Implementation and Sustainability of Gulayan Sa Paaralan Program Implementation: A Case Study

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ABSTRACT

In the face of widespread food insecurity and student malnutrition in the Philippines, school-based gardening initiatives have emerged as viable interventions, yet little is known about the long-term sustainability of these programs. While many studies highlight the nutritional and academic benefits of school gardens, there remains a gap in understanding the specific mechanisms, challenges, and practices that sustain their success, particularly in resource-limited rural contexts. This study addressed this gap by exploring the implementation and sustainability of the Gulayan sa Paaralan Program (GPP) in a recognized best-implementing public secondary school in Misamis Oriental. Using a qualitative case study design, data were collected through in-depth interviews, focus group discussions, and artifact analysis involving school administrators, TLE teachers, student leaders, parents, and community members. Thematic analysis revealed six key themes: *curriculum-aligned implementation, stakeholder engagement, advocacy and promotion, barriers to program implementation, sustainability practices, and collaboration with stakeholders*. Findings showed that the GPP's success stemmed from strong curriculum integration, collective ownership by stakeholders, innovative farming strategies, and regular monitoring. External support, community partnerships, and student leadership were essential in sustaining engagement and overcoming environmental and resource challenges. However, barriers such as limited infrastructure, funding gaps, and inconsistent administrative backing were identified. The study points that sustainable school garden programs require a holistic, adaptive, and community-centered approach. Future researchers are encouraged to expand the scope across multiple school settings and apply mixed methods to further investigate the impact of school gardening on educational outcomes and food security.

Keywords: School Garden, Implementation, Challenges, Sustainability, Lived Experiences

INTRODUCTION

With the continuous and exponential growth of human populations and as families in the Philippines are extremely vulnerable to becoming affected by natural disasters (including man-made disasters), these result with a sizable need for sustenance. Thus far, many of these households are great subjects on being displaced, impoverished, and malnourished, thereby affecting the nutritional statuses of these susceptible populations, including the learners in public schools. Indeed, the problem of food security is of paramount concern.

The Food and Nutrition Research Institute (FNRI), through a Rapid Nutrition Assessment Survey (RNAS), revealed that Philippines ranked 64th out of 113 countries based on four key dimensions of food security (Philippine Institute for Development Studies, 2021). In 2020, during the height of the pandemic instigated by COVID-19, approximately 62.1% one percent of homes in the Philippines faced substantial challenges in consistently accessing adequate food, likely due to food unavailability and/or insufficient resources to access food (Congressional Policy and Budget Research Department, 2022). In addition, according to the World Risk Index for 2022, it labeled the Philippines as the nation most vulnerable to disasters worldwide, with 27% of children younger than five suffering stunted growth (World Food Programme, 2022).

It was estimated that 14 percent of schoolchildren in the Philippines experience acute undernourishment. Educational institutions then propose key and focused methods for supplying nourishment to students and, by extension, their families and local populations. Consistent with the initiative and support of the Department of

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Education (DepEd), specifically through DepEd Order No. 293, series of 2007, and DepEd Order No. 223, series of 2016, the Gulayan sa Paaralan Program (GPP) was issued and implemented to assist the government's efforts to reduce hunger, to promote the creation of school gardens in public elementary and secondary schools to guarantee a consistent source of vegetables for the School-Based Feeding Program (SBFP), and to foster food security in schools and local areas by encouraging self-regulating food cultivation and promoting an understanding of agriculture as essential for survival (Department of Education [DepEd], 2016).

True in its sense, gardens in schools and communities present opportunities for educational enhancement, enabling students to gain knowledge about nutrition, food security, and environmental sustainability. These gardens also accelerate connections to worldwide concerns via the earth's natural resources, contribute to community progress through improving the aesthetic appeal of neighborhoods, and promote environmentally responsible practices (Stayer, 2015).

While the gap in the implementation of GPP, especially on sustainability and its capacity to thrive, must be addressed, a common barrier to evidence-based interventions has been noted, constraints such as limited time, inadequate staff, and insufficient resources or funding impede the development of sustainable gardening. This suggests that the sustainability of a garden is connected to the degree of collective support it receives, rather than relying on the efforts of only one teacher, instructor, or volunteer. To establish and continue garden sustainability, consistent support and proper funding are necessary (Mangin, 2015).

Furthermore, this study helped investigate the implementation and sustainability processes of the GPP within the Department of Education, concentrating on a secondary school within the Division of Misamis Oriental. Considering this study, it was hoped that certain implementation practices, sustainability measures, and the lived experiences of the program implementers, especially on the challenges and bottlenecks they won over, were critically and deeply sought while putting premium consideration on the emerging themes. Yet, the lived experiences of the GGP implementers, were taken into regard for prompt actions and recommendations to help answer the gaps, barriers, and inadequacies of the program implementation and thereby attain a thriving school garden.

Theoretical Perspectives

The goal of this study is to examine the personal narratives of program implementers involved in the Gulayan sa Paaralan Program (GPP) and their endeavors to create a sustainable school garden. The study mainly focused on the important ideas of Garden-Based Learning, originated by Friedrich Froebel, who posited that "doing" and observing, when integrated with children's creative energy, rather than being simply rote, promotes experiential learning. According to Sealy (2001), as cited in Papadopoulou, Kazana, and Armakolas, (2020), this kind of learning enhances students' academic achievement and fosters a greater interest in education. In simpler terms, Kacinova (2021) asserts that students acquire knowledge through direct participation, like working in a school garden. Kuo, Barnes, and Jordan (2019) provided significant support for the concept that children's engagement with nature facilitates academic learning and also appears to contribute to their personal development and environmental stewardship.

This study also draws upon Mahatma Gandhi's Self-Sufficiency of Schools Model, a framework designed for the development of communities where government funding for education is lacking. According to this model, basic education should comprehensively develop children, fostering a sense of patriotism through the practice of handicrafts, and should equip each child to be self-reliant by acquiring a craft or vocational skill for their livelihood (Aggarwal, 1985, as cited in Pravat, 2020). Given that sustainability and self-sufficiency are key objectives of program implementation, this research aligns with Gandhi's Self-Sufficiency of Schools Model, specifically aimed at supporting communities with limited government funding for education. Gandhi theorized that certain crafts, such as spinning, could serve as an educational tool, enabling schools to function independently. This, in turn, would allow basic education to holistically develop children, instill a sense of national pride through handicraft activities, and prepare each child for self-sufficiency by learning a craft or occupational skill to secure their future (Aggarwal, 1985, as cited in Pravat, 2020).

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In 2007, the Department of Education released DepEd Memorandum No. 293, entitled "Gulayan sa Paaralan," offering policies and guidelines for all public elementary and secondary schools to implement the GPP in spaces of varying sizes, whether rural or urban, utilizing organic gardening methods. This memorandum also mandated the increased production of specific vegetable types within schools and communities to combat deficiencies in protein, energy, vitamin A, and iron. Subsequently, in February 2014, DepEd issued DepEd Order No. 5, series of 2014, known as "Implementing Guidelines on the Integration of Gulayan sa Paaralan, Solid Waste Management, and Tree Planting under the National Greening Program (NGP)." This DepEd Order required every school to create a vegetable garden to provide a consistent supply of vegetables for supplementary feeding programs. Furthermore, at least one school in each school district was directed to establish a nursery or seed bank as a central hub for the propagation and production of vegetables, fruit-bearing, and forest tree seedlings, ensuring a year-round supply for seedling needs (DepEd, 2014).

The Department of Education (DepEd) also mandated that the school principal or administrator take the lead in ensuring the program's long-term viability. This involves applying crop museum technology, managing seed production and nurseries, maintaining program continuity throughout the summer break, and assigning a specific school GPP coordinator as the primary person responsible for implementation, who will collaborate closely with the school feeding coordinator (DepEd, 2016).

Ensuring the School Garden's Sustainability is another important variable under consideration. Mangin's 2015 study distinguished a gap in research specifically addressing the long-term sustainability of school gardens; nonetheless, studies on agroecology, environmentally sound food systems, and urban cultivation have documented sustainable techniques applicable in urban gardening situations. Okvat and Zautra (2011) suggested several sustainable strategies that school gardeners in our local setting can utilize, including: the application of integrated pest management, evidenced by avoiding the use of detrimental pesticides and synthetic chemicals; planting native flora and using drip irrigation to reduce water usage; the recycling of materials for compost to limit waste production; and the use of cover crops and crop rotation to improve soil health. This existing knowledge base confirms that sustainable practices are applied in areas such as the preservation of biodiversity, improvement of soil quality, reduction of waste, conservation of water, and other related aspects.

Research Questions

This case study explored the implementation and sustainability of the Gulayan sa Paaralan Program (GPP) of one of the Department of Education's schools in the Division of Misamis Oriental:

1. How is the Gulayan sa Paaralan Program implemented in a secondary school in Misamis Oriental?

2. What are the lived experiences and challenges of the implementers in sustaining the program and how are these challenges addressed?

3. How is the Gulayan sa Paaralan Program sustained from 2016 to 2022?

METHODOLOGY

The study utilized a case study research design to describe and explore the implementation and sustainability mechanisms of the Gulayan sa Paaralan Program (GPP) as experienced by school program implementers in the Department of Education, and to identify emerging themes in the lived experiences of participants in schools with successful garden programs. Yet, this study included the public secondary school administrator, the TLE-GP teacher coordinator, TLE teachers, school parent-teacher association (SPTA) representatives, supreme student government (SSG) representatives, and barangay or community representatives through the tedious qualitative data gathering – interviews and focus group discussions. The analysis of this case study data engaged a systematic process. Within 24 hours of each interview and focus group discussion, the recorded data was reviewed multiple times. Initial notes were taken, followed by more detailed recordings of reactions and elements particularly relevant to the research questions. As themes began to emerge, open coding was meticulously applied. Following this initial coding phase and a period of intensive review, the analysis

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continued with the construction of categories. The researcher then re-read the field notes and organized these categories into relevant groups using axial coding. These groupings were based on content, personal reactions, or reflections. This stage was followed by several more readings until a hierarchy of themes became apparent. The resulting analyses of the individual and group data then informed the coding and interpretation of collected documents and reflective field notes, allowing for effective triangulation of the findings. Furthermore, following a collective case study approach of the three individuals around a single theme, similarities and differences among participants were defined and explored.

RESULTS AND DISCUSSIONS

This study highlighted six major themes identified through in-depth dialogues with key participants: curriculum-aligned implementation, stakeholder engagement, advocacy and promotion, barriers to program implementation, sustainability practices, and collaboration with stakeholders. Together, these themes offered a complete picture of how the program was put into practice, what kept it going, and the actual knowledge and experiences of the people who were making it happen.

Theme 1. Curriculum-Aligned Implementation

The participants underlined that aligning the "Gulayan sa Paaralan Program" (GPP) with the school's curriculum was a key element for its successful implementation and long-term viability. This alignment meant weaving agricultural activities into what students were learning in the classroom, which not only enriched their academic understanding but also gave them practical skills. The combination of academic learning and hands-on experience was especially essential because it connected theory with practice. As Williams (2018) stated, garden-based education uses gardens as a setting for meaningful learning by connecting them to the curriculum and teaching methods. Teaching approaches that focused on learning by doing, like projects and investigations, were seen as helpful ways to involve students and encourage them to actively participate. Moreover, including agricultural and gardening activities in the curriculum helped students develop practical skills, and as Picardal et al. (2022) found, this integration in basic education also contributed to better academic results.

Category 1. Academic Integration and Practical Learning

This area focuses on connecting what students learned in books with real-life practice by including farming ideas in the school's lessons and giving students the chance to work in gardens themselves. By encouraging them to actively participate in school gardens, the program provided a special opportunity to use what they learned in subjects like science, math, and environmental studies in a hands-on, practical way.

Category 2. Teaching Strategies and Learner Engagement

Recognizing the vital role of active participatory learning in enhancing student outcomes, the GPP employed diverse teaching strategies—such as inquiry-based learning, project-based learning, and collaborative tasks—to boost student engagement and cultivate essential life skills. Central to this category was the integration of school-based gardening into the curriculum, which offered educators an innovative platform for adopting learner-centered teaching strategies.

Category 3. Agricultural and Technical Practices

With the end goal of equipping students with both theoretical knowledge and practical skills in modern agriculture, this category focused on hands-on training in farming techniques, from organic gardening to the use of technology in agriculture.

Category 4. Infrastructure and Resource Management

Examining how access to water systems, gardening tools, composting facilities, and land availability affect the efficiency and sustainability of school gardens was indeed necessary. By focusing on infrastructure and resource management, this case study through this specific category, provided deeper insights on the enabling and constraining factors that influence the success of GPP, offering evidence-based recommendations for

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policymakers and school administrators committed to enhancing food security and environmental stewardship in educational settings.

Category 5. Continuous Implementation

While the program has shown promise, the importance of examining its implementation and sustainability, which had emerged as a critical category in ensuring long-term impact has to be greatly studied, just as this case study, to identify the best practices and address persistent challenges in sustaining the GPP, contributing valuable insights for educational institutions seeking to embed sustainability into school-based agricultural programs.

Theme 2. Engaging Internal and External Stakeholders

Another pivotal factor in the successful implementation and sustainability of the Gulayan sa Paaralan Program (GPP) was "engaging internal and external stakeholders". This theme underscored the importance of building strong, collaborative relationships between the school and its various stakeholders, including internal participants such as teachers, school leaders, and students, as well as external partners like local government units (LGUs), parents, and community organizations. Strong leadership and reliable organizational support were key in building a collaborative and dedicated environment for the program.

In the end, involving both people within the school and those in the wider community fostered a strong support system for the GPP. This created a feeling of shared ownership and responsibility, which was essential for the program to continue successfully. Through ongoing promotion, teamwork, and gathering resources, the GPP can embellish as a community-focused effort that not only improves students' understanding of agriculture but also helps achieve local development goals, like ensuring food is available and promoting sustainable farming methods. Labayog (2024) supports this by emphasizing the need to maintain clear communication, respond quickly to needs, and encourage stakeholder involvement to strengthen the school's programs.

Category 1. Leadership and Organizational Support

Because the "gulayan sa paaralan program" (GPP) has become a fundamental part of school nutrition and sustainability efforts in the Philippines, its success heavily depended on good leadership and administrative support within the schools carrying it out. As this became clear, it was increasingly obvious that dedicated school leaders, cooperative organizational systems, and the active involvement of both teachers and other school staff were critical for effectively implementing and sustaining the program. This highlights how important strong relationships between school administrators and stakeholders are for the well-being of the school community (Pelayo, 2022).

Category 2. Community and Stakeholder Engagement

The role of community and stakeholder engagement as a critical factor in the implementation and sustainability of gulayan sa paaralan program was certainly indisputable. Accordingly, emphasizing partnership programs that enhance stakeholder participation can lead to a significant increase in the involvement of parents, local government units (LGUs), and members of the Pantawid Pamilyang Pilipino Program (4Ps), thereby contributing to the successful implementation of the gulayan sa paaralan program (Gonzales, 2024).

Category 3. Funding Support and Donations

Investigating the impact of funding mechanisms and donation-driven support on GPP implementation, it was well understood in this study as to how financial partnerships and resource mobilization can enhance program outcomes and ensure long-term viability. Among the emerging categories influencing its success was funding support and donations, which played a crucial role in enabling schools to establish and maintain productive gardens.

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Theme 3. Advocacy Promotion

While this case study examined how motivational drivers and advocacy efforts shaped the implementation dynamics of GPP, it identified strategies that cultivated a deeper sense of purpose and sustained commitment among stakeholders.

Moreover, effective advocacy—through awareness campaigns, recognition programs, and integration into school culture can help facilitate the success of the GPP. Hence, motivation and advocacy as an emerging category, were but clearly critical to the program's successful implementation and sustainability.

Category 1. Passion for Agriculture

While the GPP has become a cornerstone of school-based nutrition and agricultural education in the Philippines, its sustainability has also become increasingly influenced by the emerging category of motivation, passion, and advocacy among those involved in its implementation. Moreover, collective motivation and advocacy of key stakeholders drive strongly the sustainability of GPP implementation. Beyond resources and infrastructure, the personal commitment and intrinsic motivation of teachers, school heads, students, and community members have been found to play a pivotal role in maintaining and advancing the program.

Category 2. Use of Social Media

While it is known that social media in the present time proved to be among the powerful tools in promoting the program implementations such as that of the GPP in public schools, apart from complying with school, divisional, regional, and national contests, being motivated and advocating the program for its successful implementation through social media such as in Facebook, Instagram, Youtube, etc., can positively attract positive results.

The study highlighted the general impact of agricultural activities in schools. It is suggested that schools work tightly with parents and communities, incorporate agriculture into lessons, and maximize technology to make farming more engaging for students. With these in-school actions, the role of agriculture in education can be reinforced and sustainability will be promoted (Montales, 2024).

Theme 4. Barriers to Program Implementation

Highlighting various obstacles that hindered the program's full potential, the theme of "barriers to program implementation" emerged as a sizable challenge in the execution and sustainability of the Gulayan sa Paaralan Program (GPP). A major hindrance noted was the lack of sufficient personnel and effective management of labor. Research conducted in Sorsogon indicated that difficulties in carrying out the GPP involved not having enough tools, poor soil, a lack of irrigation, and limited support from stakeholders. These factors hampered the program's long-term viability because of problems with infrastructure and resources (Alcantara, 2023). These challenges were especially evident in schools with scarce resources and limited local backing.

Moreover, issues like limited funds, low parent participation, scarce resources, and not enough space or land were found to be major difficulties in carrying out greening programs such as the "gulayan sa paaralan." Research suggested improving teamwork and connections between schools and stakeholders, putting the proposed plan into action to boost the gardening program, and doing more studies to evaluate the program's success and its effects on both the school and the community (Golpo & Ricafort, 2023).

Lastly, outside and environmental issues, such as changing weather patterns, climate change, and the larger social and economic situation, posed further difficulties for effectively implementing the program. For example, severe weather like floods or droughts can harm crops, causing the program to fall behind in its output and reducing its educational and community gains. Research has shown that school farming programs were very exposed to environmental factors and faced problems like poor soil, limited space, inadequate drainage, and a lack of proper record-keeping tools. These infrastructure problems, along with insufficient funding, hampered the program's success (Campion, 2021). These environmental challenges, combined with inadequate infrastructure and resources, make it hard for the GPP to maintain stable production and

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educational results.

Category 1. Lack of Human Resources

Although keeping school gardens thriving required steady upkeep and teamwork, many schools faced difficulties due to having too few staff, teachers with too many responsibilities, and no specific people assigned to manage garden tasks. However, the recurring issue of insufficient personnel and labor management has become a major problem, according to those running the program.

Category 2. Inadequacy of Physical Resources, Infrastructure and Technology

The effective implementation was hindered by the emerging challenge of inadequacy in infrastructure and technology in as far as this case study had found out. It has been stressed out that infrastructural and technological limitations, such as program implementation barriers, had to be addressed with practical coping strategies and potential solutions to strengthen program delivery and ensure sustainability. Many implementers faced difficulties due to the lack of essential facilities such as water systems, gardening tools, seed storage, and protective structures, as well as limited access to modern technologies that could improve efficiency and sustainability.

Alcantara (2023) pointed out that the most common and frequent issues in the implementation of the GPP include a lack of volunteers, insufficient support from parents and stakeholders, poor or acidic soil, time constraints due to teacher overloading, socio-economic challenges such as theft and garden distractions, inadequate tools, equipment, and machinery, lack of water or irrigation systems, and poorly scheduled agriculture classes. Then as part of innovative solutions, the school employed strategies to address common challenges and inadequacies of the GPP implementation.

Category 3. Financial Constraints

Despite the promising goals of the gulayan sa paaralan program in Mat-I National High School in Misamis Oriental, implementers continued to grapple with the emerging challenge of resource constraints and unmet needs, which significantly affected the program's sustainability and impact. Limited access to gardening tools, seeds, fertilizers, protective structures, and even land space hindered the full potential of GPP in many schools. According to Bernardo (2020), the lack of sufficient and consistent resources leads to program stagnation and demotivation among implementers. **Category 4. Environmental Challenges**

Positively, how school implementers navigated and responded to external and environmental challenges strengthened the program's adaptability and long-term viability. Factors such as extreme weather conditions, pest infestations, stray animals' disruptions, and climate variability have been reported to damage school gardens and upset gardening cycles.

Theme 5. Sustainability Practices

The "gulayan sa paaralan" program (GPP) played an imperative role in fostering food security, better nutrition, and environmental awareness among Filipino students. However, its continued success depended on how well the program was put into action and the strategies used. Since schools differed in how they planned, carried out, and incorporated the GPP into their lessons and extracurriculars, the chosen strategies greatly swayed what the program achieved and whether it lasted.

In one study conducted in the Schools Division of Antique for the School Year 2021-2022, it revealed that among the notable vegetable gardening practices in the elementary schools in the Schools Division of Antique were garden plot preparation, soil management, seed selection, seedling management, sowing treatment, seed sowing, disease and pest management, fertilizer management, plant care and management. It was highly suggested that to enhance the vegetable gardening attempts, teachers and GPP coordinators should attend enhancement training, workshops, and seminars especially on organic vegetable production (Servillon, 2025).

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Category 1. Clarity of Operational Direction

This category emerged as a critical element in the successful implementation and sustainability of the Gulayan sa Paaralan Program (GPP). Clarity in operational direction ensured that all stakeholders, from school leaders to community members, understood the goals, strategies, and processes necessary for the program's success. Research has shown that the extent of implemented practices in GPP had a significant relationship with sustainability mechanisms, and as the extent of practices increased, the sustainability mechanisms in implementing the GPP also improved, yet, clear operational strategies are crucial for maintaining program effectiveness, and structured planning combined with active community involvement is recommended to ensure the long-term sustainability of school-based agricultural initiatives (Codilla & Cubillas, 2022).

Clear operational direction paved the way for the GPP to welcome new technologies and innovative approaches. Similarly, the GPP's successful adoption of digital tools for tasks like monitoring plant growth, tracking sales, and educating students on modern farming methods demonstrated how a well-defined path enables the effective use of technology. Ultimately, this clear direction was critical to the GPP's achievements and long-term viability, offering the necessary structure for implementation, resource management, financial stability, and the integration of innovative practices that ensured lasting impression.

Category 2. Coping with Challenges on Financial, Physical and Human Resources

As the GPP evolved, financial sustainability and revenue generation have emerged as key categories influencing its long-term viability. Exploring how certain schools with excellent running of the program implement income-generating strategies within the GPP, assessing their impact on the program's financial sustainability, and identifying models that can be adapted across varied educational contexts are all necessary steps in achieving a sustainable GPP. While initial funding often comes from government or external donors, sustaining garden operations requires innovative strategies for income generation, such as selling surplus produce or value-added products.

Category 3. Innovation and Technology Integration

A growing area of interest in the context of effective and sustainable ways to promote nutrition, agriculture, and environmental education, was the role of innovation and technology integration, which had emerged as a key factor in enhancing the program's long-term sustainability. How a GPP implementing school integrated innovation and technology into their GPP initiatives aid in uncovering best practices and scalable models that can drive sustainability and educational relevance in diverse learning environments.

One evidence that the GPP of the school was extensively sustained was its inclusion in the "gulayan sa paaralan at pamayanan" program by the University of Science and Technology of Southern Philippines – Claveria Campus (a partner university in the GPP implementation).

Category 4. Monitoring and Evaluation

While the benefits of gulayan sa paaralan program were well-documented, the monitoring and evaluation (M&E) aspect of GPP implementation remained an emerging and underexplored category that significantly influenced program effectiveness and continuity. Yet, in a study conducted in Masbate, Ibanez et al. (2022) assessed the status of the GPP in public secondary schools, identifying implementation challenges and highlighting the need for structured monitoring and support from various organizations to improve the program's effectiveness.

Noting the huge essence of "monitoring and evaluation," it emerged as a vital element in the implementation and sustainability of the Gulayan sa Paaralan Program (GPP), highlighting the importance of assessing the program's impact and acknowledging achievements to ensure continuous improvement and motivation. To gauge the GPP's success and see if it was achieving its goals, strong monitoring and evaluation processes were requisites. Research indicates that consistent monitoring not only pinpoints areas needing improvement but also guarantees efficient resource use. As directed by the Department of Education (2016), a regular

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monitoring and evaluation system should be in place to assess the program's implementation and effectiveness, ensuring schools follow the established guidelines and practices. Within the GPP, monitoring involved systematically assessing agricultural results, like crop yields, and tracking the academic development of students participating in the program.

Theme 6. Collaboration with Stakeholders

Reflecting the collective efforts of students, teachers, parents, and community members working together toward common educational and agricultural goals, "collaboration" was one significant facilitating factor in the implementation and sustainability of the Gulayan sa Paaralan Program (GPP). Central to this theme was the student-centered development approach, which emphasized active student involvement in all aspects of the program. Getting students to work together on farming tasks like planting, caring for crops, and running garden projects made them feel more accountable and invested, which improved how much they learned. Studies indicate that when students learn in groups and take an active role, their grades improve, and they also acquire important life skills. Furthermore, when students are involved in partnerships, more people in the community get involved in the GPP, emphasizing how crucial teamwork is to make the program more successful (Suyod, 2025). In the GPP, students were given opportunities to lead, which helped them grow as individuals and contributed to the program's overall achievements.

Moreover, the energy and commitment of teachers, parents, and community leaders fueled collaboration, and their strong belief in the program stimulated more widespread community participation. Within the GPP, teachers and community leaders championed the value of agricultural learning, which encouraged students, parents, and local groups to get involved. This shared dedication fostered a strong feeling of community ownership, where everyone played a part in the program's achievements. The merged passion of motivated people at different levels not only kept the program going but also helped it grow and reach more people in the community.

Category 1. Community Engagement

The role of community and stakeholder engagement as a critical factor in the implementation and sustainability of gulayan sa paaralan program was certainly indisputable. Accordingly, emphasizing partnership programs that enhance stakeholder participation can lead to a significant increase in the involvement of parents, local government units (LGUs), and members of the Pantawid Pamilyang Pilipino Program (4Ps), thereby contributing to the successful implementation of the gulayan sa paaralan program (Gonzales, 2024).

Category 2. Support Program Interventions

Resilience in this context referred to the capacity of the program's implementers, including teachers, students, and community members, to adapt to challenges and continue the program’s operations despite various setbacks. Hence, the category "support program interventions" emerged as a key factor in overcoming the challenges faced in the implementation and sustainability of the Gulayan sa Paaralan Program (GPP). Motivation and emotional impact played a significant role in building this resilience. When individuals felt emotionally connected to the program, they were more likely to persist in the face of adversity. In the GPP, teachers and community members, motivated by the program's potential to enhance students’ lives and contribute to local food security, remained dedicated to its success, even in the face of challenges like resource shortages or environmental factors.

A crucial emerging category influencing its sustainability was the presence of a robust support program interventions among key stakeholders. Likewise, the support systems and collaborative practices strengthened the sustainability of GPP as built through strategies for building and maintaining effective partnerships. The success of GPP often depended on the synergy between teachers, school heads, parents, students, local government units, and external partners who contributed resources, expertise, and shared responsibility.

Drawing implication from the emerging themes and categories, this study highlighted further that certain implementation factors are critical for the gulayan sa paaralan program to be effectively managed and

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sustained such as that of the critical considerations of curriculum-aligned implementation and the engagement of internal and external stakeholders. Nonetheless, prominent program barriers and challenges are very crucial and must be addressed to keep the program running smoothy. These include inadequacy in human resources and labor management, inadequacy in infrastructure and technology, resource constraints and needs, and external and environmental challenges. While sustaining the GPP is not that easy, identified facilitating factors emerged to be of relevance and substance in sustaining the program such as the program implementation and management, collaboration, monitoring and recognition, and resilience and support program interventions. Figure 2 below displays the full link and connection from the critical implementation requirements to the known program barriers and challenges, then towards achieving program sustainability.

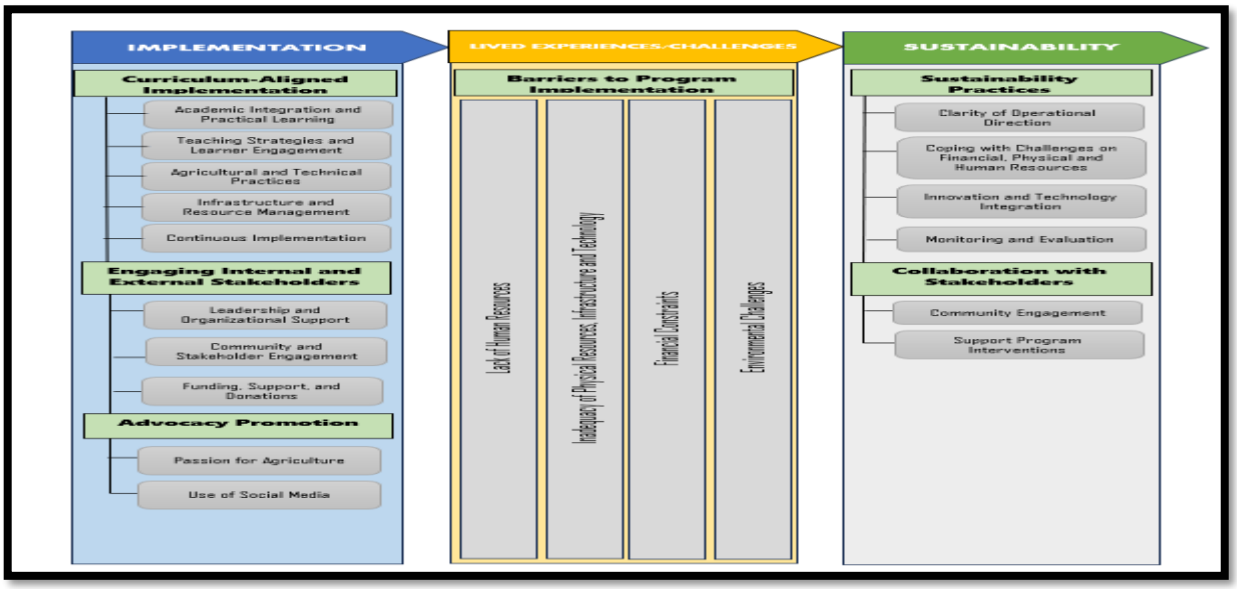

Figure 2. A Conceptual Model Illustrating the Sustainable Implementation of the Gulayan sa Paaralan Program (GPP)

CONCLUSIONS

This research finds that the lasting success of the Gulayan sa Paaralan Program is deeply rooted in a comprehensive and unified approach that integrates agriculture into the school's educational system. By aligning farming activities with academic objectives, the program enhances students' understanding of key subjects while developing their practical skills, environmental awareness, and appreciation of food systems. The meaningful integration of gardening into the school day—alongside modern techniques such as organic and no-till farming—creates a hands-on learning environment that fosters both intellectual and personal growth.

The study further emphasizes that strong collaboration among students, teachers, parents, school leaders, and community partners is essential to sustaining the program. The program's effectiveness was reinforced by operational clarity, strategic financial planning, and the adoption of innovative agricultural methods such as drip irrigation and plastic mulching. Continuous monitoring and evaluation, paired with public recognition through contests and awards, served as strong motivators that promoted improvement and encouraged ongoing commitment. Financial sustainability was also supported by reinvesting income from harvested produce back into the program, helping ensure its continuity.

Ultimately, this research underscores the importance of a holistic, inclusive, and adaptive strategy in implementing school-based farming programs. The Gulayan sa Paaralan not only contributes to improved academic performance and student nutrition but also strengthens community relationships and supports local food security. In doing so, the program aligns with broader global goals of sustainable development, educational innovation, and community empowerment—offering a valuable model for schools seeking to integrate agriculture into their learning environments.

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RECOMMENDATIONS

Considering the findings of this research, the following suggestions are carried out in ensuring the successful implementation and long-term feasibility of the "gulayan sa paaralan" program:

The Department of Education (DepEd) may consider enhancing policy support by further establishing and officially integrating school gardening programs into the central curriculum for all schools nationwide. This would involve making agriculture a required subject or activity at various educational stages.

The Department of Agriculture (DA) may provide more technical support and resources, in collaboration with local agricultural agencies, particularly in sustainable farming practices, innovative technologies, and access to necessary resources such as seeds, tools, and irrigation systems. It may explore ways to offer financial incentives or grants to schools that demonstrate significant success in implementing the program, ensuring its continued sustainability.

Further, the curriculum in charge may review and revise existing curricula to ensure that agricultural education is incorporated in all subjects, particularly in Science, Technology, and Home Economics, to allow for greater integration of gardening and environmental topics and greatly focus on practical or experiential learning.

The school administrators may venture into leadership and advocacy for the gulayan sa paaralan program by securing resources, allocating time for garden activities, and ensuring its alignment with school goals and they should encourage strong partnerships with local government units (LGUs), businesses, and community leaders to mobilize resources and support for the program.

The gulayan sa paaralan coordinators may work on ensuring that school gardens are managed effectively, keeping track of resources, activities, and outcomes while facilitating communication between stakeholders to encourage continuous engagement, and regularly organizing workshops and learning sessions for teachers, students, and parents on best practices for gardening, sustainable agriculture, and utilizing produce for nutrition programs.

Likewise, the learners may consider taking an active role in the day-to-day management of the school gardens to enhance their leadership and problem-solving skills and cultivate a sense of responsibility towards environmental stewardship and food security.

The teachers may consider integrating gardening activities into various subjects, enhancing the learning experience and helping students connect theory with practice and may undergo training to enhance their knowledge of sustainable farming techniques, and how to incorporate agricultural topics into their teaching methods, ensuring that students gain both academic and practical skills.

The parents may also actively participate in the program by volunteering, providing resources, and supporting their children's involvement in garden-related activities and promote sustainability at home by growing their own vegetables, promoting sustainable living, and encouraging healthy eating habits.

Community partners, local businesses, NGOs, and organizations may consider collaborating with schools to provide necessary resources, expertise, and funding for gardening initiatives.

Lastly, the future researchers may consider exploring the long-term impact of the gulayan sa paaralan program on students' academic performance, health, and environmental awareness; researchers could also assess the scalability of the program across different regions and schools with varying levels of resources; and further research should focus on identifying and addressing barriers such as extreme weather, inadequate infrastructure, and limited funding, offering evidence-based solutions for overcoming these challenges.

Compliance with Ethical Standards

The researcher secured the necessary approval from the Adviser, the Dean of the Graduate School, and the Office of the Head for Research, Planning, and Development of Lourdes College. After receiving permission

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to proceed, a formal letter was sent to the Schools Division Superintendent of the Department of Education – Division of Misamis Oriental to request consent for gathering qualitative data. The request included the conduct of in-depth and key informant interviews, focus group discussions, and the collection of relevant artifacts. Another letter was forwarded to the Public School District Supervisor of the Department of Education – Claveria District, through the endorsement of the Schools Division Superintendent.

This communication sought authorization for involving the school administrator, TLE-GP teacher coordinator, TLE teachers, SPTA representatives, SSG officers, and a barangay or community representative in the research. The researcher assured all offices that confidentiality and privacy would be strictly upheld, following the Data Privacy Act of 2012. Additionally, informed consent was obtained from all participants. For minor SSG participants under 18 years old, consent was also obtained from a legally authorized representative (LAR) to ensure ethical compliance.

Throughout the study, the researcher fully observed the standards set by the 2022 National Ethical Guidelines for Research. This included a thorough process of obtaining informed consent from participants. Before any data were collected, participants were provided with detailed explanations about the study's purpose, procedures, expected duration, and their rights, including the right to decline or withdraw from participation at any time. The researcher also clarified any potential risks, benefits, or conditions related to their involvement, including whether any incentives were involved. Participants were encouraged to ask questions, and these were answered clearly to ensure their decision to participate was informed and voluntary.

The researcher made it a priority to assure participants of the confidentiality and anonymity of the data gathered. This was particularly important given that the study involved students, some of whom were minors. Participants were reminded that their involvement was voluntary and that they could withdraw at any point without consequences. They were also informed that no financial reimbursements would be given. However, tokens of appreciation were provided as a gesture of thanks for their time and cooperation. Furthermore, participants were made aware that their contributions would help improve sustainable practices in public secondary schools through enhanced implementation of the Gulayan sa Paaralan Program.

To safeguard participants' privacy, a confidentiality statement was included in the interview protocol. This statement emphasized the researcher's commitment to ethical data handling and clearly stated that no information would be released in a way that could identify individual participants. The guidelines from Ware and Dillman (2014) were followed to ensure that all responses were treated with care, and any findings presented in the study would be generalized and anonymized to maintain participant protection.

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