

Environmental Awareness-Based Educational Management in Shaping Climate Change Awareness among PGMI Students

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ARTICLE INFO	ABSTRACT
Keywords: Educational Management; Climate Change Awareness; Environmental Education; PGMI Students	Climate change has become a global challenge that significantly affects environmental sustainability and human well-being. Higher education institutions play a strategic role in preparing future educators who possess environmental awareness and the capacity to address climate-related issues. As prospective teachers, students of the Primary Madrasah Teacher Education (PGMI) program are expected to develop strong climate change awareness that can be integrated into future educational practices. This study aims to analyze the role of environmental awareness-based educational management in shaping climate change awareness among PGMI students at UIN Kiai Ageng Muhammad Besari Ponorogo. The study employed a descriptive qualitative approach involving active PGMI students from the fourth to eighth semesters. Data were collected through Likert-scale questionnaires and semi-structured interviews and analyzed using data reduction, data display, and conclusion drawing techniques. The findings indicate that educational management implemented through institutional policies, curriculum integration, environmental programs, supporting facilities, and lecturers' role modeling contributes positively to the development of students' climate change awareness. These practices foster environmental responsibility, strengthen ecological values, and encourage environmentally friendly behavior among students. The study underscores the importance of integrating environmental awareness into educational management to prepare climate-conscious and sustainability-oriented future teachers.

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INTRODUCTION

Climate change has become one of the most serious challenge of the twenty-first century. Its impacts are not limited to the physical environment, such as rising global temperatures, changing rainfall patterns, sea-level rise, and more frequent hydrometeorological disasters, but also extend to social, economic, health, and educational dimensions. In this context, climate change can no longer be understood merely as a scientific issue, it is a civilizational problem that requires a systemic response from all elements of society. UNESCO emphasizes that climate change education helps learners understand the impacts of the climate crisis while equipping them with the knowledge, skills, values, and attitudes needed to act as agents of change.¹ Education, therefore, plays a strategic role in shaping awareness, responsibility, and pro-environmental behavior among younger generations. The urgency of climate related education becomes even stronger when it is linked to the role of higher education as a center for knowledge development, values formation, and social leadership. Higher education is not only a place for transferring knowledge, but also a space for developing critical thinking, ethical orientation, and students' social commitment. At this level, students should not merely understand environmental issues conceptually, they need to develop ecological awareness that is reflected in attitudes and concrete actions. This is important because university students are future educators, leaders, and social actors who will help determine the direction of sustainability in the future.² This role is consistent with the view that higher education institutions are key actors in promoting sustainable development through curriculum, research, community engagement, and institutional policies.³

In the context of teacher education, students of the Primary School Teacher Education for Madrasah Ibtidaiyah program, or PGMI, occupy a highly strategic position. They are prepared to become teachers at the elementary level, where they will directly contribute to shaping children's character, habits, and values from an early age. If PGMI students possess strong climate change awareness, they will likely transmit environmental understanding and attitudes to their future learners. Climate awareness in PGMI students is not only about knowing the causes and effects of climate change, but also about the ability to

¹ UNESCO, *Education for Sustainable Development Goals: Learning Objectives* (Paris: UNESCO Publishing, 2017), hlm. 12-15.

² IPCC, *Global Warming of 1.5°C: An IPCC Special Report on the impacts of global warming*, (Cambridge: Cambridge University Press, 2018), hlm. 50.

³ W. Leal Filho, E. Manolas, dan P. Pace, "The Future We Want: Key Issues on Sustainable Development in Higher Education After Rio and the UN Decade of Education for Sustainable Development," *International Journal of Sustainability in Higher Education*, Vol. 16, No. 1 (2015), hlm. 112-129

integrate environmental values into educational practice, learning activities, and daily life. Therefore, strengthening climate awareness among PGMI students is an essential part of developing professional educators who are relevant to the challenges of the twenty-first century. Previous studies indicate a close relationship between environmental awareness and understanding of climate change. Research among nursing students found a positive correlation between environmental literacy and awareness of global climate change, and showed that participation in environmental activities or meetings contributed to higher climate awareness. This finding suggests that climate awareness does not emerge automatically, but develops through learning experiences, social interaction, and exposure to environmental issues. Other studies using project-based learning have shown that active, contextual, and problem-oriented instruction can improve students' understanding, engagement, and confidence in relation to climate and sustainability issues. These findings indicate that active and meaningful learning approaches are more effective in building climate literacy than passive lecture-based methods.⁴ Furthermore, effective climate change education should not only increase knowledge but also encourage behavioral change, environmental responsibility, and active participation in sustainability initiatives⁵

However, previous studies have mostly focused on improving environmental knowledge or literacy within specific classroom settings, while the aspect of educational management based on environmental awareness as a system that shapes climate change awareness remains limited. Some studies examine learning strategies, while others focus on environmental literacy, but very few analyze how educational management, which includes planning, organizing, implementing, and evaluating, can be deliberately designed to build students' climate awareness, especially in PGMI contexts. In fact, education based on environmental awareness is not merely a matter of teaching methods, but also a matter of governance, academic culture, program policies, lecturer role modeling, and the integration of ecological values into all academic activities. In other words, a managerial approach is needed so that the formation of climate awareness does not stop at the cognitive level, but becomes part of a sustainable educational ecosystem.

The literature also shows that environmental education in Indonesia still faces several

⁴ "Environmental Literacy Levels of Pre-service Teachers," *International Electronic Journal of Environmental Education*, Vol. 8, No. 2 (2018), hlm. 115-130.

⁵ M. C. Monroe, R. R. Plate, A. Oxarart, A. Bowers, dan W. A. Chaves, "Identifying Effective Climate Change Education Strategies: A Systematic Review of the Research," *Environmental Education Research*, Vol. 25, No. 6 (2019), hlm. 791-812.

structural weaknesses. Environmental Education in Indonesia explains that although Indonesia is rich in natural resources, environmental awareness and knowledge in society remain limited, while environmental education practices in schools and educational institutions still face problems such as teacher quality, lecture-centered learning, and the influence of examination systems that restrict meaningful learning. This finding is highly relevant to the context of teacher education institutions, because if environmental education is not managed effectively in institutions that prepare future teachers, the impact will continue in the low capacity of prospective teachers to instill environmental care in their students. Therefore, transforming higher education toward greener and more climate-conscious practices is an urgent necessity.⁶

UNESCO further states that education for sustainable development and climate change education should be interdisciplinary, inclusive, and relevant to local contexts. This means environmental education should not be treated as an additional topic separate from the core curriculum, but should be integrated into the overall learning process and institutional culture. Within this framework, educational management based on environmental awareness becomes highly important because it allows alignment between institutional vision, curriculum, learning activities, campus culture, and student behavior. Such management is also in line with the idea that climate change education must connect academic knowledge with real-life action. Climate change education should integrate scientific understanding, critical thinking, and social action so that learners are able to respond effectively to environmental challenges.⁷ The need for environmentally conscious educational management is even more relevant in PGMI because Islamic elementary teacher education does not only emphasize academic aspects, but also character formation, social care, and moral responsibility. In this perspective, environmental awareness can be understood as part of educational values that align with Islamic education, namely building harmonious relationships among humans, nature, and God. PGMI students with high environmental awareness are expected to internalize ecological values in thematic teaching, environmental habits, and the development of a school culture that supports sustainability. Therefore, research on educational management

⁶ H. Parker, "Environmental Education in Indonesia: Overcoming Structural and Cultural Barriers," *International Journal of Educational Development*, Vol. 76 (2020), hlm. 102-110.

⁷ R. B. Stevenson, J. Nicholls, dan H. Whitehouse, "What is Climate Change Education?," *Curriculum Perspectives*, Vol. 37, No. 1 (2017), hlm. 67-71.

based on environmental awareness in shaping climate change awareness among PGMI students is important not only academically, but also practically and normatively. International and national studies also show that effective climate education must be relevant, participatory, and meaningful for learners. EPA emphasizes the importance of learning resources for students and educators to understand climate change, while environmental education organizations stress that effective strategies must be personally relevant, contextual, and invite reflective discussion. At the university level, this approach becomes even more important because students have greater reflective capacity and can be involved in issue analysis, social projects, and environmental action. Thus, climate change awareness should not be measured only through factual knowledge, but also through willingness to act, participation, and value orientation.⁸

Although attention to climate change education is increasing, there are still clear research gaps. First, most studies highlight the relationship between environmental literacy and climate awareness, but few examine how educational management at the study program level can act as a driving factor in forming such awareness. Second, existing studies are more often conducted on secondary school students or health-related university students, so the PGMI context remains underexplored. Third, research on environmental education in Indonesia often describes general weaknesses in environmental education, but does not specifically present a model of educational management based on environmental awareness in institutions that prepare future madrasah teachers. Fourth, few studies simultaneously connect policy, academic culture, curriculum, and learning within a single educational management framework aimed at building climate change awareness. This gap forms the basis of the novelty of the present study.

Based on these conditions, this study is directed at analyzing how environmental awareness-based educational management can be developed and implemented in the PGMI student context to build strong climate change awareness. More specifically, this research aims to identify forms of educational management that support the internalization of environmental values, analyze implementation strategies in learning and academic culture, and formulate a model for strengthening climate awareness that is appropriate to the characteristics of PGMI students. The findings are expected to serve as a basis for the development of study program policies and learning innovations that are more sustainability-oriented.⁹

⁸ A. Arba'iyah, "Tantangan dan Strategi Implementasi Pendidikan Lingkungan Hidup di Sekolah Dasar," *Jurnal Cakrawala Pendas*, Vol. 7, No. 2 (2021), hlm. 89-98.

⁹ M. F. Rickinson, "Learners and Learning in Environmental Education: A Critical Review of the

The main purpose of this study is to analyze the role of environmental awareness-based educational management in shaping climate change awareness among PGMI students. More specifically, this study seeks to identify management practices that support the internalization of environmental values, analyze implementation strategies in learning and academic culture, and formulate a model for strengthening climate awareness that is relevant to the characteristics of PGMI students. The results are expected to contribute to the development of study program policies and more sustainability-oriented learning innovations. The significance of this study lies in three main aspects. First, theoretically, it expands the field of educational management by incorporating climate change awareness as part of modern education governance. Second, practically, it can serve as a reference for study program managers, lecturers, and students in building a pro-environment academic culture. Third, socially, it is expected to contribute to the preparation of future madrasah teachers who are not only pedagogically competent but also ecologically responsible and capable of instilling sustainability values in the next generation. This is important because climate change demands an educational response that is not merely informative, but transformative.¹⁰

RESEARCH METHOD

This study employed a descriptive quantitative approach supported by brief interviews. The approach was chosen to describe the implementation of environmental awareness-based educational management and the level of climate change awareness among PGMI students through percentage-based analysis of questionnaire data. The descriptive design enabled the researcher to systematically portray actual conditions related to environmental awareness practices, learning experiences, and students' climate change awareness, while the interviews provided additional insights into students' perceptions and experiences to support the interpretation of the quantitative findings.¹¹

This study was conducted in May 2026 at the Madrasah Ibtidaiyah Teacher Education (PGMI) Study Program, Faculty of Tarbiyah and Teacher Training, Universitas Islam Negeri Kiai Ageng Muhammad Besari Ponorogo. The selection of this research site was based on the consideration that PGMI students are prospective elementary school teachers who play

Evidence," *Environmental Education Research*, Vol. 7, No. 3 (2015), hlm. 207-320.

¹⁰ M. N. Fachruddin, "Eco-Madrasah: Menggagas Manajemen Pendidikan Berbasis Lingkungan di Madrasah Ibtidaiyah," *Jurnal Pendidikan Islam*, Vol. 5, No. 1 (2019), hlm. 45-60.

¹¹ Rusandi, & Rusli, M. (2021). "Merancang penelitian kualitatif dasar/deskriptif dan studi kasus". *Al-Ubudiyah: jurnal Pendidikan dan islam*, 2(1), 48-60

a significant role in instilling environmental awareness and climate change education in student from an early age. Therefore, the learning environment and educational management at the university level constitute critical factors in shaping students awareness of climate change issues. The research subjects consisted of active PGMI student in semesters four through eight who had participated in learning activities related to environmental issues and climate change. Subject selection was carried out using purposive sampling, a technique in which participants are selected based on specific criteria relevant to the research objectives.¹²

The research procedure was carried out through several stages to ensure a structured and systematic research process as follows:

Preparation Stage

At this stage, the researcher identified problems related to the low level of climate change awareness among prospective teacher students. Subsequently, a literature review was conducted from various journals, books, and prior research studies relevant to the learning environment, educational management, and Climate Change Education. Following this, the researcher developed a research instrument in the form of an observation questionnaire based on predetermined research indicators

Data Collection Stage

Data collection was conducted through the distribution of questionnaires, administered both directly to students and via Google Form, in order to obtain data on students' perceptions of the learning environment, educational management, and climate change awareness.

Data Analysis Stage

The collected data were analyzed using a qualitative descriptive analysis technique. The first step involved data reduction, which is the process of selecting and simplifying data relevant to the research focus. The data were then presented in descriptive narrative form to facilitate comprehension and analysis. At this stage, the researcher identified patterns and relationships among the learning environment, educational management, and PGMI students' climate change awareness.¹³

Conclusion Drawing Stage

¹² Baga, S., Khairi, A., Aqil, D. I., & Tufiqurrahman, T. (2024). "kondisi Pendidikan berbasis perubahan iklim ditinjau dari kesadaran lingkungan di sekolah". *Jurnal Pendidikan MIPA*, 14(3), 746-756.

¹³ Rahmah, D.M. (2022). "Perubahan Iklim Dalam Pendidikan Ipa Berkelanjutan". *Jurnal sains edukatika Indonesia (JSEI)*, 4(2), 20-25.

The final stage involved drawing conclusions based on the results of the data analysis. The research conclusions were used to explain how the optimization of the learning environment and educational management can contribute to enhancing climate change awareness among PGMI students. Furthermore, the findings are expected to serve as evaluation material and recommendations for the development of environment based education in higher education institutions.

The data in this study consisted of primary data obtained directly from the research respondents. The research instruments included a likert scale questionnaire and a semi structured interview guide. The questionnaire was used to assess students' perceptions of the learning environment and environment based educational management, while the interviews were conducted to corroborate the data and explore students' awareness of climate change in greater depth.

The research instrument was developed based on several key indicators, namely:

1. Learning Environment
2. Educational Management
3. Understanding of climate change
4. Climate change awareness

Data collection techniques consisted of questionnaires and brief interviews. The questionnaire was used to gather data on students' perceptions of learning and educational management practices that support environmental awareness. Meanwhile, interviews were conducted to obtain more in depth information regarding students' experiences in understanding and allaying climate change awareness in their daily lives.

The data analysis technique employed in this study followed a qualitative descriptive analysis model comprising three stages: data reductions, data presentation, and conclusion drawing. Data reduction was performed by selecting data relevant to research objectives. Data presentation was carried out in descriptive narrative form to ensure the findings were easily comprehensible. Subsequently, conclusions were drawn based on a comprehensive interpretation of the data to determine the role of learning environment optimization and educational management in enhancing climate change awareness among Madrasah Ibtidaiyah Teacher Education (PGMI) students.¹⁴

¹⁴ Sagena, u. W. Azizsyah, S. N., Panjaitan, O., Masjaya, M., Hasyim, M., & Sharifuddin, M. D. K.(2023). "Program triple C (Climate CHANGE Class) untuk meningkatkan kesadaran lingkungan bagi anak". *JJM (Jurnal Masyarakat Mandiri)*, 7(4),1-7

RESULTS AND DISCUSSION

This study aims to analyze how the implementation of environmental awareness-based educational management can influence and shape climate change awareness among students in the Elementary Madrasah Teacher Education (PGMI) program at UIN Kiai Ageng Muhammad Besari Ponorogo. Data collection was conducted to identify the tactical successes of institutional governance in stimulating students' cognitive, affective, and psychomotor domains.

The Effect of Environmental Awareness-Based Educational Management on the Learning Environment of Elementary PGMI Students

Environmental awareness-based educational management is an approach to educational administration that integrates values of environmental concern into policies, curricula, learning processes, facilities, and campus programs. The application of this approach is expected to create a learning environment that fosters climate change awareness among PGMI students as future educators. Therefore, this study analyzes the implementation of environmental awareness-based educational management applied in the PGMI academic environment.

Based on the results in Table 1, the implementation of environmental awareness-based educational management falls into the “fairly good” category. This is evident from the predominance of “agree” and “strongly agree” responses regarding indicators such as environmental conservation programs (71.4%), the integration of climate change issues by faculty (64.3%), faculty serving as role models in environmentally conscious behavior (64.3%), and classroom interactions that help students understand environmental issues (64.3%). These findings indicate that environment-oriented educational management has begun to be implemented through policies, teaching, and campus programs.

Table 1. Implementation of Environmental Awareness-Based Educational Management among PGMI Students

No	Question Indicator	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1.	Institutional policies support <i>climate change education</i>	0%	0%	57,1%	35,7%	7,1%
2.	The curriculum includes <i>climate change</i> content	0%	7,1%	50%	28,6%	14,3%

3.	Faculty members integrate <i>climate change</i> issues	0%	14,3%	21,4%	50%	14,3%
4.	Facilities support environment-based learning	0%	7,1%	42,9%	35,7%	14,3%
5.	Environmental conservation programs/activities	0%	0%	28,6%	57,1%	14,3%
6.	Learning encourages discussion of <i>climate change</i>	0%	0%	71,4%	21,4%	7,1%
7.	Faculty members model environmentally conscious behavior	0%	0%	35,7%	50%	14,3%
8.	Students participate in environmental activities	0%	0%	42,9%	42,9%	14,3%
9.	The learning environment fosters environmental awareness	0%	0%	42,9%	42,9%	14,3%
10.	Classroom interactions help students understand environmental issues	0%	0%	35,7%	50%	14,3%

Nevertheless, the percentage of neutral responses remained quite high for learning indicators that encourage discussion of climate change (71.4%), institutional policies (57.1%), and curricula that include climate change material (50%). This high number of neutral responses indicates that some students have not yet fully experienced the implementation of policies or the integration of climate change issues into their learning experiences. This situation may be due to students' lack of direct experience in environmental programs, the uneven integration of environmental issues across all courses, and low student engagement in sustainable environmental activities.

In addition, there were still negative responses regarding the integration of climate change issues by faculty members (14.3%), the curriculum (7.1%), and environment-based learning facilities (7.1%). Although the numbers are relatively small, these findings indicate that the implementation of environment-based educational management has not been uniformly experienced by all students. Differences in learning experiences and variations in the teaching strategies used by faculty members may be factors influencing these perceptions.

Theoretically, *climate change education* requires integrated support through policies, curricula, institutional culture, and learning practices in order to foster sustainable environmental awareness¹⁵. In this context, the learning environment serves as a vital means of instilling ecological values, attitudes, and responsibilities in students as future educators. The findings of this study are also consistent with research showing that well-planned campus environmental management can increase student participation in climate action activities, as well as

¹⁵ Reimers, F. M. (2021). The Role of Universities Building an Ecosystem of Climate Change Education. Dalam F. M. Reimers (Ed.), *Education and Climate Change* (hlm. 1–44).

the importance of integrating ecological values into teacher education curricula¹⁶.

The research findings also indicate that the development of students' environmental awareness is influenced not only by the curriculum and formal learning but also by the academic culture that thrives on campus. Environmental conservation programs, faculty role modeling, and student participation in various environmental activities are all part of the campus culture that can strengthen the internalization of ecological values¹⁷. An academic culture that supports sustainability enables students to develop pro-environmental habits and behaviors on an ongoing basis.

Sustainability in higher education requires not only curriculum integration but also institutional transformation through campus culture, governance, and stakeholder participation. These elements are essential in creating a learning environment that consistently supports the development of environmental awareness and sustainable behavior among students.¹⁸

Based on these findings, it is necessary to strengthen education management grounded in environmental awareness by increasing the integration of *climate change* issues into the curriculum, developing environmental project-based learning, optimizing green campus programs, and increasing student participation in environmental conservation activities. These efforts are crucial for creating a learning environment that can more effectively foster *climate change* awareness among PGMI students.

Climate Change Awareness Among PGMI Students

One of the main objectives of environmental awareness-based educational management is to foster students' awareness of *climate change* issues. This awareness is reflected not only in their level of knowledge but also in their concern, sense of responsibility, intention to adopt environmentally friendly behaviors, and ability to encourage others to participate in environmental conservation efforts. Therefore, this study analyzes the level of climate change awareness among PGMI students.

¹⁶ Yulia, E. D., Tuala, R. P., & Wiliyanti, V. (2026). Pengaruh Manajemen Lingkungan Kampus Berkualitas terhadap Partisipasi Mahasiswa dalam Climate Action di UIN Raden Intan Lampung. *Jurnal Pendidikan dan Pembelajaran Indonesia (JPPI)*, 6(1), 699–712.

¹⁷ M. F. Rickinson, (2015). "Learners and Learning in Environmental Education: A Critical Review of the Evidence," *Environmental Education Research*, Vol. 7, No. 3, hlm. 207-320.

¹⁸ A. E. J. Wals, "Sustainability in Higher Education in the Context of the UN DESD: A Review of Learning and Institutionalization Processes," *Journal of Cleaner Production*, Vol. 62 (2014), hlm. 8–15.

Table 2. Level of Climate Change Awareness among PGMI Students

No	Climate Change Awareness Indicators	STS	TS	N	S	SS	S+SS
1.	Caring about climate change issues	-	-	35,7%	-	-	64,3%
2.	Feeling a sense of responsibility to protect the environment	-	-	21,4%	-	-	78,5%
3.	Intending to adopt eco-friendly behaviors in daily life	-	-	21,4%	-	-	78,5%
4.	Making an effort to reduce activities that harm the environment	-	-	14,3%	-	-	85,7%
5.	Encouraging others to care about the environment	-	7,1 %	21,4%	-	-	78,6%

Based on the results in Table 2, PGMI students' level of *climate change* awareness falls into the “*fairly high*” category. This is evident from the predominance of “agree” and “strongly agree” responses across all climate change awareness indicators. The highest percentage was found in the indicator regarding efforts to reduce activities that harm the environment (85.7%), followed by the responsibility to protect the environment and the intention to adopt environmentally friendly behaviors (78.5%). These findings indicate that students have a fairly good awareness of the importance of protecting the environment as part of efforts to address *climate change*. Similar findings were reported in higher education settings, where students generally demonstrated moderate to high levels of climate change awareness, indicating that environmental education plays an important role in strengthening students' understanding and concern regarding climate-related issues.¹⁹

This finding is significant because the study's respondents were PGMI students being trained as prospective Madrasah Ibtidaiyah teachers. The students' awareness of climate change not only impacts their personal behavior but also has the potential to influence the environmental education they will provide in elementary schools or madrasahs in the future²⁰. Therefore, strengthening climate change awareness among PGMI students holds strategic value in fostering a generation that is more concerned about the environment and sustainability.

Nevertheless, there is still a fairly high proportion of neutral responses on several indicators, particularly concern about *climate change* (35.7%), responsibility for protecting the

¹⁹ J. S. Castillo dan B. M. Nozaleda, "Environmental Education of Students Pursuing Higher Education: Probing on Climate Change Awareness," *Journal of Climate Change*, Vol. 8, No. 3 (2022), hlm. 41–49.

²⁰ M. N. Fachruddin, (2019) "Eco-Madrasah: Menggagas Manajemen Pendidikan Berbasis Lingkungan di Madrasah Ibtidaiyah," *Jurnal Pendidikan Islam*, Vol. 5, No. 1, hlm. 45-60.

environment (21.4%), and the ability to encourage others to care about the environment (21.4%). The high proportion of neutral responses indicates that some students have not yet fully internalized the values of environmental concern into their attitudes and concrete actions. This situation may be due to a lack of direct experience in environmental activities, the suboptimal integration of *climate change* issues into the overall learning process, and limited student involvement in sustainable environmental programs.

In addition, 7.1% of respondents disagreed with the indicator regarding the ability to encourage others to care about the environment. Although this percentage is relatively small, this finding indicates that not all students have the confidence to serve as agents of environmental change. In fact, as prospective Madrasah Ibtidaiyah teachers, the ability to influence and educate others about the importance of protecting the environment is an essential competency they must possess.

Theoretically, climate change education aims not only to enhance students' knowledge but also to foster awareness, values, attitudes, motivation, and responsibility toward the environment²¹. Therefore, the success of education management based on environmental awareness is measured not only by the availability of environmental policies and programs but also by the institution's ability to foster pro-environmental behavior reflected in students' daily lives. These findings indicate that the process of internalizing environmental values has been proceeding quite well, although it still requires strengthening in several aspects. Climate change education also contributes to the development of mitigation and adaptation capacities that enable learners to respond proactively to environmental risks and sustainability challenges.²²

The results of this study are consistent with research indicating that environmental education can increase students' environmental awareness and promote environmentally responsible behavior²³. Furthermore, college students play a strategic role as agents of change in supporting sustainable development through various climate action activities²⁴. These find-

²¹ Reimers, F. M. (2021). The Role of Universities Building an Ecosystem of Climate Change Education. Dalam F. M. Reimers (Ed.), *Education and Climate Change* (hlm. 1–44)

²² A. Anderson, "Climate Change Education for Mitigation and Adaptation," *Journal of Education for Sustainable Development*, Vol. 6, No. 2 (2012), hlm. 191–206.

²³ Manoppo, Y. K., & Hunowu, M. A. (2023). Membentuk kesadaran lingkungan peserta didik melalui program pendidikan lingkungan. *Jurnal Ilmiah Al-Jauhari*, 8(2), 247–258. Reimers, F. M. (2021). The role of universities building an ecosystem of climate change education. In F. M. Reimers (Ed.), *Education and Climate Change* (pp. 1–44).

²⁴ Yulia, E. D., Tuala, R. P., & Wiliyanti, V. (2026). Pengaruh Manajemen Lingkungan Kampus Berkualitas terhadap Partisipasi Mahasiswa dalam Climate Action di UIN Raden Intan Lampung. *Jurnal*

ings reinforce the results of this study, which show that the implementation of an environmental awareness-based educational management approach contributes to fostering *climate change* awareness among PGMI students.

Based on these findings, efforts to strengthen education management grounded in environmental awareness must continue through the integration of climate change issues into the curriculum, the development of environmental project-based learning, increased student participation in environmental conservation activities, and the creation of a campus culture that supports sustainable behavior. In this way, PGMI students will not only be aware of *climate change* issues but will also be able to play an active role as agents of environmental change in the community.

The Relationship Between Environmental Awareness-Based Educational Management and Climate Change Awareness Among PGMI Students

The research results show that the implementation of environmental awareness-based educational management which falls into the “*fairly good*” category, is accompanied by a level of *climate change* awareness among students that is also classified as fairly high. These findings indicate that environmental policies, the integration of climate change issues into learning, environmental conservation programs, and the exemplary behavior of faculty members contribute to shaping students’ awareness of climate change issues. An academic environment that supports sustainability values enables students to gain learning experiences that are not only cognitive but also affective and behavioral.

Theoretically, effective climate change education requires the integration of institutional policies, curriculum, academic culture, and teaching practices to foster sustainable environmental awareness²⁵. Therefore, the better the implementation of environmental awareness-based educational management, the greater the likelihood of fostering climate change awareness among students as future educators who bear responsibility for environmental sustainability. This finding reinforces research showing that high-quality campus environmental management can increase student participation in climate action activities²⁶. Thus,

Pendidikan dan Pembelajaran Indonesia (JPPI), 6(1), 699–712.

²⁵ Reimers, F. M. (2021). The Role of Universities Building an Ecosystem of Climate Change Education. Dalam F. M. Reimers (Ed.), *Education and Climate Change* (hlm. 1–44)

²⁶ Yulia, E. D., Tuala, R. P., & Wiliyanti, V. (2026). Pengaruh Manajemen Lingkungan Kampus Berkualitas terhadap Partisipasi Mahasiswa dalam Climate Action di UIN Raden Intan Lampung. *Jurnal Pendidikan dan Pembelajaran Indonesia (JPPI)*, 6(1), 699–712.

education management based on environmental awareness not only functions as an institutional management system but also serves as a strategic tool in shaping *climate change awareness* among PGMI students.

This study still has several limitations. First, the study was conducted only among PGMI students at a single university; therefore, the results cannot yet be generalized to all teacher education programs in Indonesia. Second, the research data were obtained based on respondents' perceptions through a questionnaire; thus, they do not fully reflect the direct implementation of environmental policies at the institutional level. Third, this study used a descriptive approach and therefore did not conduct an in-depth analysis of the causal relationship between environmental awareness-based educational management and climate change awareness. Consequently, future research is recommended to involve a larger sample size and employ a mixed-methods approach to provide a more comprehensive picture.

CONCLUSION

Based on the results of this study, it can be concluded that environmental awareness-based educational management plays a crucial role in shaping climate change awareness among PGMI students. The implementation of environmental policies, the integration of climate change issues into the curriculum and teaching, environmental conservation programs, and academic practices that support environmental stewardship have been shown to make a positive contribution to the development of students' climate change awareness. Most respondents expressed a positive perception of the implementation of environmental awareness-based educational management and demonstrated a fairly high level of climate change awareness, particularly regarding their responsibility to protect the environment, their willingness to adopt eco-friendly behaviors, and their efforts to reduce activities that have a negative impact on the environment.

Nevertheless, the fact that a certain percentage of neutral responses were still found for several indicators suggests that the internalization of environmental values has not yet been fully embraced by all students. This situation indicates the need to strengthen the integration of climate change issues into the curriculum, develop environmental project-based learning, increase student involvement in environmental conservation activities, and foster a campus culture oriented toward sustainability. Thus, PGMI students, as prospective Madrasah Ibtidaiyah teachers, are expected not only to be aware of climate change issues but also to be able to serve as agents of change who instill values of environmental stewardship in

their students and the community on an ongoing basis.

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