Strategic School Management Practices in Implementing Education for Sustainable Development: Insights from Public Elementary Schools in Surigao del Sur

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DOI: https://doi.org/10.47772/IJRISS.2026.1026EDU0374

Received: 02 June 2026; Accepted: 08 June 2026; Published: 22 June 2026

ABSTRACT

This study examined the extent to which school management practices influence the implementation of Education for Sustainable Development (ESD) in public elementary schools in Surigao del Sur. Six dimensions of school management were analyzed: Leadership and Administrative Support & Vision, Curriculum Integration and Pedagogical Practices, Teacher Training and Professional Development, Resource Allocation, Stakeholder Engagement, and Policy Enforcement and Compliance Monitoring. Data were collected from school heads and teachers using validated self-made instruments. Results indicated that leadership, curriculum integration, and stakeholder engagement were implemented to a high extent, forming a strong foundation for ESD. In contrast, teacher training, resource allocation, and policy enforcement demonstrated moderate implementation, highlighting gaps between administrative intent and classroom-level practice. Notably, policy enforcement exhibited the widest disparity, with school heads perceiving high compliance while teachers reported only moderate adherence. These findings underscore the importance of continuous leadership support, structured professional development, and equitable resource distribution to strengthen the institutionalization of sustainability practices. The study proposes actionable strategies to bridge administrative-policy gaps and enhance the efficacy of ESD initiatives in elementary education.

Keywords: Education for Sustainable Development, School Management Practices, Leadership, Curriculum Integration, Stakeholder Engagement

INTRODUCTION

Education for Sustainable Development (ESD) serves as a global framework for equipping learners with the knowledge, skills, and values necessary to achieve ecological sustainability, social equity, and economic responsibility. Effective ESD requires that schools move beyond policy statements to operationalize sustainability across leadership, curriculum, pedagogy, and community engagement. In the context of the Bayabas District, Surigao del Sur, this study investigates how localized school management practices specifically leadership direction, curriculum integration, and resource allocation affect the implementation of ESD. It examines the extent to which school administrators and teachers translate sustainability mandates into actionable classroom and institutional practices, identifies operational challenges, and explores how these factors shape the overall capacity of schools to function as sustainability-driven learning ecosystems. And ESD provides students with knowledge and skills to balance ecological, social, and economic considerations in daily life. Transforming school operations into sustainability-driven ecosystems requires integrating leadership, pedagogy, infrastructure, and community participation.

Recent studies indicate that successful ESD implementation depends on systematic management and active leadership engagement (Holst, Grund, & Brock, 2024; Zguir, Dubis, & Koç, 2022). In Philippine elementary

schools, significant gaps exist between policy mandates and classroom implementation due to limited professional training, resource constraints, and administrative workloads (Al-Thani et al., 2021; Anwar et al., 2025). At the grassroots level, teachers experience operational bottlenecks in which Learning Action Cell sessions prioritize compliance over practical instructional support. These structural deficits hinder the translation of ESD directives into actionable classroom and community initiatives. Addressing these gaps requires frameworks that empower school administrators to convert top-down policies into localized actions while strengthening teacher capacity and community engagement.

Theoretical Framework

The study integrates four theoretical perspectives to conceptualize ESD implementation: the Whole-School Approach (WSA), Transformational Leadership Theory, Systems Theory of Management, and Stakeholder Theory. The WSA emphasizes holistic embedding of sustainability across school systems, integrating leadership, curriculum, pedagogy, infrastructure, and stakeholder participation (UNESCO, 2017; 2024). Transformational leadership enables school heads to articulate sustainability visions, mobilize teaching staff, and foster an institutional culture supporting green initiatives (Bakker et al., 2023; Musleh, 2021). Systems Theory frames schools as interdependent subsystems, where resource allocation, teacher training, policy enforcement, and monitoring mechanisms must function synergistically. Weakness in any subsystem compromises overall ESD implementation (Harney, 2024; Muema & Mungai, 2025). Stakeholder Theory highlights the necessity of collaborative engagement with teachers, learners, parents, and community partners to enhance accountability, inclusion, and policy relevance (Freeman, 2021; Nantale, 2024).

Together, these theories provide a robust conceptual lens for evaluating the strategic management practices for implementing the Education for Sustainable Development in the Department of Education, Division of Surigao del Sur, Bayabas District, Bayabas, Surigao del Sur.

METHODS

This study employed a descriptive research design to examine the strategic school management practices in implementing Education for Sustainable Development (ESD) in public elementary schools within the Bayabas District, Surigao del Sur, during the 2025–2026 academic year. The target population included all school heads and teachers actively involved in planning, implementing, monitoring, and evaluating sustainable and green education initiatives. Complete enumeration was used, encompassing 8 school heads and 56 teachers to ensure comprehensive representation. Inclusion criteria required participants to have at least one year of service in their current school and direct involvement in ESD-related activities, with voluntary informed consent. Data were collected using a validated researcher-made survey questionnaire, which underwent pilot testing to assess reliability and internal consistency, yielding Cronbach's alpha coefficients within the acceptable to excellent range. Minor revisions were incorporated to improve clarity and ensure accurate measurement of the intended constructs. The questionnaires were personally distributed, with guidance provided to respondents and sufficient time allowed for completion. Retrieved responses were checked for completeness, coded, tabulated, and prepared for statistical analysis. The quantitative data collection aimed to capture the extent of school management practices across leadership, curriculum integration, teacher training, resource allocation, stakeholder participation, and policy enforcement, providing a robust basis for evaluating ESD implementation in the district.

RESULTS AND DISCUSSIONS

Extent of School Management Practices in the Implementation of Education for Sustainable Development

Table 1 presents the extent to which school heads and teachers implement school management practices that support Education for Sustainable Development across six dimensions: Leadership and Administrative Support and Vision; Curriculum Integration and Pedagogical Practices; Teacher Training and Professional Development Related to Sustainability; Resource Allocation; Stakeholder Engagement and Participation; and Policy Enforcement and Compliance Monitoring.

Table 1. Extent of School Management Practices in the Implementation of Education for Sustainable Development Employed by School Leaders and Teachers

Indicators	Teacher Mean	Adjectival Rating	School Head Mean	Adjectival Rating	Grand Mean	Overall Rating
Leadership / Administrative Support & Vision	3.550	High Extent	3.700	High Extent	3.625	High Extent
Curriculum Integration and Pedagogical Practices	3.539	High Extent	3.625	High Extent	3.582	High Extent
Teacher Training / Professional Development Related to Sustainability	3.229	Moderate Extent	3.375	Moderate Extent	3.302	Moderate Extent
Resource Allocation	3.254	Moderate Extent	3.250	Moderate Extent	3.252	Moderate Extent
Stakeholder Engagement and Participation	3.429	High Extent	3.406	High Extent	3.418	High Extent
Policy Enforcement / Compliance Monitoring	3.061	Moderate Extent	3.906	High Extent	3.484	Moderate Extent
Overall Mean	**3.344**	**Moderate Extent**	**3.544**	**High Extent**	**3.444**	**Moderate Extent**

The data in Table 1 indicate that school management practices are generally moderate, with a grand mean across all six dimensions of 3.444. Three dimensions reached a high extent: Leadership and Administrative Support and Vision (GM = 3.625), Curriculum Integration and Pedagogical Practices (GM = 3.582), and Stakeholder Engagement and Participation (GM = 3.418). The remaining three dimensions registered a moderate extent: Teacher Training and Professional Development (GM = 3.302), Resource Allocation (GM = 3.252), and Policy Enforcement and Compliance Monitoring (GM = 3.484). The disparity between school heads and teachers is most pronounced in Policy Enforcement, where school heads reported a high extent (M = 3.906) while teachers reported a moderate extent (M = 3.061). This spread suggests that managerial confidence in policy implementation does not always translate into consistent classroom-level practice. Closer interpretation of each dimension reveals distinct patterns in how management support operates across the instructional and institutional domains.

Leadership and Administrative Support and Vision

Leadership and Administrative Support and Vision registered the highest grand mean among all six dimensions at 3.625, with both teachers (M = 3.550) and school heads (M = 3.700) rating this domain at a high extent. This finding indicates that school administrators communicate a sustainability vision, align school programs with DepEd's ESD mandates, and actively mobilize teaching staff toward environmental initiatives. Strategic approaches in educational management confirm that a clear administrative vision is foundational to fostering an environmental stewardship culture within basic education institutions (Atthakorn et al., 2024). When school heads demonstrate strong managerial capacity in planning and policy direction, environmental values are more effectively internalized across the school community (Maarif et al., 2024; Eliyanti et al., 2022). As cited by Scott (2021) emphasized that when administrators model environmentally responsible behavior and articulate a shared sustainability vision, teachers and students are more likely to engage in ESD-related practices. Holst, Grund, and Brock (2024) similarly found that schools adopting a Whole-Institution Approach demonstrated greater teacher motivation and stronger alignment between policy intent and classroom practice.

However, in the existing scenario, sustainability leadership is responsive to scheduled campaigns but less consistent between these occasions. This pattern reflects the concept of responsibilization, where administrators formally claim responsibility for sustainability without ensuring that policy commitments are translated into sustained operational routines (Macheridis & Paulsson, 2021). Effective school management must therefore

position leadership not as an episodic driver of activity but as a continuous shaper of institutional culture, with mechanisms that sustain green practices between mandated programming periods.

Curriculum Integration and Pedagogical Practices

Curriculum Integration and Pedagogical Practices obtained a grand mean of 3.582, rated at a high extent by teachers (M = 3.539) and school heads (M = 3.625). This result indicates that sustainability concepts are regularly embedded in lesson content and that teaching strategies engage learners in environmentally related problem-solving. The high rating for curriculum integration corresponds with research demonstrating that innovative management strategies grounded in the whole-school approach lead to significant improvements in instructional quality (Wang, 2024). Santos and Delos Reyes (2020) further documented that schools with integrated curricula for climate change education reported higher student participation in energy conservation and waste management projects.

Teachers acknowledged that sustainability-linked lessons are largely tied to specific school events or DepEd thematic months rather than distributed systematically across the academic year. Thoriq and Nur Mahmudahi (2023) identify this pattern as treating sustainability as an add-on rather than a core organizing framework, which constrains its influence on learners' values and reasoning capacities. Filho et al. (2021) found that genuine ESD integration in science and social studies enhances students' capacity for problem-solving in sustainability contexts, but this outcome requires structural redesign of the curriculum rather than the supplementation of existing lesson plans. The challenge for schools in the district is moving from activity-driven integration toward a coherent, year-round pedagogical architecture that anchors sustainability across disciplines.

Stakeholder Engagement and Participation

Stakeholder Engagement and Participation recorded a grand mean of 3.418, rated at a high extent by both teachers (M = 3.429) and school heads (M = 3.406). The strong agreement between both groups is notable, as it signals shared recognition that schools actively involve students, parents, local government units, and community partners in sustainability programs. Programs such as Gulayan sa Paaralan, Youth for Environment in Schools Organization activities, and Brigada Eskwela eco-initiatives provide visible platforms for multi-stakeholder participation. Recent literature confirms that successful green school management depends on creating a shared vision between the school and the surrounding community to ensure program longevity (Atthakorn et al., 2024; Eliyanti et al., 2022).

The respondents described community-linked projects as the most active expression of sustainability in their schools, consistent with research identifying experiential learning and stakeholder participation as the most effective strategies for institutionalizing environmental practices (Al-Thani et al., 2021; Bishop et al., 2022). Leal Filho et al. (2025) analyzed twenty-nine case studies across multiple continents and identified inclusive, human-centered approaches that foster community empowerment as central to durable sustainability transitions in educational institutions. Respondents noted that community engagement remains informal and event-driven. Partnerships with local government units and environmental agencies tend to be activated during specific campaigns rather than through structured, year-round collaboration agreements. Mogaji and Newton (2024) caution that limiting stakeholder involvement to internal actors and periodic events reduces the depth and longevity of sustainability impact. Zamora (2023) further found that schools with structured stakeholder engagement frameworks demonstrated higher levels of program sustainability and student participation in green practices. To strengthen this already-high dimension, schools must establish formal mechanisms that institutionalize external participation beyond mandated occasions.

Teacher Training and Professional Development Related to Sustainability

Teacher Training and Professional Development Related to Sustainability produced a grand mean of 3.302, rated at a moderate extent by both teachers (M = 3.229) and school heads (M = 3.375). The convergence between both groups signals a shared acknowledgment that formal sustainability training remains insufficient

relative to program demands. This finding corresponds directly with the respondent profile data: 45% of teachers reported no ESD-related training whatsoever, and the majority who participated engaged primarily in orientation activities rather than structured pedagogical programs.

Research consistently identifies insufficient teacher training as one of the primary barriers to effective ESD implementation (Kamaruldzaman, Osman & Mahmud, 2025). While educators may possess general awareness of sustainability concerns, only a small proportion successfully incorporate these concepts into daily instruction without specialized, ongoing professional development (Al-Thani et al., 2021; Anwar et al., 2025). However, respondents described Learning Action Cell sessions as focused on administrative compliance rather than practical ESD pedagogy. Teachers expressed uncertainty about how to convert national sustainability directives into subject-specific, lesson-ready instructional strategies.

Teng, Wu, and Chang (2020) demonstrated that teachers who participate in structured professional development programs are substantially more likely to integrate sustainability into classroom activities, foster student engagement, and initiate school-wide environmental projects. Their findings underscore that professional development is most effective when it combines theoretical knowledge with hands-on pedagogical strategies for classroom application. Zen et al. (2022) add that many teachers lack training in systems thinking and sustainability leadership competencies, which limits their ability to design interdisciplinary lessons that connect environmental, social, and economic dimensions of sustainability. The moderate rating for this dimension signals a structural gap between policy ambition and teacher readiness that requires targeted, continuous, and practically oriented professional development rather than periodic orientation sessions.

Resource Allocation

Resource Allocation registered the lowest grand mean among all six dimensions at 3.252, rated at a moderate extent. The near-identical scores of teachers (M = 3.254) and school heads (M = 3.250) reflect a shared perception that material, financial, and human resources available for sustainability programs are insufficient relative to implementation demands. This level of agreement between both groups indicates that resource constraints are a structurally shared experience rather than a divergence in perspective.

This finding is consistent with the resource challenges documented extensively in Philippine ESD literature. Radan, Marpa, and Tiberio (2021) confirm that schools in rural areas face inadequate facilities, limited access to training programs, and insufficient teaching materials for sustainability instruction. Villon (2021) adds that the absence of centralized resource allocation guidelines leads to inconsistent ESD support across schools, with some institutions receiving substantially more material backing than others. The teachers described purchasing basic instructional supplies from personal funds to support localized green projects, while school heads described competing budgetary priorities that placed sustainability funding subordinate to routine operational expenses.

The finding challenges the assumption that policy commitment alone enables effective ESD implementation. Muller et al. (2020) highlight that infrastructure investments in green buildings, energy-efficient facilities, and school gardens, alongside budget autonomy and strategic resource management, are key enablers for embedding sustainability in schools. Without sufficient or strategically deployed resources, sustainability initiatives remain peripheral and time-bound rather than systemic. Recent evaluations of green school management confirm that even when leaders are personally committed, barriers such as inadequate facilities, time constraints, and lack of specialized materials frequently hinder implementation progress (Eliyanti et al., 2022; KOSECE et al., 2024). Addressing this dimension requires deliberate, equity-oriented resource planning that elevates sustainability funding as a non-negotiable budget line across all schools in the district.

Policy Enforcement and Compliance Monitoring

Policy Enforcement and Compliance Monitoring produced the widest inter-group disparity in the study. School heads rated this dimension at a high extent (M = 3.906), while teachers rated it at a moderate extent (M = 3.061), yielding a combined grand mean of 3.484 at a moderate overall rating. This gap is substantively

significant: it reveals that school administrators perceive sustainability directives as consistently enforced and monitored, while teachers experience an uneven application of these standards in daily instructional practice.

This divergence aligns precisely with the concept of responsibilization documented in organizational management literature. Macheridis and Paulsson (2021) describe a structural condition in which high-level policy rhetoric does not actualize in frontline practice, producing a gap between administrative claims of compliance and the daily realities experienced by teachers. School heads may treat documentation, program rollout reports, and formal compliance submissions as evidence of effective enforcement, while teachers encounter limited supervisory feedback on ESD integration, absent classroom-level monitoring systems, and competing administrative demands that reduce actual enforcement at the point of instruction.

The respondents noted that policy enforcement was most visible during inspection periods or data-collection events, while routine monitoring of sustainability integration in lessons was rare. Sezen-Gultekin and Argon (2022) identify institutional inertia and the absence of common professional ground among staff as persistent barriers that prevent sustainability from becoming an institutionalized operational priority rather than a compliance exercise. Stosich et al. (2021) further argue that coherence between external policy mandates and internal school goals is a defining attribute of effective organizations, requiring that the intentions of frontline workers align with the broader administrative vision. Achieving that coherence in the district demands monitoring systems that operate continuously at the classroom level, not only at peak compliance periods.

The overall grand mean of 3.444 at a moderate extent reflects a system in which sustainability is visibly present but unevenly institutionalized. The three high-extent dimensions, namely leadership, curriculum integration, and stakeholder engagement, form a structural foundation for ESD implementation. They indicate that schools provide direction, connect sustainability to instruction, and involve external actors with reasonable consistency. The three moderate-extent dimensions, namely teacher training, resource allocation, and policy enforcement, expose the operational gap between administrative intent and classroom-level reality. These domains require not merely procedural adjustments but fundamental capacity investments: structured professional development, deliberate sustainability budgeting, and enforceable monitoring systems that operate beyond compliance events.

The findings align with the broader argument that effective ESD requires the school to function as an interconnected system in which leadership, curriculum, professional development, resources, and monitoring operate synergistically rather than independently (Muema & Mungai, 2025; Bakker et al., 2023). When one subsystem, such as training or resource provision, remains constrained, the entire implementation process is compromised regardless of the strength of other dimensions.

CONCLUSION

The study demonstrates that school management practices significantly influence the implementation of Education for Sustainable Development (ESD) in public elementary schools within the Bayabas District, Surigao del Sur. Leadership, curriculum integration, and stakeholder engagement were executed to a high extent, providing a solid foundation for sustainability initiatives. Conversely, teacher training, resource allocation, and policy enforcement were moderately implemented, revealing operational gaps between administrative intent and classroom-level practice. Notably, disparities in policy enforcement highlight the need for continuous monitoring and alignment between management directives and teacher experiences. The findings underscore that ESD effectiveness depends on the synergistic operation of leadership, curriculum, professional development, resources, and stakeholder collaboration rather than isolated efforts.

To enhance institutionalization of ESD, schools should prioritize structured professional development programs, ensure equitable distribution of teaching and learning resources, and implement enforceable monitoring systems that extend beyond compliance periods. Establishing continuous leadership engagement and formalized stakeholder participation mechanisms will further strengthen sustainable education practices and promote consistent integration of ecological, social, and economic principles into daily school operations

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