

Assessing the Impact, Alignment with Sustainable Development Goals, Challenges, and Sustainability of Community Extension Projects in Philippine State Universities and Colleges (SUCs): A Scoping Review

Shaunell Mary J. Sayson

Bukidnon State University, Malaybalay City, Bukidnon, Philippines

Abstract

This scoping review evaluated the impact, alignment with Sustainable Development Goals (SDGs), challenges, and sustainability practices of community extension projects conducted by State Universities and Colleges (SUCs) in the Philippines. The study mapped existing literature to identify key themes and gaps, offering insights into how these initiatives contribute to broader socio-economic and environmental objectives. Findings revealed that SUC extension projects have significantly contributed to (1) *educational enhancement*; (2) *health promotion*; (3) *environmental conservation*; (4) *economic empowerment*; and (5) *community development*. These efforts align with some of the SDG's 17 goals, particularly: 4 *Quality Education*, 3 *Good Health and Well-being*, 13 *Climate Action*, 8 *Decent Work and Economic Growth*, 11 *Sustainable Cities and Communities*, and 16 *Peace, Justice, and Strong Institutions*, underscoring the vital role of SUCs in promoting sustainable development. However, challenges such as (1) *cultural acceptance*; (2) *financial constraints*; (3) *skill gaps among extensionists*; and (4) *scheduling conflicts* were identified as potential obstacles to the long-term sustainability of these projects. Regarding project sustainability, strategies and practices include (1) *encouraging community involvement*; (2) *strengthening local capabilities*; (3) *forming strategic partnerships*; (4) *diversifying funding sources*; (5) *implementing regular monitoring*; and (6) *creating durable frameworks*. Strategic planning and early integration of sustainable practices are crucial for the success and longevity of SUC extension projects. Addressing funding challenges, leveraging digital tools, and exploring the lasting impacts of capacity-building initiatives are key areas for future improvement and research.

Keywords: *State Universities and Colleges (SUCs), community extension projects, impact, challenges, Sustainable Development Goals (SDGs), sustainability, scoping review*

Introduction

State Universities and Colleges (SUCs) in the Philippines play a critical role in national development, fulfilling their mandate to promote societal progress through education, research, and extension activities. The Commission on Higher Education (CHED) underscores the significance of these institutions, particularly through the SUC Levelling framework. This framework aims to standardize and enhance institutional quality by categorizing institutions based on performance, aligning with ASEAN standards, and focusing on measurable outcomes. A central component of this framework is Extension Services, which are crucial to the mission of SUCs. The framework also emphasizes inclusivity, ensuring that education is accessible to disadvantaged groups, which leads to improved institutional performance, increased funding, greater recognition, and enhanced strategic planning and

accountability, as outlined in DBM-CHED Joint Circular No. 1, Series of 2016.

Accreditation by bodies such as the Accrediting Agency of Chartered Colleges and Universities in the Philippines (AACCU) further enhances the quality and impact of SUCs. Accreditation offers numerous benefits, including improved educational quality, better institutional performance, increased funding opportunities, and enhanced strategic planning and resource allocation. This process fosters a culture of continuous improvement, accountability, and transparency within these institutions (Corpus, 2013). Moreover, accreditation emphasizes achieving extension outcomes that drive societal change and enable SUCs to respond effectively to evolving community needs.

To address community needs, SUCs engage in various extension activities, offering capacity-building

programs that enhance skills and knowledge across multiple domains, including education, health, livelihood, and environmental conservation. These activities align with national development goals such as poverty reduction, employment generation, and productivity enhancement (CMO No.8, s. 2008). The SUCs' extension activities not only disseminate knowledge and technology but also aim to improve the quality of life for community members, significantly contributing to the nation's socio-economic development (Adeniyi & Ogunlana, 2021; Alcarde et al., 2020). Additionally, these initiatives often involve faculty and students, effectively bridging theoretical knowledge with practical application. This involvement fosters a deeper understanding of societal issues and enhances the problem-solving skills of participants (Guiab et al., 2016).

SUCs also play a crucial role in advancing the Sustainable Development Goals (SDGs) through their educational initiatives, research, and community engagement strategies. By integrating sustainability into their curricula and activities, SUCs promote sustainability literacy, empowering individuals and communities to engage in sustainable development practices (Leal Filho et al., 2018). This literacy is foundational to achieving the SDGs, fostering a comprehensive understanding of global challenges among students and community members alike.

Furthermore, SUCs conduct critical research and innovation that directly address the SDGs. These institutions develop and disseminate solutions to pressing global issues such as poverty, inequality, climate change, and public health. The research conducted often informs policy and practice, contributing to both national and global development goals (Sachs, 2015). Through their extension programs and outreach activities, SUCs support the implementation of sustainable practices at the grassroots level, benefiting local communities and advancing the realization of the SDGs (Mbah et al., 2019).

The selection of extension projects by SUCs is a careful process that ensures alignment with academic programs and addresses the needs of the most disadvantaged beneficiaries. This process typically involves consultations with stakeholders and beneficiaries during the planning, designing, and development stages. Following these consultations,

project proposals are approved, and memoranda of agreement are signed between the SUCs' extensionists and the project beneficiaries. This structured approach to project planning and implementation underscores the importance of ensuring that extension activities are contextually relevant and aligned with broader development goals.

Despite the significant benefits of SUCs' extension activities, existing literature often limits reports to individual cases, lacking a comprehensive analysis of broader impacts (Agholor et al., 2013; Chua et al., 2014; Medina, 2018). This gap in the literature is concerning, given the critical role that SUCs play in national development. Studies that collectively examine multiple projects to assess their cumulative benefits are scarce. A more comprehensive understanding of the impact of these projects is needed, not only for providing feedback to SUCs but also for informing future extension projects. Such an understanding could also encourage more linkages and partnerships between SUCs and other institutions, both locally and internationally.

Project extensionists and beneficiaries often face various challenges during the implementation of these initiatives. Addressing these challenges is crucial for developing effective strategies and solutions. Unresolved challenges can lead to hindrances, delays, and limitations in the scope of implementation, ultimately reducing the effectiveness of the extension activities (Adeniyi & Ogunlana, 2021; Stephens et al., 2008; Guiab et al., 2016; Medina, 2018). These challenges may include limited resources, inadequate training for extensionists, and difficulties in sustaining community engagement over time.

Integrating sustainability principles into the core activities of SUCs, particularly in their community extension projects, remains a significant challenge. These projects which provide training aimed at developing skills or enhancing knowledge, are crucial for promoting sustainable development (Togo & Lotz-Sisitka, 2013). State universities offer these trainings to a diverse group of beneficiaries, including teachers, community members, and other stakeholders. However, there is a noticeable lack of research on how sustainable these projects are (Leal Filho, Shiel, & Paço, 2015). The effectiveness of these projects largely depends on whether beneficiaries can continue to use and apply the knowledge and skills they have gained.

For instance, when the training focuses on knowledge enhancement, it is essential that beneficiaries continue to share what they have learned within their communities, amplifying the impact (Edwards, 2015). Similarly, in projects that teach entrepreneurial skills, the long-term success of these initiatives relies on the beneficiaries' ability to sustain and grow their businesses. Conducting systematic research that evaluates the success of these projects and how sustainability can be embedded into them is critical to ensuring that the benefits extend beyond the initial training phase (Lozano et al., 2013). Such research would provide valuable insights into the lasting impact of these extension projects and inform strategies to enhance their sustainability, ultimately contributing to more effective and enduring development outcomes.

This scoping research aimed to systematically map the existing literature on the impact, alignment with Sustainable Development Goals (SDGs), challenges, and sustainability practices of community extension projects undertaken by SUCs in the Philippines. The study sought to identify key themes, gaps, and challenges in the current research, providing a comprehensive overview intended to inform future studies and guide the development of more sustainable and impactful extension activities by SUCs.

Methods

Study Design

This study utilized a scoping review methodology to synthesize literature on twenty (20) community extension projects undertaken by various State Universities and Colleges (SUCs) in the Philippines. The focus was on assessing their impact, alignment with the Sustainable Development Goals (SDGs), the challenges encountered, and their sustainability practices. The scoping review followed the framework established by Arksey and O'Malley (2005), which was particularly suited for mapping the existing literature in broad fields of research. This iterative approach ensured that all relevant studies, regardless of their design, were included. The review process encompassed several stages: identifying research questions, retrieving relevant studies, selecting studies, charting data, synthesizing information, and reporting the findings.

Inclusion and Exclusion Criteria

The inclusion criteria for this review were specific to studies focusing on community extension projects

conducted by SUCs. Eligible studies were published between 2019 and 2024, available in English, and addressed one or more of the following aspects: the impact of the projects, their alignment with SDGs, the challenges faced during implementation, and sustainability considerations. Excluded from the review were studies that focused on extension projects by other Higher Education Institutions (HEIs) not classified as SUCs, articles published before 2019, non-English publications, and studies that did not directly address the specified research questions related to impact, SDG alignment, challenges, or sustainability.

Search Strategy

A comprehensive literature search was conducted using multiple databases, including Google Scholar, ResearchGate, Scopus, and ERIC. The search focused on articles published between 2019 and 2024. The search strategy employed keywords such as "community extension projects," "State Universities and Colleges," "SDG alignment," "impact," "challenges," and "sustainability." These keywords were selected to ensure that the search captured all relevant literature that could contribute to understanding the scope of community extension projects within SUCs, particularly in terms of their sustainability and alignment with the SDGs.

Study Selection

The selection of studies involved a rigorous screening process. Initially, the titles and abstracts of identified articles were reviewed to assess their relevance to the research questions. Following this, the full texts of potentially relevant articles were examined, with a focus on their methodologies, results, discussions, and conclusions to confirm their suitability for inclusion. Studies that met the inclusion criteria and provided insights into the impact, SDG alignment, challenges, and sustainability of SUC extension projects were carefully selected for the review.

Data Extraction and Charting

Data extraction involved systematically collecting and organizing pertinent information from the selected literature. Covidence software was used to manage the data extraction process and facilitate the qualitative analysis of the findings. Key data points extracted included the objectives of the projects, methods used, outcomes achieved, alignment with SDGs, challenges reported, and sustainability practices employed. This

structured approach ensured that all relevant aspects of the extension projects were captured and could be analyzed in the context of their broader implications.

Data Synthesis

To synthesize the data, content analysis techniques were applied to summarize and discuss the findings from the selected studies. Thematic analysis was conducted to identify key themes, patterns, and insights related to the impacts of the projects, their alignment with the SDGs, the challenges encountered, and sustainability practices. The coding process involved developing a coding scheme that was applied iteratively to the data, allowing for refinement as new themes and patterns emerged. This approach enabled a comprehensive understanding of the factors influencing the effectiveness and sustainability of SUC extension projects.

Reporting

The results of this scoping review were reported in accordance with the PRISMA-ScR (Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews) guidelines. The final report provided an overview of the included studies, a detailed summary of key findings related to the impacts, alignment with SDGs, challenges, and sustainability of SUC extension projects. Additionally, the report offered implications for practice and policy, along with recommendations for future research aimed at enhancing the sustainability and effectiveness of community extension activities within the SUCs.

Results and Discussion

Range of Community Extension Projects Undertaken by SUCs in the Philippines

Project Beneficiaries

Community extension projects by SUCs in the Philippines have benefited a diverse range of target groups, including educational professionals, youth, students, community leaders, tribal leaders, and marginalized families such as indigenous peoples and urban poor populations. Each initiative was tailored to meet the specific needs of these groups, enhancing the effectiveness and relevance of the interventions, thereby fostering greater community engagement and impact (Leal Filho et al., 2019).

Project Categorization

SUCs' community extension projects can be broadly categorized into six main areas: education, health, environment, livelihood, community development, and disaster response. Each category addresses key aspects of community needs, aiming to improve educational outcomes, promote health and well-being, enhance environmental sustainability, foster economic empowerment, strengthen social cohesion, and build resilience against disasters. This holistic approach ensures that the projects contribute to sustainable development and the overall resilience of the communities they serve (Müller, 2020).

Scope

The majority of SUCs' extension projects are locally scoped, targeting specific barangays, municipalities, or cities. This local focus allows for interventions tailored to the unique needs of each community, enhancing the relevance and impact of the projects. Concentrating on local issues enables SUCs to implement more effective, context-specific solutions (Pretty et al., 2011).

Project Duration

The duration of the studied SUCs' community extension projects typically ranges from 1 to 6 years, with most lasting 2 to 3 years. This timeframe allows for thorough planning, implementation, and evaluation, ensuring that the initiatives deliver sustained impacts. Additionally, longer durations facilitate continuous community engagement, enabling projects to adapt to evolving needs and ensuring long-term benefits (Boyer et al., 2015).

Impact of Extension Projects

SUCs' community extension projects in the Philippines have positively impacted education, health, the environment, the economy, community development, and disaster preparedness, significantly benefiting the communities involved.

Educational Enhancement and Professional Development

The community extension projects prioritized educational enhancement and professional development by equipping school heads, educators, and community workers with essential skills and knowledge. Training for school heads focused on leadership, supervisory, and management skills, which are crucial for effective school administration. Additionally, initiatives were undertaken to enhance

the research capabilities of school heads, enabling them to contribute more effectively to academic research and evidence-based practices in education.

For teachers, the projects included seminar-workshops on topics such as digital layouting, instructional material preparation, and technology adoption, all designed to improve educational outcomes. Regular computer literacy training sessions, covering software applications and hardware troubleshooting, were also provided to support continuous learning among educators.

Sports coaches in the community received specialized training in coaching, officiating, organizing, and facilitating sports activities, particularly for community sports events and festivals. Furthermore, child development workers were trained in managing young children's behavior and classroom management, ensuring effective early childhood education. These comprehensive efforts significantly empowered participants by enhancing their professional competencies, leadership skills, and research abilities, thereby contributing to improved educational practices and outcomes (Buenviaje, 2015; Magnaye & Ylagan, 2021; Binayao, Sayson, & Dulay, 2021).

Health Promotion and Well-being

Health promotion and disease prevention were central components of SUCs' extension projects, aiming to enhance overall health and well-being within communities. These activities included health and medical seminars that provided beneficiaries with essential information on personal hygiene, disease prevention, nutrition, and healthy lifestyle choices. Additionally, regular monitoring of health and dental conditions, coupled with referrals to appropriate health units, ensured ongoing health care and support. The initiatives also included family health education, anti-dengue campaigns, and monthly doctor consultations by tapping volunteer doctors. These efforts not only improved beneficiaries' health practices but also contributed to long-term health outcomes and increased community health awareness (Ahmed & Palermo, 2010; Felicen, Mendoza, & Buted, 2014; Medina, 2018).

Environmental Conservation and Sustainability

Environmental conservation and sustainability were emphasized through various training sessions and community activities. Projects focused on promoting

environmental stewardship, including (but not limited to) tree planting, waste management, clean-up drives, and 'clean and green' projects. These activities aimed to educate community members on sustainable practices, enhance environmental awareness, and improve local and personal sanitation. Fostering a culture of environmental responsibility, these initiatives contributed to the long-term sustainability of the communities, ensuring cleaner and greener environments (Müller, 2020; Schiele, Jackson, & Fairfax, 2005).

Economic Empowerment and Livelihood Development

The economic empowerment and livelihood development programs were designed to equip beneficiaries with entrepreneurial skills and support the growth of small businesses. Training sessions and workshops were conducted on various income-generating activities, such as rice trading, soap-making, organic vinegar-making, food processing, meat processing, packaging, silk screen printing, and product development and marketing. Beneficiaries were also trained in business ideation, inventory management, and entrepreneurship. These programs provided the necessary skills for beneficiaries to start new ventures or improve existing ones, leading to increased income, greater economic independence, and long-term economic stability (Magnaye & Ylagan, 2021; Buenviaje, 2015; Peprah et al., 2017).

Community Development and Social Integration

Community development and social integration initiatives played a pivotal role in strengthening social bonds and governance within communities. The projects included seminars on local governance, leadership, and decision-making, as well as technical assistance in barangay development planning and ordinance making. Seminars on work values, leadership, public safety, drug prevention, and anti-violence were also conducted to promote social responsibility and community engagement. These activities not only enhanced community cohesion but also empowered participants to take proactive roles in their communities (Rojas-García & Ruiz-Ballesteros, 2018; Schiele, Jackson, & Fairfax, 2005).

Disaster Preparedness and Public Safety

Disaster preparedness and public safety activities were crucial in building resilient communities capable of responding effectively to emergencies. Training

programs focused on disaster response and preparedness, equipping community members with the necessary skills to handle and respond to natural disasters and other emergencies. Additionally, seminars on crime and drug prevention raised awareness and educated participants on strategies to enhance public safety. Addressing these critical areas significantly reduced the impact of disasters and enhanced the overall safety and security of the communities involved (Buenviaje, 2016; Schiele, Jackson, & Fairfax, 2005).

Alignment of Extension Projects' Impacts to Sustainable Development Goals (SDGs)

The community extension projects undertaken by SUCs have been strategically aligned with several SDGs to maximize their impact on societal development.

SDG 4 (Quality Education)

The extension projects supported SDG 4 by enhancing educational quality through leadership training for school heads and skills development workshops for teachers. These initiatives improved educational practices and outcomes by equipping educators with essential competencies and integrating technology into the classroom (Buenviaje, 2015; Magnaye & Ylagan, 2021; Binayao, Sayson, & Dulay, 2021).

SDG 3 (Good Health and Well-being)

Health-focused projects aligned with SDG 3 by improving community health through seminars, regular health monitoring, and anti-dengue campaigns. These efforts led to better health practices and long-term well-being in the communities (Ahmed & Palermo, 2010; Felicen, Mendoza, & Buted, 2014; Medina, 2018).

SDG 13 (Climate Action)

Environmental initiatives supported SDG 13 by promoting sustainable practices such as tree planting and waste management. These activities fostered environmental responsibility and contributed to long-term sustainability within the communities (Müller, 2020; Schiele, Jackson, & Fairfax, 2005).

SDG 8 (Decent Work and Economic Growth)

The livelihood programs addressed SDG 8 by providing entrepreneurial training that enabled beneficiaries to start or improve small businesses, thereby enhancing economic stability and promoting local economic

growth (Magnaye & Ylagan, 2021; Buenviaje, 2015; Peprah et al., 2017).

SDG 11 (Sustainable Cities and Communities)

Community development initiatives aligned with SDG 11 by strengthening governance and social cohesion through leadership training and technical assistance, fostering sustainable and resilient communities (Rojas-García & Ruiz-Ballesteros, 2018; Schiele, Jackson, & Fairfax, 2005).

SDG 16 (Peace, Justice, and Strong Institutions)

Disaster preparedness and public safety programs contributed to SDG 16 by enhancing community resilience and safety through disaster response training and crime prevention strategies, supporting peaceful and stable communities (Buenviaje, 2016; Schiele, Jackson, & Fairfax, 2005).

Challenges Encountered in the Implementation

Implementing community extension projects often involves navigating a range of challenges that can impact their efficacy, overall success, and sustainability.

Community Acceptance Challenges

Initiating extension programs in culturally diverse communities often faces resistance, as different tribes and cultural groups vary in their acceptance of new initiatives. While some groups may embrace a program, others may resist, leading to delays and complications.

Overcoming these challenges requires a deep understanding of the community's socio-cultural dynamics (Bonye, Thaddeus, & Owusu-Sekyere, 2013). Conducting thorough needs assessments and feasibility studies is crucial for smoother implementation (Campfens, 1997). Building trust and demonstrating the program's benefits can help mitigate resistance and foster a supportive environment (Ahmed & Palermo, 2010; Rojas-García & Ruiz-Ballesteros, 2018).

Financial and Budget Allocation Constraints

A major challenge for extension programs is the limited budget and financial resources allocated to them. Schools often prioritize academic and administrative functions, leaving extension services underfunded. This financial shortfall can delay and restrict the implementation of these programs. Competing priorities often strain school budgets, and the lengthy process of securing funds exacerbates the issue (Adeniyi & Ogunlana, 2021; Buenviaje, 2015). Strategic

planning and partnerships with local governments, private organizations, and alumni networks are essential to securing dedicated funding and ensuring the sustainability of extension programs (Corpuz et al., 2022).

Skill Gaps Among Extensionists

Extensionists sometimes encounter challenges due to gaps in knowledge or skills relevant to beneficiary training. Despite their dedication, limited professional development opportunities can hinder the effective implementation and management of extension projects. Enhancing training and capacity-building initiatives is essential to equip extensionists with the competencies needed to support their communities effectively. The success of these projects largely relies on the skills and expertise of the extensionists. Institutions should prioritize ongoing training through workshops, seminars, and collaborations with experienced professionals to address these gaps. Investing in extensionists' development not only improves service quality but also boosts morale and motivation (Llenares & Deocarís, 2018; Schiele, 2005; Magnaye & Ylagan, 2021; Gannapao, 2020).

Conflicting Schedules

Scheduling conflicts between beneficiaries and extensionists were common, often clashing with other academic or personal commitments, leading to reduced participation. Faculty extensionists, balancing multiple responsibilities, face challenges in managing their teaching, research, and extension duties simultaneously (Calvert & Kurji, 2012). Beneficiaries also encounter personal or professional conflicts (Ammakiw, 2013). To mitigate this issue, extension projects should be planned with flexibility, considering all stakeholders' schedules. Advanced planning, effective communication, and possibly adjusting academic calendars can help reduce these conflicts (Fletcher & Majo, 2010; Yazan, 2015).

Strategies and Practices on Project Sustainability

Ensuring the long-term sustainability of community extension projects requires implementing effective strategies that address both past experiences, immediate needs, and possible future challenges.

Encouraging Community Involvement

Involving local communities in the planning and implementation of projects increases their investment

in the outcomes, leading to greater participation and sustainability. When communities feel ownership, they are more likely to maintain and continue project activities independently (Bonye, Thaddeus, & Owusu-Sekyere, 2013).

Strengthening Local Capabilities

Providing ongoing training and capacity-building for local stakeholders ensures they have the skills needed to manage and sustain projects. This includes equipping them with leadership, project management, and technical skills relevant to the initiatives (Ahmed & Palermo, 2010; Schiele, Jackson, & Fairfax, 2005).

Forming Strategic Partnerships

Collaborating with local organizations, government bodies, and private sector partners can provide additional resources, expertise, and support. These partnerships help sustain projects by integrating them into the broader community and institutional frameworks (Campfens, 1997; Corpuz et al., 2022).

Diversifying Funding Sources

Relying on multiple funding streams reduces the risk of project failure if one source ends. This can include local fundraising, government grants, private donations, and revenue-generating activities related to the project (Buenviaje, 2015; Corpuz et al., 2022).

Implementing Regular Monitoring

Continuous assessment and feedback mechanisms help ensure that projects remain relevant and effective. Regular monitoring allows for timely adjustments, helping to sustain project impact over the long term (Fletcher & Majo, 2010; Yazan, 2015).

Creating Durable Frameworks

Establishing lasting structures or processes within the community or organization helps ensure that the benefits of the project continue. This might involve creating new institutions, embedding practices in existing systems, or formalizing roles that will persist beyond the project's duration (Gannapao, 2020; Rojas-García & Ruiz-Ballesteros, 2018).

Conclusion and Recommendation

This scoping research aimed to evaluate the impact, alignment with Sustainable Development Goals (SDGs), challenges, and sustainability practices of community extension projects undertaken by State Universities and Colleges (SUCs) in the Philippines. The findings

highlighted significant contributions in educational enhancement, health promotion, environmental conservation, economic empowerment, and community development, reinforcing the critical role of SUCs in sustainable development. However, challenges such as cultural acceptance, financial constraints, skill gaps among extensionists, and scheduling conflicts were identified as potential barriers to the long-term success and sustainability of these initiatives.

To address these challenges and enhance sustainability, it is crucial that SUCs incorporate strategic planning and sustainability practices from the outset, ensuring that projects deliver long-term benefits beyond their initial implementation. Continuous professional development for extensionists should be prioritized, equipping them with the necessary skills for effective project management. Additionally, active community engagement is essential for fostering ownership, ensuring that projects are culturally accepted and sustained over time.

Moreover, SUCs should explore multiple funding avenues, including partnerships with local governments, private entities, non-governmental organizations (NGOs), and alumni networks, to secure the financial stability required for sustaining projects. The integration of digital platforms for project monitoring and evaluation can further enhance management efficiency, allowing for real-time adjustments and improved outcomes. Continued research is necessary to assess the long-term impacts of these projects, particularly on various beneficiary groups, and to explore innovative solutions for funding, capacity-building, and sustainability.

References

- [1] Adeniyi, O. R., & Ogunlana, E. A. (2021). Impact of community extension services on socioeconomic development: A case study of selected communities in Nigeria. *Journal of Extension Systems*, 37(1), 23-35.
- [2] Ahmed, S. M., & Palermo, A. G. (2010). Community engagement in research: Frameworks for education and peer review. *American Journal of Public Health*, 100(8), 1380-1387.
- [3] Agholor, I. A., Akintola, J. O., & Subair, S. K. (2013). Extension and advisory services for agricultural and rural development: A tool for effective national development. *Journal of Agricultural Extension*, 17(2), 14-28.
- [4] Alcarde, A. R., Ferreira, J. C., & de Lima, R. P. (2020). The role of higher education institutions in the sustainable development goals: Perspectives and initiatives from Brazilian universities. *Journal of Cleaner Production*, 275, 123137.
- [5] Ammakiw, R. (2013). Personal and professional conflicts in extension program participation. *Journal of Rural Development*, 32(4), 67-78.
- [6] Arksey, H., & O'Malley, L. (2005). Scoping studies: Towards a methodological framework. *International Journal of Social Research Methodology*, 8(1), 19-32.
- [7] Binayao, B. S., Sayson, S. M. J., & Dulay, L. S. (2021). Effectiveness, relevance, and sustainability of extension projects: The case of Bukidnon State University College of Education. *International Journal of Innovative Science and Research Technology*, 6(6).
- [8] Bonye, S. Z., Thaddeus, A. A., & Owusu-Sekyere, E. (2013). Community development in Ghana: Theory and practice. *European Scientific Journal*, 9(17), 79-101.
- [9] Boyer, E. L., Moser, D., Ream, T. C., & Braxton, J. M. (2015). Scholarship reconsidered: Priorities of the professoriate. John Wiley & Sons.
- [10] Buenviaje, M. G. (2015). Sustainability of community extension projects: Challenges and recommendations. *International Journal of Education and Research*, 3(8), 231-240.
- [11] Calvert, G., & Kurji, Z. (2012). Time management challenges for faculty in higher education. *Journal of Education and Practice*, 3(15), 115-121.
- [12] Campfens, H. (1997). Community development around the world: Practice, theory, research, training. University of Toronto Press.
- [13] Chua, S. K., Ng, C. J., & Norazimah, M. M. (2014). Impact of community-based programs on education: Evidence from Malaysia. *Asia Pacific Journal of Education*, 34(3), 337-351.
- [14] CHED Memorandum Order No. 08 S. 2008. Guidelines for the CHED outstanding extension program award. Commission on Higher Education, DAP Building, San Miguel Ave., Ortigas Center, Pasig City.
- [15] Corpus, R. (2013). Accreditation in higher education: The Philippine experience. *Asian Journal of Education*, 8(2), 107-124.
- [16] Corpuz, R. C., Perez, R. L., & Suarez, M. A. (2022). Collaborative partnerships and funding mechanisms for sustainable community extension programs.

- International Journal of Community Research, 16(2), 98-110.
- [17] Joint Circular No. 1, s. 2016. (2016, April 13). Leveling instrument for SUCs and guidelines for the implementation thereof. Commission on Higher Education (CHED) and Department of Budget and Management (DBM).
- [18] Edwards, P. (2015). Knowledge sharing and community empowerment in extension projects: A review of best practices. *Journal of Extension*, 53(1), 45-59.
- [19] Felicen, S. S., Mendoza, E. A., & Buted, D. R. (2014). Health promotion strategies in community extension programs: A case study of Lyceum of the Philippines University. *Journal of International Health*, 9(3), 145-158.
- [20] Fletcher, T. S., & Majo, L. J. (2010). Effective monitoring and evaluation in community development projects: Lessons from the field. *Community Development Journal*, 45(4), 407-419.
- [21] Gannapao, G. (2020). Motivating factors for extension workers in rural development programs: A case study in the Philippines. *Asian Journal of Development Studies*, 29(3), 76-90.
- [22] Guiab, R. G. (2016). Bridging theory and practice: The role of SUCs in community development. *Philippine Journal of Community Development*, 11(2), 56-65.
- [23] Leal Filho, W., Shiel, C., & Paço, A. (2015). Integrating sustainability in higher education curricula: A case study from Portugal. *Journal of Cleaner Production*, 106, 331-338.
- [24] Leal Filho, W., Vargas, V. R., Salvia, A. L., Brandli, L. L., & Manolas, E. (2019). The role of higher education institutions in addressing the SDGs. *Journal of Cleaner Production*, 235, 948-962.
- [25] Llenares, I., & Deocarís, C. (2018). Addressing skill gaps among extension workers: Implications for capacity building. *Philippine Journal of Extension Education*, 12(1), 89-102.
- [26] Lozano, R., Ceulemans, K., & Seatter, C. S. (2013). Teaching sustainability in European higher education institutions: Assessing the connections between competences and pedagogical approaches. *Sustainability*, 5(8), 2792-2815.
- [27] Magnaye, R. P., & Ylagan, A. P. (2021). Community empowerment through livelihood and skills training programs. *Journal of Community Development Research*, 13(4), 98-112.
- [28] Mbah, M. F., & Manda, M. I. (2019). The role of higher education in promoting sustainable development in Africa: A case study of South Africa. *African Journal of Development Studies*, 9(2), 17-30.
- [29] Medina, A. (2018). Analyzing the impact of SUCs' health programs on community well-being in the Philippines. *Journal of Community Health*, 43(2), 389-395.
- [30] Müller, K. (2020). Environmental stewardship in higher education: Case studies from Southeast Asia. *Environmental Sustainability Journal*, 22(3), 157-167.
- [31] Pretty, J., & Ward, H. (2011). Social capital and sustainable development. *World Development*, 39(4), 593-600.
- [32] Rojas-García, A. M., & Ruiz-Ballesteros, E. (2018). Strengthening social cohesion through community-based projects: Lessons from Spain. *Journal of Community Psychology*, 46(6), 789-805.
- [33] Sachs, J. (2015). *The age of sustainable development*. Columbia University Press.
- [34] Schiele, H., Jackson, P., & Fairfax, T. (2005). Strategic leadership in higher education: Promoting change and innovation. *Journal of Leadership & Organizational Studies*, 12(3), 68-81.
- [35] Stephens, J. C., Hernandez, M. E., & Roman, M. (2008). The role of higher education in creating a sustainable future: Lessons from the sustainability movement. *International Journal of Sustainability in Higher Education*, 9(1), 106-119.
- [36] Togo, M., & Lotz-Sisitka, H. (2013). Sustainability-oriented education in South African higher education: The role of extension programs. *International Review of Education*, 59(5), 659-680.
- [37] Yazan, B. (2015). Utilizing scheduling strategies to enhance extension program participation. *Journal of Extension Systems*, 31(2), 45-61.