

Environmental Knowledge and Environmental Care Attitude Students in State Islamic Senior High School Adiwiyata and Non-Adiwiyata at Banjarmasin City

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Abstract

Environmental issues are happening in Banjarmasin City, therefore it is important to utilize the role and function of schools to educate the younger generation about environmental awareness. The purpose of this research is to measure the level of environmental knowledge and environmental care attitude of students at Adiwiyata schools namely MAN 3 Banjarmasin and Non-Adiwiyata schools namely MAN 1 Banjarmasin, as also to identify school participation in the implementation of the Gerakan Peduli dan Berbudaya Lingkungan Hidup di Sekolah (Gerakan PBLHS). This study is a survey research using descriptive quantitative methods through questionnaires filled out by 285 students using random sampling techniques, observation, interviews with teachers and students, and documentation. The data were analyzed using the T-test and analysis of the level of knowledge and attitude towards caring for the environment. The Sig. (2-Tailed) value for Environmental Knowledge was 0.773 and for Environmental Care Attitude was 0.999. This shows that Sig. (2-Tailed) > 0.05, which indicates that there is no difference in the environmental knowledge and care attitude of Adiwiyata and Non-Adiwiyata school students. This is supported by the fact that 92% of MAN 3 Banjarmasin students and 88% of MAN 1 Banjarmasin students have excellent environmental knowledge, while 62% of MAN 3 Banjarmasin students and 67% of MAN 1 Banjarmasin students showed a very caring attitude towards the environment. The Gerakan PBLHS carried out by the two schools was not much different, namely commitment to the vision and mission as one of the school rules to protect the environment, learning that includes environmental issues, greening activities, the existence of a Waste Bank, and environmental cleanliness activities involving the entire school community. In Geography, this research is integrated with Environmental Education in shaping students' knowledge, values, and skills in understanding the impact of human interaction with the environment.

Keywords: Environmental Knowledge, Environmental Care Attitude, Adiwiyata School, Non Adiwiyata School, Gerakan Peduli dan Berbudaya Lingkungan Hidup di Sekolah

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1. Introduction

Kalimantan as a wetland environment in Indonesia, has environmental problems such as land fires, haze, flooding, building collapse due to swamp foundations, and the use of rivers as a source of daily life (Astuty et al., 2023). In addition, research by Hendra and Arisanty (2025) states that waste management in the city of Banjarmasin is still largely technocratic and unstable, therefore it has not yet achieved the goals of sustainable, fair, and participatory waste management. This is supported by observations showing the accumulation of waste in various official and illegal *Tempat Pembuangan Sementara* (TPS) disposal sites in each sub-district of Banjarmasin City, such as on HKS Street, Veteran Street, and Belitung Darat Street.

The Indonesian government has various programs and awards that support community participation in sustainable environmental protection, one of which is the Adiwiyata award. Regulations regarding the Adiwiyata award are contained in *Peraturan Nomor P.53/MENLHK/SETJEN/KUM.1/9/2019 about Penghargaan Adiwiyata*, meanwhile, the technical aspects of the Adiwiyata program are outlined in *Peraturan Menteri Lingkungan Hidup dan Kehutanan Republik Indonesia Nomor P.52/MENLHK/SETJEN/KUM.1/9/2019 about Gerakan Peduli dan Berbudaya Lingkungan Hidup di Sekolah*, accompanied by the Guide Book for *Gerakan Peduli dan Berbudaya Lingkungan Hidup di Sekolah (Gerakan PBLHS)*.

Education is a very appropriate means of imparting knowledge, skills, and attitudes about environmental awareness, especially in formal education, which is the official place for communicating and imparting understanding about the environment (Faizal et al., 2022). The role and function of schools are not only as a means and facility for communicating environmental awareness, but non-physical factors such as environmental care attitude among school members are more important factors (Kospa, 2021).

Environmental learning is the implementation of environmental education programs that can be integrated into student learning activities so that they refer to the curriculum (Kamil et.al., 2019). The environmental-based curriculum contains material on environmental management and protection related to daily life in order to increase school community awareness of the environment (Baihaki et.al., 2022). Several subjects, such as biology and geography, can be integrated with environmental education (Hayati et.al., 2016). Geography is closely related to the environment, so its learning can integrate environmental education through the study of sustainable development issues and the analysis of the impact of human behavior, especially in the school environment (Miranto, 2017). The Geography subject in high school not only plays a role in building knowledge, but can also help shape students' values, attitudes, and skills in interacting with the environment (Susilawati and Sochiba, 2024).

Environmental knowledge and environmental care attitude are interconnected, because influence individual behavior and actions toward the environment (Bakar et al., 2021). This is in line with the research by Liu (2020), which states that environmental knowledge has a significant positive impact on environmental care attitude, in other words, knowledge has been proven to be one of the main factors in the relationship between individual behavior or attitudes, showing that knowledge can influence behavior through attitudes.

The study by Sari et al. (2025) states that students in Adiwiyata schools and Non-Adiwiyata schools lack participation in the implementation of the *Gerakan PBLHS*, so research measuring environmental knowledge and care attitudes is very important to determine the factors behind students' lack of interest in participating in *Gerakan PBLHS* activities. The research by Herlina et al. (2021) through tests and comparative studies shows that there are differences in environmental literacy and environmental awareness attitudes between students at the Adiwiyata MAN 2 Tasikmalaya City school and the Non-Adiwiyata MAN 1 Tasikmalaya City school due to differences in the learning environment and environmental programs implemented. MAN 2

Tasikmalaya City is a school located in a densely populated area, but the school directly involves students in protecting and caring for the environment, and environmental knowledge is integrated into Biology and Entrepreneurship lessons. Meanwhile, MAN 1 Tasikmalaya City is located in a less densely populated area. Environmental understanding is applied through Biology lessons, and environmental programs involving students are carried out through the Nature Lovers Community at the school and the Waste Bank.

The novelty of this study lies in the collection of data on environmental knowledge and care attitudes through surveys at MAN 3 Banjarmasin as an Adiwiyata school and MAN 1 Banjarmasin as a Non-Adiwiyata school with similar environmental conditions, such as being located in the middle of the densely populated city of Banjarmasin, surrounded by rivers, and actively implementing the *Gerakan PBLHS*. In addition, this study identifies the participation of the entire school community in the implementation of the *Gerakan PBLHS*, so that the differences found are not only influenced by school environmental factors.

2. Method

This study uses a descriptive quantitative method through questionnaires, interviews, observations, and documentation, which can describe the level of environmental knowledge and environmental care attitude of Adiwiyata and Non-Adiwiyata school students more clearly and realistically. The measurement of students environmental knowledge and environmental care attitude towards the environment can be done by filling out questionnaires. Interviews, observations, and documentation are based on documents from the *Pusat Pelatihan Masyarakat dan Pengembangan Generasi Lingkungan (2020)* about *Panduan Pembinaan Gerakan Peduli dan Berbudaya Lingkungan Hidup di Sekolah*.

At Adiwiyata schools, interviews were conducted with Adiwiyata advisors, Adiwiyata cadres, and geography and biology teachers, while at non-Adiwiyata schools, interviews were conducted with the deputy head of the madrasah in charge of facilities and infrastructure, geography and biology teachers, and students. Observations were conducted before, during, and after the research, accompanied by documentation of the school environment and important aspects related to the implementation of the *Gerakan PBLHS*.

The research was conducted from August until October 2025 at MAN 3 Banjarmasin as an Adiwiyata school and MAN 1 Banjarmasin as a non-Adiwiyata school. These schools were chosen because MAN 3 Banjarmasin is the only school under the Kementerian Agama that has received the Adiwiyata award in the city of Banjarmasin, even though the Adiwiyata award is a collaboration between the *Dinas Pendidikan* and *Dinas Lingkungan Hidup*, while MAN 1 Banjarmasin was chosen because it is a non-Adiwiyata school that actively implements the *Gerakan PBLHS*.

The research subjects for the questionnaire consisted of 285 students or the entire XI grade at MAN 3 Banjarmasin and MAN 1 Banjarmasin. The sampling technique used random sampling with proportional sampling per class. The XI grade was chosen because it had been implementing the *Gerakan PBLHS* for one year, so it could be ensured that the students had excellent environmental knowledge and cared about the environment.

The hypothesis test used in this study is the Independent Sample T-Test, the purpose of which is to test the difference in mean values between two unrelated sample groups (Putri et al., 2023). The type of T-test used is the Two-Tailed T-test, because this study only wants to see whether there is a significant difference or not, assuming that there is no difference in environmental knowledge and environmental care attitude among students of Adiwiyata and Non-Adiwiyata schools. The Two-Tailed T-Test was conducted using SPSS Series 30 for Windows, with the

interpretation that if $\text{Sig}(2\text{-tailed}) > 0.05$, the assumption is accepted, and if $\text{Sig}(2\text{-tailed}) < 0.05$, the assumption is rejected.

There are two questionnaires in this study, namely the Environmental Knowledge questionnaire consisting of 35 statements and the Environmental Care Attitude questionnaire consisting of 15 statements. The questionnaires use a Likert scale with 1-4 alternative answer choices.

Table 1. Environmental Knowledge Indicators

No	Indicators	Sub-Indicators
1	Ecology	a. Environmental Conservation b. Biodiversity
2	Environmental Science	a. Air pollution and prevention b. Water resource conservation and water pollution prevention c. Soil pollution prevention and soil and water conservation d. Waste and waste management and pollution prevention e. Environmental sanitation f. Food hygiene g. Sustainable energy
3	Environmental Issues	Global Warming

Students' environmental knowledge in this study can be measured using indicators (Zheng et al., 2018) adaptation from Chang (2011), which consist of ecology, environmental science, and environmental issues (Table 1). Environmental knowledge can be categorized into three levels based on the level of knowledge proposed by Arikunto (2013), which consist of very good, good, and poor.

Table 2. Environmental Care Attitude Indicators

Code	Statement Items	Dimension
NEP 1	The current human population has exceeded the Earth's carrying capacity.	The Reality of Limits to Growth
NEP 2	Humans have the right to manage the natural environment according to their needs.	Anti Anthropocentrims
NEP 3	Human actions can sometimes cause natural disasters.	The Fragility of Nature's Balance
NEP 4	Humans who have knowledge about the environment can certainly protect the environment well.	Rejection of Exemptionalism
NEP 5	Many humans act recklessly towards the environment.	The Possibility of an Ecocrisis
NEP 6	The Earth has many natural resources if humans are able to find out how to use them.	The Reality of Limits to Growth
NEP 7	Plants and animals have the same right as humans to survive	Anti Anthropocentrims
NEP 8	The natural environment will not be disturbed by industrialization	The Fragility of Nature's Balance
NEP 9	Even though humans have special abilities, they cannot escape the laws of nature	Rejection of Exemptionalism

NEP 10	The current environmental crisis is being exaggerated	The Possibility of an Ecocrisis
NEP 11	The Earth has limited space and natural resources	The Reality of Limits to Growth
NEP 12	Humans have overused natural resources.	Anti Anthropocentrims
NEP 13	The environment is very vulnerable and easily disturbed.	The Fragility of Nature's Balance
NEP 14	By studying environmental science, humans will not be exempt from the laws of nature.	Rejection of Exemptionalism
NEP 15	If environmental problems continue, we will soon experience a major natural disaster.	The Possibility of an Ecocrisis

Environmental concern can be measured using the New Ecological Paradigm (NEP) indicator proposed by Dunlap (2000) and Dunlap (2008), then adapted by (Zhu & Lu, 2017) which consists of The Reality of Limits to Growth, Anti-Anthropocentrism, The Fragility of Nature's Balance, Rejection of Exemptionalism, and The Possibility of an Ecocrisis (Table 2). The level of environmental concern can be categorized into 4, namely very care, care, less care, and do not care (Baroroh & Roshayanti, 2022).

Content validation of the instruments in this study used expert judgment, which is the consideration of experts in their respective fields or qualified experts through the stages of assessing, clarifying, evaluating, and modifying the instruments developed by the researchers, so that they are suitable for use in research (Adillah et al., 2022; Leite et al., 2022; Almanasreh et al., 2019; Nurrohmah et al., 2018). The content validity of the instrument was tested by four lecturers, including a lecturer specializing in Physical Geography and a lecturer specializing in Environmental Education from the Geography Education Study Program at Lambung Mangkurat University. All assessment components of the instrument by the four experts stated that the instrument used was suitable for testing to measure students' environmental knowledge and attitudes.

Before conducting the T-test, prerequisite tests must be performed, including the Normality Test and Homogeneity Test, to produce valid and unbiased data. The Normality Test is used to determine whether the data is normally distributed, while the Homogeneity Test is used to determine whether there is variance equality among data groups (Nurhaswinda et al., 2026). In this study, the Prerequisite Test used SPSS Series 30 For Windows. The Normality Test used the Kalmogorov-Smirnov method with the interpretation that the data is normally distributed if the significance value (p) > 0.05. Meanwhile, the Homogeneity Test interpreted the data as homogeneous if the significance value (p) > 0.05.

Table 3. Environmental Knowledge Instrument Normality and Homogeneity Test

Normality Test (Kolmogorov-Smirnov)			Homogeneity Test
Group	df	Sig.	Sig.
1	25	0,200	0,745
2	25	0,200	

Table 4. Environmental Knowledge Instrument Normality and Homogeneity Test

Normality Test (Kolmogorov-Smirnov)			Homogeneity Test
Group	df	Sig.	Sig.
1	25	0,200	0,485
2	25	0,073	

Based on normality testing, the Kolmogorov-Smirnov significance value for environmental knowledge (Table 3) and environmental care attitude (Table 4) is greater than 0,05, which concludes that the respondent data comes from a normally distributed population. Meanwhile, the Homogeneity Test shows a significance value for environmental knowledge of 0,745 and environmental awareness of 0.485. These values indicate a significance value greater than 0,05, so the data is declared homogeneous.

3. Result and Discussion

A. Result

This section describes the results of this study, namely hypothesis testing, level of environmental knowledge, level of environmental awareness, and implementation of the Gerakan PBLHS in Adiwiyata and Non-Adiwiyata schools. These results are based on data obtained from observations, documentation, interviews, and questionnaires, which were then analyzed using a quantitative approach.

1) *Environmental Knowledge and Environmental Care Attitude of Adiwiyata and Non-Adiwiyata School Students*

Environmental knowledge and environmental care attitude are important factors in forming students' concern for the environment, therefore these two indicators need to be measured. The difference in status between Adiwiyata and Non-Adiwiyata schools is the reason behind this study, even though the *Gerakan* PBLHS implemented at MAN 3 Banjarmasin and MAN 1 Banjarmasin is not significantly different.

Table 5. Environmental Knowledge Hypothesis Test Result

		Independent Samples Test					
		Levene's Test for Equality of Variances				t-Test for Equality of Means	
		F	df1	df2	Sig.	t	Sig. (2-tailed)
Pengalaman Lapangan	Dulu masuk pendidikan	4,209	233	268	.073	-4,30095	0,00052
	Dulu masuk dunia industri	4,209	243	273	.073	-4,30095	0,00052

Table 6. Environmental Care Attitude Hypothesis Test Result

		Independent Samples Test							
		ANOVA					t-Test of Equality of Means		
			Sum of Squares	df	Mean Square	F	Sig.	Lower Bound of 95% Confidence Interval	Upper Bound of 95% Confidence Interval
			Between Groups	Within Groups	Total				
Recapitalization	Recapitalization approved	607	243	144	666	.00004	.97146	-1.32740	1.32740
	Recapitalization not approved	1002	237.222	499	595	.00104	.92295	-1.32271	1.32270

The T-Test results shown in Table 5 indicate that the significance level for the Environmental Knowledge variable is 0.773, which means $\text{Sig}(2\text{-tailed}) > 0.05$, meanwhile the significance level for the Environmental Care Attitude variable (Table 6) is 0.999, which means $\text{Sig}(2\text{-tailed}) > 0.05$. These results are interpreted is no significant difference in Environmental Knowledge and Environmental Care Attitude between Adiwiyata and Non-Adiwiyata school students.

2) *Level of Environmental Knowledge and Environmental Care Attitude Students at Adiwiyata Schools*

Madrasah Aliyah Negeri 3 Banjarmasin is the only school under the Kementerian Agama that implements the *Gerakan* PBLHS and has received the Adiwiyata award in the city of Banjarmasin. The Adiwiyata program implemented by MAN 3 Banjarmasin began in 2014, then received the Adiwiyata award at the provincial level in 2016 and at the national level in 2017

(Figure 1), until now MAN 3 Banjarmasin continues to actively implement the *Gerakan PBLHS*, which was previously in place to achieve *Adiwiyata Mandiri*. Therefore, it is only expected that students at MAN 3 Banjarmasin have good environmental knowledge and environmental care attitude.



Figure 1. Adiwiyata Award

Table 7. Environmental Knowledge Level of Adiwiyata School Students

Environmental Knowledge		
Category	f	Score (%)
Very Good	127	92%
Good	11	8%
Poor	0	0%
Total	138	100%

Table 7 shows that the environmental knowledge level of MAN 3 Banjarmasin students is in the Very Good category with a score of 92%, while the Good category obtained a score of 8%. It can be concluded that there are no students with poor environmental knowledge, which is supported by the integration of each subject with the Adiwiyata program, including in the subjects of Crafts and Entrepreneurship, Geography, and Biology. Based on interviews with teachers of Crafts and Entrepreneurship, teachers assign tasks related to planting crops. Interviews with geography teachers revealed that teachers deliver material contextually, such as material on the environment, natural resource utilization, and disaster mitigation, through observation of the environment around the school and students' homes. Similar to geography, interviews with biology teachers revealed that teachers delivered contextual material and hands-on practice, for example, in biotechnology or environmental conservation, where students practiced making eco-enzymes.

Table 8. Environmental Care Attitude Level of Adiwiyata School Students

Environmental Care Attitude		
Category	f	Score (%)
Very Care	86	62%
Care	52	38%
Less Care	0	0%
Not Care	0	0%
Total	138	100%

Table 8 shows that the level of environmental care attitude among students at MAN 3 Banjarmasin was only in the Very Care category with a score of 62% and in the Care category, with a score of 38%. This shows that there were no students who were Less Care or Not Care about the environment. The results obtained from measuring environmental care attitude are

supported by MAN 3 Banjarmasin's active implementation of the *Gerakan PBLHS*.

As an Adiwiyata school, the environmental care program has been included in the school's Vision and Mission, namely in the Vision which reads “the realization of an educational institution that produces students who are religious, Pancasila-minded, creative, accomplished, and environmentally cultured”, while the Adiwiyata program is contained in Missions 3, 4, 7, 8, and 9. Based on this environment oriented Vision and Mission, it can be concluded that the goal of MAN 3 Banjarmasin in implementing the *Gerakan PBLHS* is to create a school community that plays an active role in preserving the environment through the contributions of students, teachers, and educators in reforestation, cleanliness, and the integration of learning with the Adiwiyata program.



Figure 2. MAN 3 Banjarmasin's Greening Program

One important aspect of the Adiwiyata program is greening the school environment. At MAN 3 Banjarmasin, greening is carried out using two methods, namely the conventional method or using soil and hydroponics, which can be seen in Figure 2. This greening activity involves MAN 3 Banjarmasin students, particularly those enrolled in the Crafts & Entrepreneurship subject, who plant fruits and vegetables such as eggplant, mulberry, chili, and mango in soil, while celery, mustard greens, and kangkung are grown using hydroponics. Students will report on the progress of these plants, ensuring they are always well-maintained and cared for. Additionally, MAN 3 Banjarmasin has a greenhouse containing various types of plant seeds and *Tanaman Obat Keluarga* (TOGA) such as aloe vera, betel leaf, and karuk leaves.



Figure 3. Plant Seedlings in Green House

Madrasah Aliyah Negeri 3 Banjarmasin has a Waste Bank that was actively operating, but its implementation faced challenges such as the pandemic. Based on interviews with the Waste Bank supervisor, this was due to student awareness, teacher teamwork, and limited land to accommodate waste. When the Waste Bank was operational, waste was deposited once a week every Monday, and rewards were given to the highest depositors each month. One solution for

implementing waste management through the 3R approach (Reduce, Reuse, Recycle) when the Waste Bank was not operational plastic cup waste is used for plant seedlings as shown in Figure 3.



Figure 4. Classroom Cleaning Activities at MAN 3 Banjarmasin

Student involvement in school environmental cleanliness is also carried out even though MAN 3 Banjarmasin already has cleaning staff. These efforts include daily class duty as shown in Figure 4 and an annual cleanliness competition. Additionally, community service is provided to partner schools, and the surrounding area of MAN 3 Banjarmasin is also targeted for environmental cleanliness initiatives, such as clean-up campaigns in the neighborhood, the Office of the Kementerian Agama in Banjarmasin City, and the Mulawarman School Area. All these initiatives involve students in their implementation.

The implementation of the *Gerakan PBLHS* at MAN 3 Banjarmasin in supporting the Adiwiyata award certainly has obstacles, including changing the character of the school community and limited funds. Based on observations and interviews with the Adiwiyata Advisor or the *Wakamad Sarana dan Prasarana*, there are still students who are indifferent to the environment. This character is evident during classroom observations and on the field, where trash is often discarded improperly. Therefore, the entire school community must collaborate to raise awareness and instill the habit of always maintaining the environment.

3) *Level of Environmental Knowledge and Environmental Care Attitude Students at Adiwiyata Schools*

Madrasah Aliyah Negeri 1 Banjarmasin is one of the Non-Adiwiyata schools that actively implements the *Gerakan PBLHS*. Despite limited land and a densely populated neighborhood, MAN 1 Banjarmasin is not deterred from caring for the environment. The school grounds are used for greening and are well maintained through various environmental awareness programs. Therefore, it is hoped that students at MAN 1 Banjarmasin, as a non-Adiwiyata school, will have environmental knowledge and environmental care attitude that is not much different from students at Adiwiyata schools.

Table 9. Environmental Knowledge Level of Non-Adiwiyata School Students

Environmental Knowledge		
Category	f	Score (%)
Very Good	129	88%
Good	18	12%
Poor	0	0%

Total	147	100%
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The results of the calculation of students' environmental knowledge levels in Table 9 show that 88% have environmental knowledge in the Very Good category, while 12% are in the Good category, and there are no students with environmental knowledge in the Poor category. Therefore it can be concluded that the environmental knowledge of students at MAN 1 Banjarmasin is Very Good. This is supported by the interview results, which show that in certain subjects, teachers provide contextually based environmental material, such as in Geography and Biology.

Interviews with geography teachers revealed that teachers deliver material contextually by linking environmental issues that occur, particularly in South Kalimantan. Similar to geography, interviews with biology teachers revealed that they deliver material contextually and encourage students to observe plants around the school. The implementation of the learning system in geography and biology faces the same obstacle, namely the limited land area at MAN 1 Banjarmasin and its location in the middle of the city, making it difficult for students to explore more about nature and the environment around the school.

Table 10. Environmental Care Attitude Level of Non-Adiwiyata School Students

Environmental Care Attitude		
Category	f	Score (%)
Very Care	99	67%
Care	48	33%
Less Care	0	0%
Not Care	0	0%
Total	147	100%

The level of environmental care attitude students at MAN 1 Banjarmasin can be seen in Table 10, which shows that 67% of students are Very Care about the environment and 33% are Care about the environment. It can therefore be concluded that students at MAN 1 Banjarmasin are Very Care about the environment and that there are no students who are Less Care or Not Care about the environment. Based on the results of interviews and observations, several *Gerakan PBLHS* carried out by MAN 1 Banjarmasin, such as reforestation, waste banks, cleanliness activities, and the prohibition of plastic bags, support the level of environmental care attitude students.



Figure 5. MAN 1 Banjarmasin's Greening System

On the 2,462 m² school grounds, MAN 1 Banjarmasin utilizes the land by planting various types of plants in pots using soil, as well as hydroponic plants on each classroom terrace and inside the classrooms as can be seen in Figure 5. Furthermore, there are guava, mango, and papaya trees in the school parking lot, which supports food security. However, the greening activities do not sufficiently involve the students.



Figure 6. Waste Deposit Activity at Berkah Waste Bank

State Senior High School 1 Banjarmasin has a Waste Bank named “Bank Sampah Berkah” which was established in 2018 and registered with the Dinas Lingkungan Hidup Banjarmasin City. However, it temporarily ceased operations due to limited human resources and other operational reasons. Starting September 2025, Bank Sampah Berkah resumed operations with waste collection every Friday for all MAN 1 Banjarmasin school residents (Figure 6). Before the Waste Bank reopened, the school held a socialization event with the Dinas Lingkungan Hidup Banjarmasin City regarding waste management and the Waste Bank's operational system.



Figure 7. Classroom Cleaning Activities at MAN 1 Banjarmasin

Cleaning activities and waste management at MAN 1 Banjarmasin have their own programs. School cleanliness is carried out by involving the entire school community, including activities such as classroom cleaning duty as can be seen in the Figure 7, Clean Friday, classroom cleanliness competitions, and community service with the community around the school. Waste management at MAN 1 Banjarmasin involves prohibiting the use of plastic bags for wrapping food or drinks so that plastic waste can be easily sorted and resold. However, there are still members of the school community who use plastic bags to wrap food or for other purposes.

An interview with the *Wakamad Sarana dan Prasarana* stated that the implementation of the PBLHS Movement at MAN 1 Banjarmasin faced obstacles, including limited land, which made it difficult to carry out reforestation and design other facilities to support the implementation of the *Gerakan PBLHS*. In addition, in an interview with students, it was stated that the *Gerakan PBLHS* program at MAN 1 Banjarmasin did not actively involve students, so the program was only carried out by teachers and cleaning staff.

4) *Analysis of Environmental Knowledge and Environmental Awareness Attitudes of Students per Indicator*

The findings show that there is no significant difference between the environmental knowledge

of students at Adiwiyata and non-Adiwiyata schools. However, when viewed from each indicator of environmental knowledge, students at both schools have their own strengths.

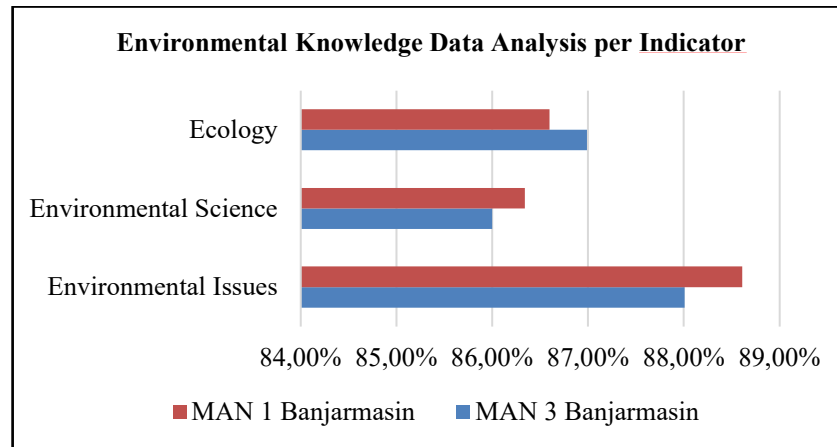


Figure 8. Environmental Knowledge Data Analysis per Indicator Chart

In general, the results of the environmental knowledge analysis can be seen in the Figure 8. When the environmental knowledge level categories are linked to the findings per indicator, the environmental knowledge level of MAN 3 Banjarmasin students is in the excellent category, especially in the Ecology understanding indicator. This is in line with interviews and observations that show that students not only understand ecological aspects but also reflect them in environmentally friendly actions. This is also supported by teachers who involve their students in actively carrying out *Gerakan PBLHS* activities such as farming and school environmental clean-up activities.

The environmental knowledge of MAN 1 Banjarmasin students, which is in the Very Good category, is also reflected in two other indicators, namely Environmental Science and Environmental Issues. MAN 1 Banjarmasin students demonstrate a good understanding of pollution and global warming issues and are able to explain mitigation efforts. This is in line with the learning activities carried out by teachers who connect environmental issues with learning materials, but they have not fully utilized the school environment as a learning tool.

In the variable of environmental care attitude, the results show that students from both schools are very concerned about the environment. However, students from the two schools have their own strengths in each indicator.

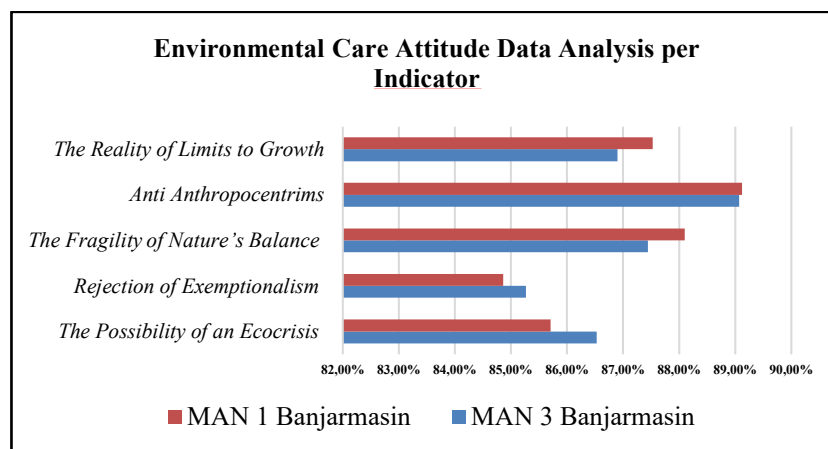


Figure 9. Environmental Care Attitude Data Analysis per Indicator Chart

The results of the analysis shown in Figure 9 indicate that MAN 1 Banjarmasin students scored higher on

the indicators of The Reality of Limits to Growth, Anti-Anthropocentrism, and The Fragility of Nature's Balance. Meanwhile, MAN 3 Banjarmasin students scored higher in the categories of Rejection of Exceptionalism and The Possibility of an Ecocrisis.

Based on these findings, it can be concluded that students at MAN 3 Banjarmasin and MAN 1 Banjarmasin demonstrate excellent environmental care attitude as they are in the Very Care category, but there are differences in the scores obtained for each indicator. Through interviews and observations, students at MAN 3 Banjarmasin and MAN 1 Banjarmasin have demonstrated environmentally friendly behavior and awareness of environmental vulnerability due to human activities. Therefore, students take concrete actions starting with small actions, such as planting crops that can support food security, sorting waste and disposing of it properly, and reducing the use of single-use plastics. In addition, students are able to relate environmental issues that occur in their surroundings.

B. Discussion

There was no significant difference in environmental knowledge and environmental care attitude students at Adiwiyata and non-Adiwiyata schools in this study. This is supported by the level of knowledge of students at MAN 3 Banjarmasin as an Adiwiyata school and MAN 1 Banjarmasin as a non-Adiwiyata school, which were in the Very Good category, while the environmental care attitude of students at the two schools was in the Very Care category. This differs from the comparative study by Herlina et al. (2021), which found differences in environmental literacy and environmental care attitude among students at Adiwiyata and non-Adiwiyata schools, influenced by differences in the students' learning environments. Research Mutia et al. (2025) states that environmental management activities that actively involve students can strengthen students' environmental care attitude and support the realization of green schools that are environmentally friendly and sustainable. Therefore, it can be concluded that, although MAN 3 Banjarmasin and MAN 1 Banjarmasin have different Adiwiyata statuses, they are able to shape students' environmental knowledge and attitudes very well if they actively involve students in environmental management activities.

The environmental knowledge of students at MAN 1 Banjarmasin and MAN 3 Banjarmasin showed similarities, namely Very Good, but this does not mean that they were completely the same. However, MAN 1 Banjarmasin students excelled in the indicators of Environmental Science and Environmental Issues, while MAN 3 Banjarmasin excelled in the indicator of Ecology. Research on environmental knowledge using Chang's (2011) indicators has previously been conducted by Zheng et al. (2018), the results of which show that individuals with higher environmental knowledge scores demonstrate better environmental awareness, meaning that the two factors are significantly positively correlated. In addition, Zheng et al. (2018) stated that the implications of environmental knowledge in education must be integrated into the school curriculum according to their level and applied in everyday life to help shape a young generation that is not only knowledgeable about the environment but also cares about the environment.

On the indicators of The Reality of Limits to Growth, Anti-Anthropocentrism, and The Fragility of Nature's Balance, students from MAN 1 Banjarmasin obtained higher scores. Meanwhile, in the categories of Rejection of Exceptionalism and The Possibility of an Ecocrisis, students from MAN 3 Banjarmasin obtained higher scores. The measurement of students' environmental care attitude using the NEP (New Ecological Paradigm) instrument in Adiwiyata schools was previously conducted by Wibowo et al. (2023), which showed that the environmental care attitude of adiwiyata school students in Pati Regency was moderate. For each indicator, the average scores for The Reality of Limits to Growth, Anti-Anthropocentrism, Rejection of Exemptionalism, and The Possibility of an Ecocrisis were in the moderate category, while the score for The Fragility of Nature's Balance was higher. However, the distinguishing feature of this study can be seen in the gender analysis, which shows that female students' environmental care attitude is higher than that of male students.

MAN 3 Banjarmasin and MAN 1 Banjarmasin are Islamic schools under the auspices of the Kementerian Agama and are not affiliated with the Dinas Lingkungan Hidup, but actively implement the PBLHS Movement, especially MAN 3 Banjarmasin, which has received the Adiwiyata award. The implementation of the PBLHS Movement begins with a commitment in the form of a vision, mission, and school regulations. Research Raudah et al. (2021) states that the implementation of environmental education understanding and management in religious schools is necessary so that students can better understand and love the environment where they live and study. One way to do this is by strengthening the commitment of madrasah leaders through regulations based on Islamic principles established in schools to be able to carry out environmental learning and projects that involve students.

Learning activities at MAN 3 Banjarmasin and MAN 1 Banjarmasin are based on environmental knowledge and issues, and involve direct participation in environmental actions. The decline in environmental quality is a major topic that needs to be instilled in education, for example, through lesson content that combines school-based and environmentally-oriented curricula to create school communities that are caring, environmentally conscious, and supportive of sustainable development Mahdi et al. (2023). In line with research Silvia and Tirtoni (2023), the strategy of shaping environmentally conscious character through an environment-based curriculum in every lesson can have a significant effect on the consistency of students' concern for the environment.

The greening program implemented by MAN 3 Banjarmasin consists of two methods, namely soil planting and hydroponics, but actively involves students from seedling, sowing, to maintenance, and the greening program supports food security. Not much different from MAN 1 Banjarmasin, greening is carried out using the same two methods, but does not involve students. Research Morados (2022) states that the use of hydroponic gardens in schools is very necessary, especially for vegetables that support food security. This is because plants in hydroponic gardens have significant differences from plants in pots in terms of plant height, leaf length, leaf width, and number of leaves, making plants grown using hydroponics more effective. In addition, gardening can improve the mental health of secondary school students (Kwok et al., 2021), in line with research Eling and Cummins (2025), which states that gardening activities have a positive effect on emotional, psychological, and social well-being.

Madrasah Aliyah Negeri 1 Banjarmasin has an active Waste Bank called "Bank Sampah Berkah" even though the school is not an Adiwiyata school. Not much different from MAN 3 Banjarmasin as an Adiwiyata school that also has a Waste Bank, but it is temporarily inactive due to limited land and human resources. The existence of a Waste Bank in schools can be a solution in overcoming pollution and protecting the environment, as evidenced by the active participation of all parties in the school Pratiwi & Yasin 2022). In line with the research Hazam et al. (2020), the existence of a Waste Bank, especially in schools, is very beneficial for preventing environmental pollution, beautifying the environment, reducing the risk of diseases caused by the environment, and good economic circulation.

Maintaining the school environment is not only the responsibility of the cleaning staff, but it is necessary to involve the entire school community, especially the students. The school environment cleaning system at MAN 3 Banjarmasin and MAN 1 Banjarmasin is not much different, namely through class duty, clean Fridays, and class cleanliness competitions. School environmental cleanliness contributes to learning activities, which is one of the factors that contribute to improving students' learning abilities, enabling them to achieve academic excellence (Uleanya, 2020). In addition, waste management at MAN 3 Banjarmasin and MAN 1 Banjarmasin is not much different, including the use of used plastic bottles for plants and a ban on the use of plastic bags. These efforts support the 3R (reuse, reduce, recycle) movement in waste management, according to Herman and Nur (2024), if carried out repeatedly, scheduled, organized, and evaluated, can become a school culture.

This study found new findings related to students' environmental knowledge and care attitudes in Adiwiyata and Non-Adiwiyata schools, as previous studies have shown differences in students' environmental knowledge and attitudes. One of the influencing factors is the *Gerakan PBLHS* implemented at MAN 3 Banjarmasin and MAN 1 Banjarmasin, which are not much different. Implementing the *Gerakan PBLHS* is not only limited to schools that have received the Adiwiyata award, which are committed and required to implement the *Gerakan PBLHS*, but Non-Adiwiyata schools can also implement the *Gerakan PBLHS* (Sari et al., 2025). Implementing the *Gerakan PBLHS* has a positive impact on increasing environmental knowledge and can influence students' attitudes towards caring for the environment. Due to these positive impacts, it is hoped that students can protect and preserve the environment so that the principle of sustainable development can be realized. In line with the statement by Wibowo et.al (2021), students who have an attitude of caring for the environment in the categories of caring to very caring show that their environmental knowledge continues to increase and shapes their attitude of caring for the environment so that they can minimize damage to the environment in the future.

4. Conclusion

This study concluded that there was no significant difference in environmental knowledge and attitudes between Adiwiyata and Non-Adiwiyata school students, with Very Good levels of environmental knowledge and Very Care levels of environmental care attitudes. Both schools implemented relatively similar *Gerakan PBLHS*. These findings indicate that the effectiveness of Geography Education and Environmental Education in a school is determined by the quality of learning implementation with ecological values rather than the status of Adiwiyata School.

Based on the results of this study, the researchers suggest that future researchers measure students' environmental knowledge and environmental care attitude using a broader comparative quantitative approach, not limited to the presence or absence of differences between the two variables. In addition, it is recommended to measure internal factors such as self-motivation, social environment, and ecological values that can influence students' environment care attitude.

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