' primary and secondary sources of income showed no significant difference before and after SAPP involvement. However, average monthly income increased from approximately Php 10,000 before SAPP to Php 13,000 after participation, while the reported lowest and highest income levels also increased. The findings suggest that SAPP did not substantially change beneficiaries' principal occupations but provided additional economic opportunities within their existing livelihood systems. Starter kits and livelihood enterprises were identified as possible contributors to the observed increase in income.

3.6.2 Household Expenditures and Savings

Household expenditure patterns generally remained similar before and after SAPP participation, although some expenditure values increased. Savings, however, increased following project implementation, with beneficiaries reporting higher savings after their involvement in SAPP. The increase in savings was associated in the manuscript with livelihood opportunities and starter capital provided through the project. Financial management training may also have supported beneficiaries in managing income, expenses, and resources intended to sustain their livelihood activities.

3.6.3 Per Capita Income

Per capita income increased following beneficiaries' involvement in SAPP. Despite this improvement, reported income levels remained within the poverty-threshold classification used in the study. The result indicates that SAPP contributed to improvements in beneficiaries' economic conditions but did not eliminate the broader income limitations experienced by participating households. Continued livelihood development and support therefore remain relevant to sustaining socioeconomic improvements.

3.7 Beneficiary Insights and Lessons for SAPP Sustainability

Beneficiaries were generally satisfied with SAPP but identified areas requiring improvement. They emphasized the need for adequate technical and resource support, particularly sufficient feeds, biologics, and other inputs required to sustain livestock enterprises. They also identified additional training and continuing education, together with regular project monitoring and evaluation, as important priorities. These experiences indicate that providing starter capital alone may be insufficient for long-term enterprise sustainability. Beneficiaries require continuing technical assistance, adequate production resources, mentoring, and monitoring, particularly as agricultural technologies and production requirements change. The findings further emphasize the importance of implementing the complete project management cycle, from community assessment and project implementation to monitoring, evaluation, post-project assessment, and future replanning, to strengthen the sustainability of community-based interventions.

4. Conclusion & Recommendations

The post-project assessment showed that SAPP primarily benefited low-income farming and fishing households whose members remained actively engaged in agricultural activities despite the older age and relatively moderate educational attainment of many participants. The development interventions were generally rated effective to very effective and improved beneficiaries' knowledge, skills, livelihood opportunities, environmental awareness, and financial management. Although beneficiaries generated income and savings and experienced improvements in per capita income, their income remained below the identified poverty threshold. Challenges included insufficient agricultural inputs and difficulties sustaining starter kits, particularly for swine production. Overall, the findings demonstrate the importance of capacity building, livelihood support, continuous monitoring and evaluation, and comprehensive project management in sustaining SAPP interventions.

Future implementation should utilize the knowledge and skills of SAPP beneficiaries to transfer agricultural practices to younger generations while strengthening continuous technical and resource support for farming and livelihood activities. Government agencies, private organizations, institutions, and LGUs should strengthen resource sharing and community partnerships, particularly for product marketing, financial management, and agricultural inputs. Additional training, continuing education, technical mentoring, and regular monitoring and evaluation should be maintained to address changing agricultural technologies and beneficiary needs. Future implementation should also follow a complete project management cycle and consider replication in communities with similar socioeconomic conditions, while further studies should identify effective and sustainable strategies for selecting appropriate benchmark communities.

The study was limited by its reliance on preliminary secondary data collected before SAPP implementation and current information provided and recalled by respondents during interviews. Interpolation of information was also used to support the analysis and interpretation; therefore, the scope and validity of the assessment depended on the availability and accuracy of these baseline and recalled data.

5. Compliance with ethical standards

The author declares no conflict of interest. This study received no external funding, and the researchers acknowledge the SAPP farmer and fisherfolk beneficiaries, the participating communities in Buhi, Camarines Sur, and Central Bicol State University of Agriculture for their participation and institutional support. Participation was voluntary, informed consent was obtained, and data were collected through non-invasive interviews and related methods while maintaining confidentiality and ensuring that no identifying information was disclosed.

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