

Implementation of the Environmental Education Under the National Greening Program (NGP) of the Selected Elementary Schools of Monreal District: An Assessment

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Abstract

This study examined the implementation of environmental education under the National Greening Program (NGP) in selected elementary schools, focusing on its role in promoting sustainable practices and environmental stewardship. Grounded in the concept that environmental education fosters sustainable behavior through knowledge, skills, and community engagement (Liu et al., 2019; Lopez et al., 2020), the study employed a descriptive-analytic quantitative research design. Data were collected using a questionnaire rating scale, supported by interviews and observations, from school heads, TLE teachers, and barangay officials selected through purposive sampling. Quantitative data were analyzed using frequency counts, weighted mean, and the Kruskal-Wallis test. Findings revealed that the implementation of environmental education under the NGP was carried out to a great extent, particularly in cleanliness and beautification, clean and green practices, and solid waste management. However, certain aspects such as landscaping, recycling, and waste segregation require improvement. Challenges encountered were moderately serious, with lack of sustained interest, insufficient funding, and limited information dissemination identified as key barriers. Despite these issues, the proposed measures for improvement—such as promoting environmental education activities, community involvement, and proper waste management practices—were perceived as very effective. The study concludes that while environmental education initiatives under the NGP are generally effective, addressing implementation challenges is essential to maximize program impact. It recommends strengthening stakeholder engagement, enhancing awareness through dissemination and community involvement, and implementing identified improvement measures to ensure program sustainability. This study aligns with Sustainable Development Goals (SDG) 4 (Quality Education), SDG 12 (Responsible Consumption and Production), and SDG 13 (Climate Action), as it promotes sustainability education and environmental practices. It contributes to environmental, educational, and community sustainability by strengthening institutional practices, enhancing environmental awareness, and supporting long-term ecological conservation efforts.

Keywords: Clean and Green Practices, Environmental Education, National Greening Program, Solid Waste Management, Sustainability, Teachers' Perceptions

1. Introduction

The integration of environmental education within the National Greening Program (NGP) reflects the Philippines' commitment to addressing environmental degradation through policy-driven and education-based approaches. Anchored in national development plans and global sustainability frameworks, the NGP promotes reforestation, biodiversity conservation, and climate action while positioning schools as key agents in cultivating environmentally responsible citizens. Despite progress in awareness, gaps remain in translating knowledge into practical environmental action, particularly in community engagement and skills development. This study examines how environmental education supports the effectiveness of the NGP, focusing on its implementation in schools and its role in fostering sustainable practices.

1.1 Background of Environmental Education Integration in the National Greening Program (NGP) in Philippine Schools

The National Greening Program (NGP), established under Executive Order No. 26 in 2011, aims to address deforestation, climate change, biodiversity loss, and soil erosion through large-scale reforestation targeting 1.5 billion trees across 1.5 million hectares. It emphasizes restoring degraded forestlands, protecting natural resources, and enhancing ecological sustainability. Aligned with the Philippine Development Plan (PDP) 2017–2022, environmental sustainability is integrated into national socio-economic development. Educational institutions are mandated to promote environmental responsibility, reinforced by DepEd Order No. 55, s. 2016, which integrates environmental education into the K–12 curriculum to foster lifelong environmental stewardship.

1.2 Themes and Insights on Environmental Education and Community Engagement under the NGP

Environmental education is recognized as a tool for developing knowledge, skills, and attitudes necessary for sustainable action (UNESCO, 2020). It enhances critical thinking and empowers individuals to address complex environmental challenges. Barton et al. (2020) emphasize that environmental education must inspire action, while Tan (2020) highlights the role of schools in fostering environmental responsibility. A recurring theme in literature is the gap between awareness and action. Liu et al. (2019) stress the need for practical skills development, while Lopez et al. (2020) advocate for experiential learning through activities such as tree planting and waste management. Community participation is also critical, as environmental sustainability programs rely on active local engagement (Adger et al., 2018). Studies in the Philippines show increased awareness due to NGP implementation but highlight challenges in practical application and community involvement (Villanueva and Mendoza, 2020). Similarly, Gonzales et al. (2021) found that students lack practical competencies despite awareness, while Delos Reyes and Navarro (2019) identified insufficient teacher training as a barrier. Bautista et al. (2022) underscore the importance of collaboration among schools, local governments, and NGOs, and Santos (2020) notes inconsistencies in environmental program implementation.

1.3 Local, National, and Global Context of Environmental Education and the NGP Implementation

Locally, schools in the Philippines have adopted environmental initiatives under the NGP, contributing to awareness but facing challenges in community engagement and practical implementation. Nationally, environmental education is institutionalized through policies such as the PDP and DepEd mandates. Globally, environmental education aligns with sustainability efforts addressing climate change and biodiversity loss. It is recognized as essential for developing environmentally responsible citizens capable of contributing to global ecological resilience (UNESCO, 2020).

1.4 Theoretical Basis of Environmental Education for Sustainable Action in the NGP Context

The study is grounded in the concept that environmental education promotes sustainable behavior through knowledge acquisition, skill development, and active participation. It emphasizes experiential and community-based learning as mechanisms for bridging the gap between awareness and action (Liu et al., 2019; Lopez et al., 2020). Additionally, the framework highlights the role of schools and educators as catalysts for environmental stewardship, supported by collaboration with communities and institutions (Adger et al., 2018; Bautista et al., 2022).

1.5 Research Gaps in Environmental Education Implementation and NGP Effectiveness in Schools

Despite increased awareness of environmental issues, there remains a significant gap in the practical application of environmental knowledge (Gonzales et al., 2021; Liu et al., 2019). Students often lack hands-on experience, and community engagement is limited (Villanueva and Mendoza, 2020). Furthermore, educators face challenges due to insufficient training and resources (Delos Reyes and Navarro, 2019), while environmental programs such as waste management lack consistency (Santos, 2020). The success of the NGP also depends on sustained collaboration among stakeholders (Bautista et al., 2022). This study addresses these gaps by evaluating the integration of environmental education in schools and its effectiveness in supporting the NGP.

1.6 Alignment of the Study on Environmental Education and NGP with Relevant Sustainable Development Goals (SDGs)

This study aligns with: SDG 4 – Quality Education, by promoting environmental education and sustainability skills. SDG 12 – Responsible Consumption and Production, through sustainable practices in education. SDG 13 – Climate Action, by supporting climate change mitigation through education and reforestation initiatives. The integration of environmental education within the NGP contributes to developing environmentally responsible citizens and strengthening climate action efforts.

1.7 Importance of the Study on Environmental Education and NGP to Multidisciplinary Sustainability

This study contributes to environmental and ecological sustainability by supporting reforestation and biodiversity conservation through education. It advances educational sustainability by enhancing curriculum integration and teacher capacity, and promotes community sustainability by encouraging local participation in environmental initiatives. It also supports policy and institutional sustainability by evaluating the implementation of national programs and informing improvements in environmental education. Overall, the study strengthens the link between education, community engagement, and long-term environmental sustainability.

2. Material and methods

2.1 Research Design

The study utilized a descriptive-analytic quantitative research design to systematically examine participants' perceptions and experiences related to the implementation of environmental education under the NGP. This approach enabled objective measurement of responses through numerical data analysis. Supplementary interviews and observations were incorporated

to provide contextual insights that enriched the quantitative findings. The study focused on exploring participants' perceptions, preparedness, and anticipated challenges rather than evaluating actual outcomes of implementation.

2.2 Locale of the Study

The study was conducted in selected elementary schools in the Monreal District, Province of Masbate, during the 2022–2023 school year. Masbate, located in the Bicol Region, consists of three main islands and has diverse natural and economic resources. The province has a population of approximately 910,813 (Census of Population, 2020) and serves as a strategic link between major regions in the Philippines (Wikipedia, 2025). Its development priorities include sustainable environment, agriculture, and resilient communities (Province of Masbate, n.d.). The selected schools represent varying levels of resources, teacher expertise, and community engagement, making the locale suitable for examining early-stage implementation of environmental education under the NGP.

2.3 Respondents of the Study

The respondents consisted of key stakeholders involved in or affected by the environmental education component of the NGP. These included school heads, who oversee curriculum implementation and institutional readiness; TLE teachers, who are responsible for delivering instruction and integrating environmental education; and barangay officials, who support community-level engagement and resource coordination. These groups provided relevant perspectives on the planning and anticipated implementation of the program.

2.4 Sample and Sampling Procedure

Purposive sampling was used to select participants with direct involvement in the planning, implementation, or oversight of the NGP's environmental education initiatives. This approach ensured that the data gathered were relevant and reflective of informed perspectives. Although the sample size was limited, it was intentionally designed to allow in-depth analysis of knowledgeable participants, and data saturation was achieved. Barangay officials assisted in identifying participants within their communities who were engaged in educational support activities.

2.5 Research Instrument

The primary instrument was a questionnaire rating scale that combined quantitative and qualitative elements to capture participants' perceptions, preparedness, and anticipated challenges regarding the implementation of environmental education under the NGP. The structured format enabled numerical analysis of responses. To ensure validity, the instrument was reviewed by TLE teachers and program heads, who evaluated its clarity, relevance, and appropriateness in addressing the research objectives.

2.6 Data Gathering Procedure

The data collection process began with a review of related literature to establish context and identify research gaps. After finalizing the research components, approval was secured from the Dean and Thesis Committee, followed by authorization from the City Superintendent. Questionnaires were then distributed to selected participants with clear instructions, and sufficient time was provided for completion. Upon retrieval, responses were tallied, organized, and prepared for analysis. The findings were subsequently analyzed and used to develop conclusions and recommendations for submission to the Thesis Committee.

2.7 Data Analysis Techniques

Quantitative data were analyzed using frequency counts and weighted mean to identify common perceptions and trends among respondents. To determine significant differences in perceptions across respondent groups, the Kruskal-Wallis test was employed, as it is suitable for non-normally distributed data. This analysis enabled comparison of responses among school heads, TLE teachers, and barangay officials regarding the implementation of environmental education under the NGP.

3. Results and Discussion

3.1 Extent of Implementation of Environmental Education under the National Greening Program (NGP)

3.1.1 Cleanliness and Beautification

The findings show that both school heads and teachers perceived cleanliness and beautification initiatives to be implemented to a great extent. School heads reported a weighted mean of 4.06, while teachers reported a similar level with a slightly lower overall rating. Indicators such as painting of fences, maintaining pest-free classrooms, and preventing stagnant water were rated highly, while aspects like landscaping and planting ornamental plants received relatively lower ratings. These results indicate that schools are effectively implementing basic cleanliness practices, although some beautification components require further improvement. This aligns with Mahan et al. (2021), who emphasize that school environmental programs contribute to positive attitudes toward sustainability and enhance community participation and pride.

3.1.2 Clean and Green Practices in Schools

The data reveal that “Clean and Green” initiatives, such as growing vegetables, planting trees, and maintaining school gardens, were implemented to a great extent. School heads reported a weighted mean of 3.92, while teachers reported a slightly higher mean of 4.02. Activities involving hands-on engagement, such as gardening and nursery establishment, were rated the highest, while practices like fencing gardens and planting fruit trees were rated lower. These findings suggest that experiential environmental activities are prioritized in schools, though certain areas require additional support and resources. This supports Walshe, R., et al. (2024), who found that school gardening programs enhance student engagement and foster environmental stewardship.

3.1.3 Solid Waste Management in Schools

The results indicate that solid waste management practices are implemented to a great extent, with school heads reporting high ratings for providing trash cans and composting practices. Teachers also rated waste disposal practices positively, particularly the use of trash cans. However, some practices, such as recycling and proper waste segregation, were rated lower, and improper disposal methods like burning received poor ratings. The overall perception suggests a weighted mean reflecting consistent but improvable implementation. These findings highlight that while foundational waste management practices are present, consistency and sustainability need improvement. This aligns with Lai et al. (2019), who emphasize that effective waste management requires student involvement and community participation, reinforcing the importance of collaborative efforts.

3.2 Problems in the Implementation of the Programs

The findings show that the challenges in implementing the NGP were perceived as moderately serious. The most significant issue identified by school heads was the lack of sustained interest from schools and communities, followed by insufficient funding and limited information dissemination. Teachers identified lack of information dissemination as the most serious concern, along with lack of awareness and limited engagement among learners and stakeholders. These results suggest that program sustainability depends heavily on continuous engagement, adequate resources, and effective communication. This is consistent with Ager et al. (2021), who note that environmental program success relies on strong community participation and sufficient funding to maintain long-term impact.

3.3 Effectiveness of Suggested Measures for Improvement

The findings indicate that the proposed measures for improving NGP implementation were rated as very effective by both school heads and teachers. Key measures included promoting tree planting, proper use of trash containers, conducting seminars on environmental education, and sustaining cleanliness initiatives. These measures received high ratings, reflecting strong support for strategies that enhance participation and awareness.

These results imply that strengthening education, community involvement, and resource mobilization can significantly improve program outcomes. This supports Barton et al. (2020), who argue that public education and community engagement are essential for the success of environmental programs, highlighting the importance of sustained efforts in improving implementation.

4. Conclusion & Recommendations

The study concludes that the implementation of the National Greening Program (NGP) in the selected schools was carried out to a great extent, indicating positive participation and acceptance among school heads and teachers. However, the challenges encountered were perceived as moderately serious, suggesting that existing obstacles still limit the program’s full effectiveness. Despite these issues, the proposed measures for improvement were considered very effective, indicating strong potential for enhancing the implementation and overall success of the program.

It is recommended that the findings of the study be disseminated to the selected schools to increase awareness and strengthen stakeholder commitment. The results should also be discussed during PTCA meetings to encourage involvement from parents and the community. The identified improvement measures should be implemented to enhance program effectiveness, and schools should maintain a file copy of the procedures based on DENR Memorandum Circular No. 2011-01 to ensure consistent implementation. Additionally, conducting similar studies in other areas is encouraged to validate the findings, and a copy of the research should be submitted to the library for future reference and academic use.

The study was limited to selected schools and respondents, focusing only on perceptions and preparedness rather than actual outcomes of implementation, which may affect the generalizability of the findings to other contexts.

Compliance with ethical standards

This study was conducted in accordance with institutional ethical standards, ensuring voluntary participation, informed consent, confidentiality of respondent information, and responsible handling of all data gathered. Ethical approval and necessary permissions were secured prior to data collection. The author declares no conflict of interest, acknowledge all contributions to the completion of the study, and affirm that copyright ownership and authorship responsibilities were properly observed.

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