



Environmental Literacy of Indigenous Communities and Urban Communities On Lombok Island

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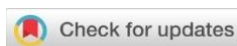
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Abstract

Background: The high ability of community environmental literacy can form ideal environmental conditions, but indigenous peoples and urban communities have different understandings of environmental conditions. This study aimed to determine differences in the environmental literacy of indigenous peoples and urban communities on Lombok Island. **Methods:** The objects of this research are the indigenous people of Bayan Village, North Lombok, and the people of the Dasan Sari Environment, Mataram City, West Lombok: quantitative research methods, quantitative descriptive approaches, and survey research types. Data collection tools are observation, interviews, and questionnaires. Data analysis using SPSS, data analysis techniques by calculating the mean score of the questionnaire. **Results:** The study obtained a mean environmental literacy value for the indigenous people of Bayan Village at 214.37 and for the Dasan Sari Environmental community at 240.56. The results of the hypothesis testing in this study obtained a significance value greater than 0.05 and t-count < t-table. **Conclusions:** There was no real difference in environmental literacy between indigenous peoples and urban communities on Lombok Island.

Keywords: Environmental Literacy, Indigenous Peoples, Urban Communities



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Introduction

Low public awareness of environmental hygiene and health and human ignorance in preserving, managing, and protecting their environment lead to dirty environmental conditions and cause environmental damage (Basuki et al., 2020; Purba & Yunita, 2017). Humans are the main factor causing global environmental damage (Iswari & Utomo, 2017). Environmental pollution occurs due to industrial activities carried out by humans (Zulfa et al., 2016). In addition, population growth can also increase the volume of waste. The increase in the volume of waste is not only due to an increase in population but also to an increase in the economy and population activities. Indonesians produce about 2.5 liters of waste daily (Hariyanto, 2014).

Infrastructure development in urban areas continues to be carried out for the welfare of society, but this development has negative impacts and damage to the environment. According to Indarto & Rahayu (2015), the negative impacts of development include (1) reduced productive land; (2) reduced area of green open land; and (3) environmental damage around development. This shows that environmental conditions in urban areas experience a decrease in environmental quality and environmental damage. For this reason, environmental literacy in urban and rural communities is very important to form a sustainable environment and an environmentally literate society.

Increasing environmental literacy is important to provide opportunities for the community to protect and repair the earth from damage (Rizky, 2021). Environmental problems can cause disaster for humans, and the need for awareness of environmental literacy for society and instilled from an early age (Parwati et al., 2021). The potential for decision-making based on understanding information can be influenced by literacy. Understanding good information will provide a sustainable way of life (Pitman & Daniels, 2016). Environmental literacy can be interpreted as a conscious attitude of the community to protect or preserve the surrounding environment. Environmental literacy is not just knowing the environment but also being sensitive and able to find solutions to environmental problems (Aini et al., 2021; Hariyadi et al., 2021; Kusumaningrum, 2018). The extent to which a person's environmental literacy ability can be measured through four parameters includes (1) Environmental knowledge; (2) attitude towards the environment; (3) competency; and (4) Behavior towards the environment (Hollweg et al., 2011; W. McBeth & Volk, 2010).

Indigenous peoples' and urban communities' environmental literacy skills have different understandings of ecological conditions. Widastra et al. (2020) revealed that the adat village is a customary institution that benefits the whole community. Lestawi & Bunga (2020) add that indigenous peoples treat nature as a source of life, and indigenous people believe in efforts to preserve nature. This shows that the traditional village's environmental conditions are still maintained. Thontowi (2015) states that indigenous peoples have the same sentiments within the group and live permanently and regularly based on hereditary origins in an area.

Previous research on environmental literacy has often been carried out. Tina et al. (2019) about ecological concerns for indigenous peoples in Penglipuran Bali village, Safitri et al. (2020) regarding junior high school students in Pekanbaru, Pratama et al. (2020) towards class XI students in Bandar Lampung, Dzimuna et al., (2020) compared the environmental literacy of the Jalawastu Traditional community and the modern community of Tegal City. Unfortunately, most previous research on ecological literacy was carried out only in formal school areas. There still needs to be more research that compares the ability of environmental literacy between indigenous peoples and urban communities. In this study, the researchers added the environmental literacy parameter, namely the caring parameter. This parameter is used based on the theory of Ajzen (1991), namely the Theory Of Planned Behavior (TPB). There has been no research on the environmental literacy of indigenous peoples and urban communities on the island of Lombok. Therefore, researchers want to research the literacy of indigenous peoples and urban communities on the island of Lombok. This study aimed to determine differences in environmental literacy between indigenous peoples and urban communities on Lombok Island.

Methods

The method used in this study is quantitative and descriptive to describe the environmental literacy skills of indigenous peoples and urban communities on Lombok Island from November 2020 to December 2022. The type of research used is the type of research survey. This research was conducted in the Bayan Traditional Village, North Lombok, and the Dasan Sari Environment, Mataram City, West Lombok. The sampling technique used in this study is Non-probability Sampling by purposive Sampling because researchers want to know the ability of environmental literacy in indigenous peoples and urban communities. The sample in this study was taken based on certain conditions: local people who occupy the research area and are in the productive age range of 17-60 years. Researchers also use informants with criteria, namely, an informal community leader and an expert working in the environmental field for at least five years. This was done because the researchers considered that they were the respondents who knew the environmental conditions and the location of the research community best.

Sampling in this study used Slovin's formula (Sugiyono, 2019). Based on the sample calculation, this study's total number of respondents amounted to 123, consisting of 51

respondents from the indigenous people of Bayan Village, North Lombok, and 72 respondents from the Dasan Sari Environment, Mataram City, West Lombok. Data collection used exploratory techniques, using test and non-test questionnaires. The data collection tools used by researchers were environmental literacy questionnaires, observations, and interviews. The variables in this study are environmental literacy with parameters of knowledge, attitude, competence, concern, and behavior. The research questionnaire was tested for validity and reliability before conducting data collection. The number obtained from each environmental literacy component is then transformed based on the MSELS environmental literacy transformation. They used right-wrong answers on the parameters of knowledge and competence while on the parameters of attitude, concern, and behavior using a Likert scale of 1-5. The questionnaire contains five parameters, namely the parameters of knowledge, attitude, competence, concern, and behavior. The questionnaire consisted of 10 questions about ecological knowledge, 19 statements about attitudes toward the environment, ten about land conservation competence, 16 about environmental concern, and ten about responsible environmental behavior.

Score processing and categorizing environmental literacy parameters were carried out based on NELA (B. McBeth et al., 2011), where all environmental literacy parameter scores are equated to 60, with the following categorization: Knowledge and competence parameters: range = 0-60, low = 0-20, medium = 21-40, high = 41-60. Attitude components: range = 12-60, low = 12-27, medium = 28-44, high = 45-60. Components of concern and behavior: range = 10-60, low = 10-27, medium = 28-44, high = 45-60. Composite score: range = 32-300, low = 32-121, medium = 122-210, high = 211-300. Data analysis used IBM SPSS 22. The data analysis technique in this study was the average descriptive statistic by calculating the mean total environmental literacy score. The numbers obtained from each parameter will then be collected and transformed into numbers, then a prerequisite test will be carried out.

Result

Obtain data from a questionnaire consisting of 10 questions about ecological knowledge, 19 statements about attitudes towards the environment, ten questions about land conservation competence, 16 statements about concern for the environment, and ten statements about responsible behavior towards the environment on environmental literacy parameters issued by North America Association Environmental Education (NAAEE) (B. McBeth et al., 2011) and Theory Of Planned Behavior (TPB) (Ajzen, 1991).

Table 1. Results of Environmental Literacy Questionnaire Data Processing

Parameter	Mean		Category	
	Bayan Traditional Village, North Lombok	Dasan Sari Environment, Mataram City, West Lombok	Bayan Traditional Village, North Lombok	Dasan Sari Environment, Mataram City, West Lombok
Knowledge	38,33	44,25	Medium	High
Attitude	46,88	46,20	High	High
Competence	33,77	33,41	Medium	Medium
concern	47,11	50,49	High	High
Behavior	48,26	49,50	High	High
Composite score	214,37	240,57	High	High

Based on the results of data processing (Table 1) for the indigenous people of Bayan Village, North Lombok, the knowledge parameter is in the medium category, the attitude parameter is in the high category, the competence parameter is in the medium category, the concerned parameter is in the high category, the behavior parameter is in the high

category, and environmental literacy skills seen from value composite score are in the high category. Furthermore, the categorization of community environmental literacy abilities in the Dasan Sari Environment, Mataram City, West Lombok on the knowledge parameter is in the high category, the attitude parameter is in the high category, the competency parameter is in the medium category, the caring parameter is in the high category, the behavior parameter is in the high category, and environmental literacy skills seen from value composite score is in the high category.

Table 2. Data Normality Test Results Using the One-Sample Kolmogorov Smirnov Test

Number	Data	Sig. (2-tailed)	Information
1	Bayan Traditional Village, North Lombok	0,200	Normal
2	Dasan Sari Environment, Mataram City, West Lombok	0,176	Normal

The normality test results data (Table 2) using the Kolmogorov-Smirnov test was obtained that the significance value of the indigenous people of Bayan Village, North Lombok was $0.200 > 0.05$. The significance of the people of the Dasan Sari Environment, Mataram City, West Lombok, was $0.176 > 0.05$. Because the significance value obtained was more significant than 0.05, it can be concluded that the variance of customarily distributed population group data.

Table 3. Homogeneity Test Results Using the Levene Test

Questionnaire	Sig.	Information
	0,082	Homogenous

Homogeneity test results with the Levene test obtained a significance value of $0.082 > 0.05$ (Table 3). This means that it can be concluded that the variance of the population group data is homogeneous.

Table 4. Hypothesis Test Results Using the Independent Sample T-test

Test Variable	Data Variant	Sig. (2-tailed)	T-test results	
			T-count	T-table
Environmental Literacy	Equal Variances Assumed	0,056	-1,927	1,97976

The results of hypothesis testing using the test independent sample t-test (Table 4) obtained sig. (2-tailed) of $0.056 > 0.05$. The results of the $t\text{-count} < t\text{-table}$ ($-1.927 < 1.97976$), so the H_0 assumption is accepted. There is no real difference in environmental literacy between indigenous peoples and urban communities on Lombok Island.

Discussion

The environmental literacy score is obtained from all environmental literacy parameters. The literacy score for the indigenous people of Bayan Village, North Lombok, with a total of 51 respondents, a total mean value of 214.37 with a range of 211-300, is in the high category. Based on NELA (National Environmental Literacy Assessment), this range is high. This means that it can be said that the two community groups have awareness and concern for the environment around them. Furthermore, acquiring the final environmental literacy score for the Dasan Sari Environment, Mataram City, North Lombok, with 72 respondents, obtained a total mean value of 240.56 with a range of 211-300 and is in the high category.

The acquisition of environmental literacy scores in the Dasan Sari Neighborhood community, Mataram City, West Lombok, is higher than that for the indigenous people of Bayan Village, North Lombok. This happened because of the Mataram City Regional

Government regulation regulating waste management. The NTB provincial government made the program zero *waste* a flagship program during the COVID-19 pandemic. The NTB provincial government focused the program on Mataram (Evayanti et al., 2022; Paramita et al., 2021). This can form awareness among the people of Dasan Sari Environment, Mataram City, West Lombok, about the importance of protecting the environment. An interview with the head of the environment stated that there were already regulations regarding prohibiting plastic waste in Mataram City, which had been applied to markets, malls, minimarkets, and the like.

Independent sample T-tests get the results of the assumption H0 is accepted, so there is no difference in environmental literacy in the indigenous people of Bayan Village, North Lombok, and the Dasan Sari Environmental community, Mataram City, West Lombok. This can be seen from the significance value 2-tailed > 0.05 , namely $0.056 > 0.05$, and the results of the t-count $< t$ -table, namely $-1.927 < 1.97976$. This aligns with the research results conducted by Dzimuna et al. (2020), which state that environmental literacy is the same between the Jawalastu indigenous people and modern society in Tegal City.

The Indigenous people of Bayan Village, North Lombok, have determined customary law (awig-awig) to protect the environment. The awig-awig is the result of deliberation and consensus of the traditional administrators. In the awig-awig, the maintenance and management of customary forests regulate three things: prohibitions, sanctions, and customary assembly processions (Jayadi & Soemarno, 2014; Rahman & Arba, 2020). Management of the customary forest in Bayan Traditional Village, North Lombok, manifests the relationship between indigenous peoples and their environment. An interview with the customary leader of Bayan customary village, North Lombok, stated that although adat is still solid, modern frictions are certain to exist and cannot be avoided. Still, indigenous peoples are not too carried away by always carried out habits. In the context of learning, one's knowledge can be influenced by social interaction (Wijarnako, 2013). So, education, information/mass media, employment, environment, experience, age, socio-culture, and the economy may influence the community's literacy.

Development that continues to be carried out will affect the quality of water, air, and soil, so the government is always active in socializing the environment. The increasing population and lifestyle of people in urban areas affect the amount of landfill waste (Suherdianto & Prihadi, 2021). Rest on the interview results with the Dasan Sari Environment head, Mataram City, West Lombok. It is known that socialization about the environment is often carried out. The Lurah also said this socialization was carried out because this environment received CLB (Clean Living Behavior). Even so, some people are indifferent to protecting the environment. This is known from piles of garbage on the banks of the river, which are disposed of by the community, both the local community and people outside the Dasan Sari Environment, Mataram City, West Lombok. Even though there have been regulations prohibiting throwing garbage in the river, due to the low level of public awareness, this has not made some people stop throwing garbage on the banks of the river. Of course, not all people do that. He also added that some people are aware of the environment separating organic and organic waste, and some make fertilizer from organic materials.

Revolve around the research on the environmental literacy skills of the indigenous people of Bayan Village, North Lombok, and the people of Dasan Sari Environment, Mataram City, West Lombok, are in the high category. Even though the environmental literacy value of the Dasan Sari Neighborhood community, Mataram City, West Lombok, received a higher environmental literacy score than the indigenous people of Bayan Village. The two community groups have fulfilled aspects of environmental literacy based on the questionnaires that have been answered. However, based on observational data, the indigenous people of Bayan Village, North Lombok, have a good implementation of the surrounding environment, while the people of the Dasan Sari Environment in Mataram City, although they obtain higher environmental literacy values, the community low in implementing it in the surrounding environment.

Conclusions

The rest study's results indicate a difference in environmental literacy between the indigenous people of Bayan Village, North Lombok, and the Dasan Sari Environmental community, Mataram City, West Lombok. The environmental literacy of the two community groups is in the high category. This is known from filling out the environmental literacy questionnaire that has fulfilled aspects of environmental literacy. Both community groups well answered all parameters of environmental literacy. The researcher suggests that future researchers use the results of this study as a basis for measuring the direct and indirect influence of community behavior in utilizing environmental literacy with various variables so that it can be used as an alternative to improving solutions to increase community literacy for stakeholders.

Declaration statement

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