

Green Leadership of School Principals in Tatanén di Balé Atikan Model Schools in the Era of Disruption

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ABSTRACT	ARTICLE INFO
<p>Education in the era of disruption demands adaptive, innovative, and sustainability-oriented leadership. One approach aligned with these demands is green leadership, a leadership model that integrates ecological values and sustainability principles into educational management. Purwakarta Regency has developed the Tatanén di Balé Atikan (TdBA) model as a local wisdom based educational innovation emphasizing harmony between humans and the environment. This study aims to describe the implementation of school principals’ green leadership in TdBA model schools and examine its contribution to educational governance in the disruption era. Using a qualitative approach with a case study method, the research involved principals, teachers, and school stakeholders as informants. Data were collected through in-depth interviews, participatory observations, and document analysis, then analyzed thematically. The findings reveal that principals’ green leadership is manifested through ecological vision, green school policies, and community collaboration supporting TdBA activities. This leadership reinforces sustainable, participatory, and contextually responsive school governance. The study concludes that green leadership serves as an effective educational leadership strategy for maintaining relevance and competitiveness in the era of disruption.</p> <p>© 2025 UPI-UPSI</p>	<p>Article History: <i>Submitted/Received 19 Nov 2025</i> <i>First Revised 21 Dec 2025</i> <i>Accepted 4 Jan 2026</i> <i>First Available online 10 Jan 2026</i> <i>Publication Date 10 Jan 2026</i></p> <hr style="border: 0.5px solid black;"/> <p>Keyword: disruption era, educational governance, green leadership, sustainable school, Tatanén di Balé Atikan.</p>

1. INTRODUCTION

Education in the twenty-first century faces complex global challenges driven by the rapid advancement of digital technology, globalization, and escalating environmental crises that threaten ecological balance and human civilization. These circumstances call for a paradigm shift in educational leadership that not only emphasizes academic achievement but also nurtures ecological consciousness and a commitment to sustainable development (Schild, 2020; Sterling, 2001). In this context, green leadership has emerged as an adaptive and transformative leadership model that integrates environmental ethics into school governance and management. It highlights the responsibility of school leaders to promote sustainable practices, cultivate environmental literacy, and foster a culture of ecological awareness within the school community (Sachdeva, & Singh, 2024).

Globally, the world is facing a triple planetary crisis consisting of climate change, pollution, and biodiversity loss that has far-reaching consequences for the sustainability of human life (Baste, 2021). UNESCO (2023) emphasizes that education plays a crucial role in addressing these challenges through the Education for Sustainable Development (ESD) framework, which encourages schools to embed sustainability and environmental responsibility across curricula and practices. In this regard, green leadership in primary education becomes essential, as school principals act as key change agents in embedding sustainability values into the learning environment.

At the national level, Indonesia's educational policy direction underscores the importance of strengthening the Pancasila Student Profile, which embodies collaborative, critical, and ecologically conscious learners. Through initiatives such as Sekolah Penggerak, Adiwiyata, and local innovations like Tatanén di Balé Atikan (TdBA) in Purwakarta Regency, the government integrates character education, local wisdom, and ecological awareness into school practices (Kemendikbudristek, 2022). TdBA represents a localized educational innovation that blends ecological learning with cultural and spiritual wisdom under the philosophy of "learning from the Earth and living with the Earth." Its holistic orientation aligns closely with the principles of Education for Sustainable Development (UNESCO, 2021). Within this framework, school principals' green leadership plays a strategic role in ensuring the effective and sustainable implementation of TdBA's values.

In the era of disruption characterized by volatility, uncertainty, complexity, and ambiguity (VUCA), school principals must demonstrate adaptive, innovative, and visionary capacities (Fullan, 2022; Schwab, 2021). Beyond managing institutional performance, principals are required to navigate rapid transformations brought about by digitalization while maintaining humanistic and ecological integrity. Green leadership, therefore, provides an integrative framework that links organizational change, environmental sustainability, and pedagogical innovation (Nguyen & Nguyen, 2025). Through this approach, principals can cultivate environmental awareness within their school communities and mobilize collective participation in sustainability initiatives.

Locally, Purwakarta Regency has become known for its commitment to culturally rooted and ecologically oriented education. The Tatanén di Balé Atikan initiative serves as a tangible expression of this philosophy, positioning schools as ecological and social learning spaces. SDN Ciwangi in Bungursari District has been designated as a model TdBA school implementing nature-based learning, community collaboration, and environmental preservation. It provides an ideal context for exploring how green leadership principles are enacted in practice by school principals and teachers.

Nevertheless, empirical studies discussing green leadership within the context of primary schools in Indonesia remain relatively limited. Most previous research has focused on the industrial sector or higher education, while studies at the elementary school level with a local context such as Tatanén di Balé Atikan are still rarely conducted. Shodikin, et al., (2025), through The Scoping Review of Strengths and Weaknesses in Applying Green Leadership in Schools, assert that although green leadership practices in schools have been analyzed, their implementation still faces several challenges, particularly in terms of policy consistency and institutional support. Therefore, there exists a significant research gap that indicates the need for more in-depth exploration of how school principals implement green leadership principles in their daily practices within elementary schools that are rooted in ecological approaches and local cultural values.

Accordingly, this study aims to:

- (i) How is the green leadership of school principals implemented in the execution of the Tatanén di Balé Atikan program?
- (ii) What are the supporting and inhibiting factors affecting its implementation?
- (iii) To what extent does green leadership impact school culture and sustainable school governance?

2. METHODS

This study employed a qualitative approach using a case study method to explore how the school principal practices green leadership within the context of the Tatanén di Balé Atikan Model School in Purwakarta Regency, Indonesia. A qualitative approach was chosen because it allows for an in-depth understanding of complex social phenomena by emphasizing participants' subjective experiences and the meanings they construct within their natural settings (Creswell & Poth, 2018). The case study method was deemed most appropriate because it provides a holistic understanding of leadership practices within a bounded system, namely a school that embodies ecological, cultural, and sustainability-based education (Yin, 2018).

The research site was SDN Ciwangi, located in Bungursari District, Purwakarta Regency, selected purposively because it serves as a TdBA model school that consistently implements environmental and local wisdom-based learning. The principal, teachers, and school staff demonstrate a strong commitment to sustainable school management and environmental stewardship. This setting was chosen to capture how green leadership is concretely manifested through school policies, actions, and collective participation among school stakeholders.

Participants in this study consisted of one principal, twenty-seven teachers, and one school caretaker. To represent each grade level, one teacher from Grades I to VI was selected as a key informant. Purposive sampling was applied, taking into account the participants' active involvement in the TdBA program and their experience in school management and classroom instruction. This strategy enabled the collection of rich and diverse data that reflect various dimensions of green leadership practices at the school level (Patton, 2015).

Data were collected using three complementary techniques: in-depth interviews, participatory observation, and document analysis. Semi-structured interviews were conducted to explore participants' perceptions and experiences regarding the implementation of green leadership. The interview design also allowed for deeper exploration of values, motivations, and challenges faced by the principal and teachers in

their daily practices. Participatory observation was conducted during regular school activities, focusing on how ecological values were integrated into routines, decision-making, and classroom instruction. Additionally, document analysis was performed on school policies, environmental program reports, and TdBA implementation documents to triangulate findings and enhance data credibility.

Data analysis followed thematic analysis procedures as outlined by Braun and Clarke (2019). The analytical process involved data familiarization, coding, theme development, theme review, and interpretation. Emerging themes were refined iteratively to align with the research focus and theoretical framework. To ensure data trustworthiness, source and method triangulation were applied, and member checking was carried out to validate interpretations with participants. Reflective notes were also maintained to ensure transparency regarding the researcher's positionality and interpretive process.

Ethical considerations were observed throughout the study. All participants were informed about the purpose and procedures of the research and gave their consent prior to participation. Participant identities were kept confidential using anonymized codes. The study adhered to key educational research ethics principles such as respect, integrity, and non-maleficence, in accordance with the *American Educational Research Association (AERA, 2019)* guidelines.

Through this methodological design, the study aimed to capture green leadership as a practice rooted in local culture and responsive to ecological challenges. The combination of rich qualitative data and rigorous analytical procedures provides a comprehensive understanding of how school principals operationalize sustainability principles in the era of disruption while maintaining alignment with the Tatanén di Balé Atikan educational philosophy.

3. RESULTS AND DISCUSSION

The findings indicate that the principal of the Tatanén di Balé Atikan model school has systematically and consistently applied the principles of green leadership in school governance. This leadership approach is evident in the articulation of an ecological vision, the formulation of environmentally oriented policies, and the establishment of community collaborations that strengthen sustainable educational practices. The principal serves as the primary driver in fostering ecological awareness, inspiring teachers and students, and expanding partnerships with local communities to support environmental education and sustainability initiatives. The key themes emerging from interviews and observations are summarized in the following table.

Table 1. Key Themes and Findings on the Implementation of Green Leadership.

Main Theme	Description of Findings	Interview Excerpts	Interpretation and Implications
Ecological Vision of the Principal	The principal articulates a long-term vision to develop a green and sustainable school aligned with the TdBA philosophy.	"We want the school to be a place where children learn to live in harmony with nature." (Principal, 2025)	This vision sets the strategic direction of the school and reflects a transformational leadership character that is responsive to ecological contexts

Main Theme	Description of Findings	Interview Excerpts	Interpretation and Implications
Integration of TdBA Values into Curriculum and School Activities	TdBA values are implemented through project-based learning, gardening, waste management, and ecological dimensions within the Merdeka Curriculum.	“Each class has a small garden managed by teachers and students.” (Grade I Teacher, 2025)	(Northouse, 2021). This illustrates the concept of curriculum greening where sustainability values are integrated into contextual learning practices (UNESCO, 2022).
Role Modeling and Facilitative Leadership	The principal actively participates in environmental activities and provides direct examples for the school community.	“The principal participated in planting and helped us organize the permaculture garden.” (Grade 3 Teacher, 2025)	Transformational leaders with idealized influence who exemplify high moral and ethical values can strengthen the moral commitment and collective participation of followers. (Bass and Riggio, 2006).
Collaboration with Community and Stakeholders	The school collaborates with local farmers, the Environmental Agency, and community organizations to enhance TdBA practices.	“We collaborated with the TdBA working group for training on making organic fertilizer.” (Grade 4 Teacher, 2025)	Distributed leadership builds the school’s collective capacity for sustainable innovation and adaptation. (Nadeem, 2024).
Formation of a Green School Culture	The principal promotes school-wide norms emphasizing cleanliness, environmental responsibility, and student involvement.	“Every Wednesday, the students are required to participate in planting or waste-sorting activities.” (Grade 6 Teacher, 2025)	The development of a green school culture establishes collective identity and ecological values embedded in daily school behavior (Hoy and Miskel, 2013).

Table 1 above shows that the green leadership practices of principals in TdBA model schools are transformational and participatory. This leadership not only focuses on administrative management but also promotes a paradigm shift toward collective ecological awareness. Principals act as visionary leaders, integrating sustainability values with local culture and educational innovation.

These findings support the theory of transformational green leadership proposed by Chen and Chang (2013), emphasizing leaders’ capacity to inspire behavioral change

through ecological vision and community empowerment. Within the TdBA framework, green leadership emerges as a synergy between Purwakarta's local wisdom and the global principles of Education for Sustainable Development (UNESCO, 2022).

Furthermore, the principal's active engagement in community collaboration reinforces the concept of shared and distributed leadership, which views leadership as a collective process. This aligns with Li et al. (2020), who argue that collaboration across stakeholders enhances institutional capacity for sustainable innovation.

The establishment of a green school culture grounded in the TdBA philosophy demonstrates that leadership rooted in local wisdom can serve as an effective contextual model in the era of disruption. The principal successfully bridges traditional values such as mutual cooperation and harmony with nature with contemporary imperatives such as ecological literacy and digital adaptation (Fullan, 2022).

In conclusion, the implementation of green leadership in the TdBA model school strengthens the ecological dimension of education and broadens the scope of educational leadership. It transforms the role of the principal from an administrative manager into a transformative agent who drives sustainable social and ecological change.

The implementation of green leadership in the Tatanén di Balé Atikan model school is influenced by a range of internal and external factors that determine the depth and continuity of sustainability-oriented practices. These factors shape how principals, teachers, and the wider school community translate ecological values into everyday management and pedagogical activities. The findings are summarized in Table 2:

Table 2. Supporting and Inhibiting Factors of Green Leadership Implementation.

Category	Key Factors	Description and Field Evidence	Implications for School Governance
Supporting Factors	Principal's Commitment and Vision	The principal demonstrates a strong ecological vision and consistent commitment that guide all green initiatives.	Vision-driven leadership plays a central role in creating shared purpose and motivating collective ecological engagement (Northouse, 2021).
	Teacher Collaboration and Engagement	Teachers actively integrate TdBA practices into lessons and act as facilitators of student-centered environmental learning.	Teacher collaboration strengthens the institutional capacity to sustain green innovations and embed sustainability into the curriculum (Kyndt et al., 2019).
	Community and Stakeholder Involvement	Parents, the TdBA working group, and government agencies also provide support	Community participation enhances the authenticity and

Category	Key Factors	Description and Field Evidence	Implications for School Governance
		through material contributions, mentoring, and joint projects.	social relevance of green school programs (Fullan, 2022).
	Institutional and Policy Alignment	The Purwakarta District Education Office provides support for the TdBA program and encourages other schools to adopt green education practices.	Policy alignment between local and national initiatives enables systemic sustainability implementation (UNESCO, 2022).
Inhibiting Factors	Limited Financial Resources	Restricted funding hampers the development of green infrastructure such as composting sites and organic gardens.	Financial limitations constrain innovation and affect program sustainability (Li et al., 2021).
	Teacher Workload and Time Pressure	Administrative duties and academic targets limit teachers' ability to engage in ecological projects.	Excessive workload reduces teacher reflection and consistency in program execution (Hoy and Miskel, 2013).
	Uneven Ecological Literacy	Differences in teachers' understanding of sustainability concepts result in inconsistent program quality.	Continuous professional learning is needed to ensure a shared understanding of environmental education (Chen and Chang, 2013).
	Environmental and Social Constraints	External factors such as waste management challenges and climate variability affect program implementation.	Adaptive leadership and collaborative problem-solving are required to respond to contextual constraints (Fullan, 2022).

Table 2 above indicates that the success of green leadership implementation highly depends on the principal's ability to articulate and exemplify ecological values. The principal's vision serves as a strategic direction connecting policies, programs, and

community partnerships with sustainability objectives. These findings align with Chen and Chang (2013), who emphasized that transformational green leaders motivate organizational members through moral awareness and shared ecological goals.

Teacher collaboration and active community participation play a crucial role in strengthening the institutionalization of green leadership within schools. Shodikin et al. (2025) emphasize that although green leadership practices have been widely studied, their implementation still faces various challenges, particularly in terms of policy consistency, institutional support, and sustained stakeholder engagement. In the context of Tatanén di Balé Atikan, the synergy between schools and local communities serves as a bridge connecting formal education with local ecological practices, enabling the school to function as a living laboratory for fostering environmental awareness and social self-reliance.

Despite these strengths, several inhibiting factors constrain the broader implementation of green leadership. Financial constraints and high teacher workloads remain major barriers, limiting the scope of environmental projects and the capacity for continuous innovation. These findings align with UNESCO (2022), which notes that resource limitations and institutional overload are common challenges in developing educational systems striving for sustainability transformation.

Variations in teachers' ecological literacy also pose challenges for program consistency and impact. Professional development focusing on environmental pedagogy is therefore essential to deepen teachers' understanding and commitment to sustainability education. Furthermore, environmental and social challenges, such as waste management and local climate variability, require adaptive and context-sensitive leadership approaches that emphasize collaboration and resilience (Fullan, 2022).

Overall, the implementation of green leadership in TdBA schools operates within a dynamic balance between enabling and constraining conditions. When visionary leadership is reinforced by collaborative teacher engagement, strong community ties, and supportive policy frameworks, schools can cultivate a sustainable governance model that enhances both ecological awareness and institutional resilience in the face of rapid societal change.

Table 3 shows that the implementation of green leadership in the Tatanén Model Schools at Balé Atikan has had a broad impact on shaping school culture and sustainable educational governance. Principals with an ecological leadership orientation not only guide the individual behaviors of school members but also establish value systems, norms, and institutional practices that prioritize environmental sustainability. The findings indicate that green leadership practices in TdBA model schools have driven a paradigm shift from a purely academic focus toward a school culture that is environmentally conscious, collaborative, and adaptive to social change.

Table 3. Implications of Green Leadership for Sustainable School Culture and Governance

Aspect	Main Implications	Field Findings Description	Theoretical Relevance
School Culture	Strengthening Ecological Values and Ethos	Schools cultivate environmental awareness through waste management, organic gardening, and water conservation	Green leadership reinforces the internalization of ecological values in organizational norms and behavior, encouraging

Aspect	Main Implications	Field Findings Description	Theoretical Relevance
		activities.	members to develop strong green self-identities and environmentally responsible practices (Imaningsih et al., 2023).
	Participation and Collaboration	Teachers, students, and the community actively participate in TdBA and green school programs.	Collaborative culture enhances ownership and collective responsibility for sustainability (Fullan, 2022).
	Contextual and Reflective Learning	Learning activities are integrated with local ecological practices such as organic farming and school waste management.	Ecology-based learning strengthens environmental literacy and reflective awareness (Sterling, 2021).
School Governance	Integration of Sustainability Principles into School Policies	Schools embed environmental values into their vision, strategic plans, and decision-making processes.	Sustainable governance reflects value-driven strategic leadership (Nguyen & Nguyen, 2020).
	Innovation and Organizational Resilience	Schools develop innovative programs such as waste banks and edible gardens.	Green leadership enhances organizational resilience through social and environmental innovation (Duarte et al., 2022).
	External Partnership and Social Collaboration	Schools collaborate with environmental institutions, universities, and local communities in TdBA implementation.	Cross-sector collaboration strengthens social legitimacy and long-term sustainability impact (Ramli et al., 2021).

The new school culture is not only oriented toward academic achievement but also emphasizes the importance of care for nature and social responsibility. This aligns with the findings of Al-Ghazali (2022), who asserts that green leadership directs

organizational behavior toward ethical and sustainable practices by reinforcing ecological values and fostering green creativity in the workplace.

Green leadership has also fostered a participatory culture in which teachers, students, and communities are actively involved in environmental initiatives. This collaboration creates social synergy and a sense of ownership over the TdBA programs. Such findings correspond with Fullan (2022), who emphasizes that successful cultural transformation depends on the active engagement of all stakeholders in the change process.

From a governance perspective, green leadership encourages schools to construct management systems grounded in sustainability principles. Principals ensure that every policy and operational activity considers ecological and social impacts. This demonstrates the application of value-based strategic educational governance, consistent with Nguyen and Nguyen (2020).

Furthermore, innovations emerging from TdBA activities, such as school gardens and recycling systems, illustrate the schools' ability to adapt to environmental change while integrating local wisdom. This supports Duarte et al. (2022), who found that organizations led by green leaders exhibit high levels of social and ecological innovation.

External partnerships with environmental agencies, universities, and local communities further strengthen the sustainability framework of TdBA schools. These collaborations not only increase social legitimacy but also extend the ecological and educational impact beyond the school environment. As noted by Ramli et al. (2021), cross-sector collaboration enhances institutional capacity for achieving long-term sustainability goals.

In summary, the practice of green leadership in TdBA model schools reinforces ecological and participatory culture while establishing resilient, innovative, and sustainable educational governance. Green leadership emerges as an effective strategic approach to developing schools as adaptive learning communities that remain relevant in the era of disruption and committed to environmental stewardship.

4. CONCLUSION

The study's findings indicate that green leadership functions as a transformational force in shaping schools into ecological learning communities. Principals with a green leadership orientation are capable of integrating environmental ethics, cultural values, and educational innovation into daily school practices.

Based on the above findings, it can be concluded that green leadership provides strategic direction for schools to remain relevant and competitive amid disruption, while simultaneously fostering ecological awareness and sustainable governance. Through the integration of local wisdom, environmental leadership, and educational innovation, the Tatanén di Balé Atikan model in Purwakarta Regency demonstrates that schools can develop into learning ecosystems that are character-driven, resilient, and responsible for the sustainability of the Earth.

In the era of disruption, it is recommended that:

- (i) The implementation of green leadership manifests through three main dimensions: ecological vision, participatory governance, and contextual learning. Principals with a green orientation design school programs that integrate sustainability values into the curriculum and management systems. They serve as role models, demonstrating environmentally friendly behaviors and inspiring teachers, students, and the community to adopt sustainable practices in daily life.

- (ii) Factors supporting the implementation of green leadership include strong institutional commitment, community participation, and alignment with local cultural values as reflected in the TdBA philosophy. The synergy between schools and communities strengthens the sustainability of green school programs. Conversely, hindering factors identified include limited resources, inconsistent stakeholder engagement, and weak policy support at the regional level.
- (iii) The implications of green leadership extend beyond raising environmental awareness; it also fosters a school culture characterized by collaboration, adaptability, and environmental responsibility. From a governance perspective, green leadership enhances accountability, transparency, and the institutionalization of sustainability values in decision-making processes. Thus, green leadership functions both as a moral compass and a managerial framework for achieving sustainable school development.

Theoretically, this study contributes to the advancement of educational leadership scholarship by positioning green leadership as an integrative model that connects environmental ethics, cultural identity, and adaptive governance. These findings affirm that school-based educational leadership has the potential to address global challenges such as climate change and ecological degradation through locally contextualized educational practices.

Practically, the study recommends that policymakers integrate green leadership development into principal training programs so that sustainability principles can be systematically adopted within schools. Educational institutions are encouraged to establish partnerships with environmental organizations and local communities to expand the reach and continuity of green school programs. Future research may conduct comparative studies across regions and educational levels to further validate the green leadership model in diverse socio-ecological contexts.

5. AUTHORS' NOTE

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