



Strategic Planning Model for Excellent Elementary Schools Based on the Wetland Ecosystem in North Banjarmasin

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Abstract: This study aims to develop a strategic planning model for excellent elementary schools based on the wetland ecosystem in the North Banjarmasin District. A qualitative approach with a case study design was employed at two high-performing public elementary schools. Data were collected through in-depth interviews, participant observation, and document analysis, and subsequently analyzed using an interactive model. The findings indicate that the characteristics of the wetland ecosystem – such as seasonal flooding, peatland, and infrastructure limitations – significantly impact the effectiveness of school strategic planning. Implementation still faces obstacles regarding curricula and facilities that are not yet fully adaptive to the environment. However, high community participation serves as a primary supporting factor in school development. This research produced a strategic planning model consisting of five key components: wetland-based strategic environmental analysis, environment-adaptive vision and mission formulation, contextual curriculum development, adaptive facilities management, and the strengthening of school-community partnerships. This model demonstrates that integrating ecological aspects into strategic planning can enhance the relevance, effectiveness, and sustainability of school management. Theoretically, this study enriches the field of educational management through an ecosystem-based approach, while practically, it provides a reference for schools and policymakers in designing contextual and adaptive strategic plans in wetland regions.

Keywords: Community partnership; Contextual curriculum; Excellent elementary school; Strategic planning; Wetland

Introduction

Elementary education plays a fundamental role in shaping human resources that are excellent, adaptive, and competitive. In this context, elementary schools, as formal educational institutions, are required to manage educational processes systematically through directed and sustainable strategic planning. Strategic planning serves not only as a decision-making instrument but also as a framework for integrating vision, resources, and the dynamics of a school's internal and external environments (Bryson, 2018; Wanjala & Rarieya, 2014).

However, the implementation of strategic planning in regions with specific geographical characteristics, such as wetland ecosystems, still faces various obstacles. Empirical studies indicate that physical environmental

factors and infrastructure limitations significantly influence the effectiveness of school management, particularly in vulnerable areas like swamps and coastal regions (Liu, 2017). North Banjarmasin, a region dominated by wetlands, is characterized by periodic flooding, unstable soil conditions, and limited transportation access. These conditions impact facilities management, educational accessibility, and the effectiveness of the learning process (Khairunnisa & Salamah, 2019). The mismatch between generic strategic planning models and local ecological conditions often results in planning that is less implementable and unsustainable.

On the other hand, the demand to establish innovative, adaptive, and competitive "excellent" elementary schools continues to rise in line with national

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educational quality improvement policies. Research shows that the success of high-performing schools is strongly influenced by transformational leadership, stakeholder collaboration, and data-based resource management (Hallinger, 2011; Leithwood et al., 2020). Furthermore, context-based approaches have proven effective in increasing learning relevance and the sustainability of educational programs (Hargreaves & Shirley, 2012).

An ecosystem-based approach is relevant because it allows for the integration of environmental, social, and managerial aspects into school planning. Sustainable development principles emphasize the importance of harmonization between human needs and environmental preservation (Tilbury, 2011). In an educational context, this integration can be realized through strengthening environmental literacy, resource efficiency, and adaptation to environmental changes (Orr, 2004; Sterling, 2014). Other studies also confirm that environment-based education contributes to the character building and ecological awareness of students (Ardoin et al., 2020).

Theoretically, strategic educational planning encompasses stages of environmental analysis, vision and mission formulation, setting strategic goals, and program implementation and evaluation (Allison & Kaye, 2015). Modern planning models emphasize stakeholder participation, policy flexibility, and the use of data as a basis for decision-making (Ward et al., 2015). Nevertheless, most existing models remain generic and have not explicitly integrated ecological factors, particularly in the context of wetland areas.

In the Indonesian context, environment-based school initiatives have been developed through the Adiwiyata program. Several studies show that this program can increase students' environmental awareness, but its implementation remains partial and is not yet systematically integrated into school strategic planning (KLHK, 2020). Furthermore, studies specifically integrating wetland ecosystems into school strategic management models remain very limited, especially at the elementary education level.

Based on the aforementioned description, there is a gap between the concept of strategic educational planning and the specific needs of wetland regions. Most existing models do not explicitly accommodate ecological factors, making them less relevant for application in areas with extreme environmental characteristics (Adawiah, 2019). Therefore, this research focuses on developing a strategic planning model for excellent elementary schools based on a wetland ecosystem that is adaptive, contextual, and sustainable (LPPM ULM, 2023; Wetlands International Indonesia, 2020).

This study aims to: (1) analyze the existing conditions of strategic planning in elementary schools in North Banjarmasin; (2) identify factors influencing planning effectiveness within the wetland context; and (3) formulate a strategic planning model based on the wetland ecosystem. This study employs a qualitative approach through the exploration of best practices and the integration of strategic management and ecological principles.

The contribution of this research is expected not only to enrich theoretical studies in the field of educational management but also to provide practical implications for school administrators and policymakers in designing strategic plans that are more contextual, adaptive, and sustainable, particularly in wetland ecosystem regions.

Method

Research Approach and Type

This study employs a qualitative approach with a case study design to gain an in-depth understanding of the strategic planning model for excellent elementary schools based on the wetland ecosystem. A qualitative approach was selected for its ability to examine phenomena contextually, holistically, and naturalistically (Creswell, 2016). The case study method is utilized to explore strategic planning practices within a real-life context and to address "how" and "why" questions (Yin, 2018).

Research Site and Subjects

The research was conducted at two high-performing public elementary schools in the North Banjarmasin District, Banjarmasin City, namely SDN Sungai Jingah 5 and SDN Sungai Miai 11. The research subjects included school principals, teachers, and school committees. Subject selection was performed through purposive sampling based on their relevance to the research focus (Patton, 2015).

Research Focus and Scope

This study focuses on: (1) school strategic planning, (2) adaptation to the wetland ecosystem, (3) community involvement, and (4) management of educational resources. This focus aims to achieve a comprehensive understanding of the interconnectedness between managerial aspects and ecological conditions (Miles et al., 2014).

Data Collection Techniques and Instruments

Data were collected using three primary techniques: (1) In-depth interviews, to elicit detailed information regarding school strategic planning (Kvale & Brinkmann, 2009); (2) Participant observation, to

directly observe planning activities and the school's environmental conditions (Spradley, 2016); (3) Document analysis, by examining official documents such as the School Work Plan (RKS) and the School Activity and Budget Plan (RKAS) (Bowen, 2009).

The research instruments included interview guides, observation sheets, voice recorders, and documentation cameras. Data validity was ensured through technical triangulation (Sugiyono, 2019).

Data Analysis

Data analysis followed the interactive model by Miles et al. (2014), which consists of three stages: (1) data reduction, (2) data display, and (3) conclusion drawing and verification. The analysis was conducted simultaneously from the data collection phase through to the interpretation of results to produce credible and profound findings.

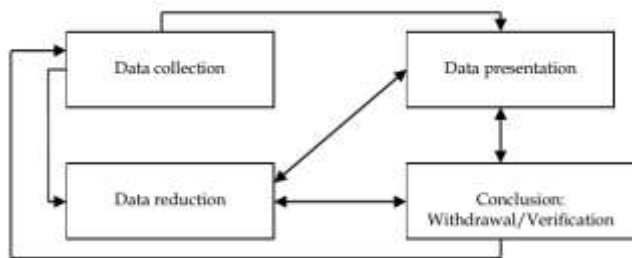


Figure 1. Interactive data analysis model

Data trustworthiness was ensured through: 1) Source triangulation, 2) Technical triangulation, 3) Member checking, and 4) Audit trails. According to Lincoln et al. (1985), trustworthiness in qualitative research encompasses credibility, transferability, dependability, and confirmability.

Result and Discussion

School Characteristics within the Wetland Ecosystem

Research findings indicate that public elementary schools in the North Banjarmasin District possess distinct characteristics of a wetland ecosystem, namely water-saturated soil conditions, potential for seasonal flooding, and accessibility influenced by aquatic systems. These conditions directly impact school strategic planning, particularly regarding infrastructure, curriculum development, and school environmental management. This finding aligns with research stating that physical environmental factors significantly influence school management and the continuity of the learning process in vulnerable regions (Fontana et al., 2020).

In greater depth, findings regarding the physical environment show that flooding conditions and peatland necessitate adaptation strategies in school

management. Wetland environments possess complex hydrological dynamics, thus requiring contextual and environment-based management approaches (Maltby & Acreman, 2011).

Table 1. Characteristics of Wetland-Based Schools

Aspect	Key Findings
Physical Environment	Seasonal flooding, peatland
Infrastructure	Partially non-adaptive to flooding
Curriculum	Not yet integrated with the local
Community	Relatively high, community-based

Regarding the infrastructure aspect, research results show that some school facilities have not been adaptively designed for flood risks. This condition potentially hinders the continuity of the learning process. Previous studies emphasize that educational infrastructure that is non-responsive to environmental conditions can decrease learning effectiveness and increase school vulnerability to external disruptions (Yusuf et al., 2022).

Meanwhile, in the curriculum aspect, it was found that the integration of the wetland ecosystem context remains limited. In fact, context-based learning is proven to enhance the relevance and students' understanding of their surrounding environment (Fitrianto & Farisi, 2025). A non-contextual curriculum potentially reduces the meaningfulness of learning and its connection to students' real lives.

On the other hand, community participation shows relatively high, community-based results. Community involvement serves as vital social capital in supporting school development. This is consistent with research stating that collaboration between schools and the community contributes significantly to improving educational quality and the sustainability of school programs (Pujiyati, 2020).

Overall, these findings indicate an imbalance between the demands for environmental adaptation and internal school readiness, particularly in infrastructure and curriculum. Nevertheless, the high level of community participation represents a strategic potential that can be utilized as a strength in developing environment-based schools.

Wetland Ecosystem-Based Strategic Planning Model

Based on the analysis results, this study produced a strategic planning model for excellent elementary schools based on the wetland ecosystem, consisting of five core components.

- Wetland-based strategic environmental analysis:
- (1) Environment-adaptive vision and mission formulation.
 - (2) Contextual curriculum development.
 - (3) Adaptive facilities and infrastructure management.
 - (4) Strengthening of school-community partnerships.

This model emphasizes the integration of strategic management principles with an ecological approach. In the environmental analysis stage, schools must identify internal and external factors influenced by wetland conditions. This aligns with the concept of environmental scanning in strategic planning, which serves as the foundation for organizational decision-making (Bryson, 2018).

The formulation of an environment-adaptive vision and mission is a crucial component to ensure that the school's development direction aligns with sustainability principles. Research indicates that a contextual vision based on environmental values can enhance organizational commitment to sustainable practices (Wals, 2015).

Contextual curriculum development is achieved by integrating the wetland ecosystem into learning materials. This approach has been proven to improve students' environmental literacy and critical thinking skills (Syamsudin et al., 2019). Furthermore, adaptive facilities and infrastructure management are directed toward developing infrastructure resistant to flood conditions and high humidity. This is essential to guarantee the continuity of the learning process in regions with high environmental risks (UNESCO, 2017).

Finally, strengthening school-community partnerships is a key factor in the successful implementation of the model. Community involvement not only supports resource aspects but also reinforces the sustainability of school programs through community-based approaches (Epstein, 2018).

Consequently, the model developed in this study demonstrates novelty through the explicit integration of strategic educational planning with wetland ecosystem characteristics. This model is not merely conceptual but also contextual and applicable to regions with similar environmental conditions.

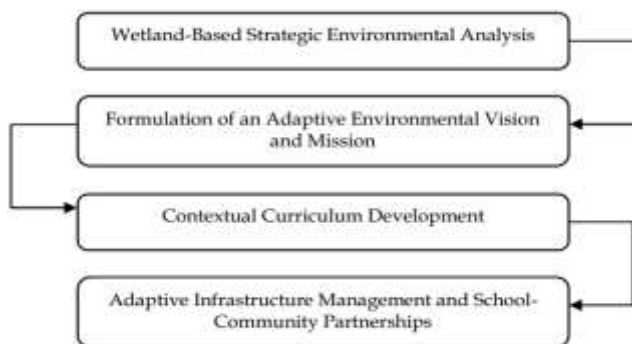


Figure 2. Strategic planning model for superior wetland-based elementary schools

Interpretation of the Wetland-Based Strategic Planning Model

The visual representation of the model generated in this study demonstrates that strategic planning for

excellent elementary schools based on a wetland ecosystem is an integrated framework emphasizing alignment between environmental conditions, school policy direction, and operational implementation. The five components of the model are mutually integrated, forming a planning system that is adaptive, contextual, and sustainability-oriented.

First, the wetland-based strategic environmental analysis asserts that the planning process must begin with a comprehensive understanding of environmental characteristics, such as hydrological dynamics, peatland conditions, and flood disaster potential. In the context of wetland regions, this analysis becomes increasingly crucial as the environment is inherently dynamic and high-risk (Maltby & Acreman, 2011).

Second, the formulation of an environment-adaptive vision and mission indicates that the school's development trajectory should be contextually designed with environmental sustainability in mind. A vision and mission responsive to ecological issues have been proven to enhance organizational commitment toward sustainable educational practices (Wals, 2015).

Third, contextual curriculum development indicates the importance of integrating the wetland ecosystem into the learning process. A local context-based curriculum enables students to understand environmental phenomena more tangibly and meaningfully. This is supported by research showing that contextual and environment-based learning can improve students' scientific literacy and ecological awareness (Syamsudin et al., 2019).

Fourth, adaptive facilities and infrastructure management emphasizes the need for infrastructure development that is responsive to environmental conditions, such as flood-resistant buildings and adequate drainage systems. Adaptive infrastructure contributes to the continuity of the learning process in disaster-prone areas (Yusuf et al., 2022).

Fifth, school-community partnerships serve as a strategic component in supporting planning implementation. Community-based collaboration not only strengthens resource support but also enhances the sustainability of educational programs through local wisdom. This aligns with community engagement theory, which emphasizes the importance of synergy between the school and its social environment (Pont et al., 2008).

Overall, this model demonstrates that school excellence is determined not only by academic achievement but also by the ability to adapt to the environment and the strength of social collaboration. Consequently, the developed model is holistic, adaptive, and contextual.

Implementation Level of the Model

Observation and interview results indicate that the implementation of the model falls within the moderate-to-good category, with varying levels of achievement across each component.

Table 2. Implementation Level of the Model

Component	Score (%)	Category
Environmental Analysis	75%	Good
Vision and Mission	70%	Good
Curriculum	65%	Fair
Facilities and Infrastructure	60%	Fair
Partnership	80%	Good

In general, these results show that most components have been well-implemented, although achievement is not yet uniform across all aspects. This condition reflects that the process of adopting innovations in strategic planning requires time and sustained systemic support (Fullan, 2016).

Regarding the environmental analysis component (75%), the "good" category indicates that schools have been able to identify internal and external conditions quite effectively. This is crucial because the quality of the initial analysis significantly determines the accuracy of the resulting strategies (Bryson, 2018).

The vision and mission component (70%) also falls into the "good" category, indicating that the school's development direction has been clearly formulated and is relatively relevant to the environmental context. However, the primary challenge lies in the internalization of these values into daily school practices (Wals, 2015).

In the curriculum aspect (65%), the "fair" category indicates that the integration of the wetland context has not yet reached an optimal level. This reinforces previous findings that contextual curriculum development still faces implementation obstacles, particularly regarding teacher readiness and the availability of learning resources (Syamsudin et al., 2019).

The facilities and infrastructure component (60%) also categorized as "fair," showing limitations in providing environment-adaptive facilities. Infrastructure constraints are a major factor affecting the quality of educational services in vulnerable regions (UNESCO, 2017).

Conversely, partnership (80%) emerged as the component with the highest achievement. This indicates that the relationship between schools and the community is well-established and serves as a primary strength in supporting school development. Previous research also confirms that strong partnerships can enhance the effectiveness and sustainability of school programs (Epstein, 2018).

Consequently, the model's primary strengths lie in the partnership and environmental analysis aspects, while the areas requiring improvement are the curriculum and infrastructure. Enhancing these two aspects will facilitate a more optimal and balanced implementation of the model.

Supporting and Inhibiting Factors

The study identified several factors influencing the implementation of the model, categorized into supporting and inhibiting factors. Supporting factors include: (1) High levels of local community support; (2) Local wisdom inherent in the wetland ecosystem; (3) Local government policies that support environment-based education.

These factors align with research stating that the success of educational innovation is significantly influenced by social support and contextual policies (Fullan, 2016). Inhibiting factors include: (1) Budgetary constraints; (2) Lack of teacher training and capacity; (3) Infrastructure that is not yet environment-adaptive.

These findings are consistent with studies showing that resource limitations and institutional capacity are major obstacles in implementing educational policies, particularly in regions with specific geographical conditions (Fontana et al., 2020).

Integration of the Wetland Ecosystem in Strategic Planning

Research findings indicate that strategic planning failing to consider ecological contexts tends to be less effective and unsustainable. This aligns with the view that strategic planning must be based on an analysis of internal and external environments as a foundation for organizational decision-making (Veselovsky et al., 2019). In the context of wetland education, integrating ecological aspects is crucial because environmental characteristics directly affect school operations.

Environment-based education emphasizes the importance of integrating local contexts into the learning process to increase relevance and meaningfulness. Empirical research also shows that education integrated with the local environment can enhance students' ecological awareness and critical thinking skills (Ardoin et al., 2020).

Contextual Curriculum as a Key to School Excellence

The results indicate that the development of a wetland ecosystem-based curriculum has not reached its optimal state. Yet, a contextual curriculum plays a strategic role in increasing student engagement and the relevance of learning to real life. Integrating topics such as swamp ecosystems, water resource management, and wetland agricultural practices can strengthen a school's local identity while improving students' environmental literacy (Syamsudin et al., 2019). Consequently, the

curriculum serves not only as an academic document but also as an instrument for contextual and adaptive learning transformation.

Adaptation of Facilities and Infrastructure to the Environment

Non-adaptive facilities and infrastructure remain a primary obstacle in strategic planning implementation. This finding is consistent with reports stating that educational infrastructure in environmentally prone areas must be designed based on risk mitigation and disaster resilience (Yusuf et al., 2022). Relevant adaptations in the wetland context include the construction of stilt buildings (rumah panggung style), effective drainage systems, and classroom designs resistant to waterlogging. Adaptive infrastructure not only supports the continuity of learning but also reflects the institution's response to environmental challenges (Maltby & Acreman, 2011).

The Role of School-Community Partnerships

The partnership between the school and the community emerged as the most dominant factor in this study. This aligns with community involvement theory, asserting that collaboration between schools, families, and the community contributes significantly to improving educational quality. In the wetland context, community participation involves not only supporting school programs but also transferring local wisdom regarding environmental management. This collaboration reinforces the sustainability of educational programs and increases school relevance to community needs (Hargreaves & Shirley, 2012).

Theoretical and Practical Implications

The model generated in this study reinforces the concept of strategic fit—the alignment between organizational strategy and environmental conditions (David, 2011). Furthermore, this model demonstrates a contextual-adaptive approach that is rarely integrated explicitly into school strategic planning.

Theoretically, this research contributes to: (1) The development of ecology-based educational management studies; (2) Strengthening the concepts of contextual and adaptive strategic planning. Practically, these findings can serve as: (1) A reference for schools in wetland regions when drafting strategic plans; (2) A basis for developing environment-based educational policies; (3) An effort to improve the quality of excellent elementary schools based on local potential.

Synthesis of Findings

Overall, the research results demonstrate that the success of a wetland ecosystem-based strategic planning model for excellent elementary schools is determined by

the school's ability to: (1) Integrate the environmental context into its strategies; (2) Adapt the curriculum and infrastructure contextually; (3) Build strong partnerships with the community.

Thus, the developed model is not only locally relevant but also holds the potential for replication in regions with similar environmental characteristics. These findings underscore the importance of contextual and ecosystem-based approaches in the development of sustainable educational management.

Conclusion

This study demonstrates that strategic planning for elementary schools in wetland regions requires a contextual and adaptive approach toward environmental characteristics. The wetland ecosystem conditions in North Banjarmasin District—such as seasonal flooding, peatland, and infrastructure limitations—significantly influence the effectiveness of school management, particularly regarding curriculum, facilities, and learning accessibility. The strategic planning model generated in this research consists of five key components: wetland-based strategic environmental analysis, environment-adaptive vision and mission formulation, contextual curriculum development, adaptive facilities and infrastructure management, and the strengthening of school-community partnerships. These five components form an integrated system that supports the development of sustainable, high-performing schools. Implementation results indicate that the aspects of partnership and environmental analysis fall within the "good" category, while the curriculum and infrastructure components still require reinforcement (Suhaimi & Amberansyah, 2023). The primary supporting factors include high community participation, local wisdom, and policy support; meanwhile, the inhibiting factors encompass budgetary constraints, teacher capacity, and non-adaptive infrastructure. Theoretically, this research enriches the field of educational management by integrating strategic planning concepts with a wetland-based ecological approach. Practically, the developed model serves as a reference for schools and policymakers in designing contextual, adaptive, and sustainable strategic plans. Furthermore, this model holds the potential for replication in other regions with similar environmental characteristics.

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Author Contributions

The authors in this research are divided into executor and advisor.

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Conflicts of Interest

The authors declare no conflict of interest in this research.

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