



Practising Eco-Theology: Pesantren and Green Education in Narmada Lombok, Nusa Tenggara Barat (NTB), Indonesia

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Abstract. The religious approach has recently become an alternative in disaster mitigation. Religion is not only a theological foundation, but also complements the scientific approach in preventing and dealing with disasters. One of them is in disaster literacy based on *pesantren* in Narmada, Lombok, which is a disaster-prone area. The theological approach is optimized in the environmental and disaster literacy movement through environmental education at the Nurul Haramain Islamic Boarding School which is known as an environmentally friendly Islamic Boarding School. This article discusses the practice of green education in Islamic boarding schools as part of disaster literacy efforts in Lombok. The research was conducted with qualitative methods. Collecting data through observation, interviews and documentation studies. Research informants include *pesantren* administrators, Non-Governmental Organizations and the community which are determined by purposive sampling. Data analysis used interactive models, namely by data reduction, display and drawing conclusions. The results showed that the practice of green education in the Nurul Haramain Islamic Boarding School was implemented through several programs including integrated farming, waste management, open-air schools, training of facilitators for students and the reforestation movement by planting trees. This activity is inseparable from the role of Tuan Guru Hasanain who applies an eco-theological approach through the internalization of religious interpretations that support disaster literacy. Tuan Guru has an important position for the people of Lombok, who are predominantly Muslim, so that the literacy program can be accepted by the community. This shows that religion plays a role as an effective alternative in disaster literacy in society.

Keywords: Eco-theology · Pesantren · Green Education

1 Introduction

Lombok is one of the areas that are prone to disasters. In 2018 in West Nusa Tenggara there was an earthquake that resulted in 159,715 house damage, 445,343 displaced victims, 1,584 injured victims, and 564 fatalities with details of 9 people from Mataram,

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2 people from Central Lombok, 31 people from East Lombok, 44 people from West Lombok, and the rest from North Lombok [1]. This condition is influenced by the geological conditions of the NTB region where there are two main seismic sources, namely plate subduction and flores-arc thrust which, when measured by the PSHA method, the PGA value shows results if the Central Lombok region is a relatively safe area from earthquakes, while the southern and southern parts of Lombok The north has a relatively high level of seismicity, so it can be said that this area is prone to earthquakes [2]. Based on the disaster risk index issued by BNPB in 2020, West Nusa Tenggara Province is in the medium level with a score of 128.05 [3].

Disaster vulnerability in Lombok requires the government to carry out disaster management, starting from strengthening disaster management, improving performance and collaboration with stakeholders or certain parties through the application of the latest disaster management technology, empowering the surrounding community through collaborative social engineering or social and engineering approaches, and reconstructing the area. Affected by disaster with appropriate rehabilitation and recovery [3]. Environmental literacy efforts in Lombok so far have been very varied. One of them is through environmental literacy based on local wisdom with the simplest disaster prevention, namely famine seasons by storing food in barns, internalizing the law of cause and effect, to the application of modern systems by utilizing technology.

Often, disaster literacy is carried out by government institutions and stakeholders through training programs and disaster simulations accompanied by BPBD or non-governmental organizations. However, recently the religious approach has become an alternative in disaster literacy in Lombok. This is because the population of Lombok is predominantly Muslim so it is considered more effective. On the other hand, Tuan Guru as an Islamic religious figure has a strategic position in society. The construction of scholarly thought related to disaster mitigation is generally applied in Islamic boarding schools as educational institutions that develop knowledge, skills, reasoning and sources of values according to Islamic law from the community, as well as a forum that moves the community's spirit to improve and preserve the surrounding environment [6, 7].

Environmental conservation efforts by religious leaders are not only pursued individually but also through the formation of special institutions that carry out these issues. For example, institutions such as those in East Java in the form of local NGOs (Non-Governmental Organizations), LBM (Lembaga Bahtsul Masail) PCNU, and the Jakarta Kehati Foundation, one of whose programs are to prohibit exploitation and illegal logging of government assets [4].

One of the Islamic boarding schools that has practiced eco-theology (environmental theology) with the application of "green education" is the Nurul Haramain Islamic Boarding School in Narmada, West Lombok. This Islamic boarding school has become a model related to the development of education, environment, social and culture with the return of understanding that is currently forgotten by humans, namely the use of technology to protect nature and adhere to Islamic values [6]. This Islamic boarding school also carries out a reforestation movement on barren land by involving students and boarding school administrators, including the master teacher as the leader of the Islamic boarding school.

Many previous studies have discussed the environmental movement in Islamic boarding schools. One of them examines the relationship between *pesantren* and the environment which focuses on the meaning of religion on environmental management. In addition, there are also several studies discussing the role of Islamic boarding schools in environmental da'wah, including research conducted by Nawawi, et al. (2017) which describes the application of indicators for the Nurul Haramain Narmada Islamic boarding school program implemented in the vision and mission of Islamic boarding schools, integrated madrasa curriculum, environmental care movement. Life, and the use of Islamic boarding school infrastructure as environmental education [6]. Another study conducted by Quddus (2020) stated that the Nurul Haramain Islamic Boarding School represented Islamic learning and environmental agencies. In his research, there are recommendations that can be implemented based on the research findings, namely that there must be further implications of the eco-theology promotion program being carried out; increasing ecological awareness based on eco-theological knowledge that is extended to all levels of education; and development of ecological curricula at all levels of educational institutions [8].

In this study, researchers focused on the practice of green education based on Islamic values and teachings in Islamic boarding schools. Environmental conservation education implemented at the Nurul Haramain Islamic Boarding School in West Lombok is based on theological values through the progressive interpretation of Tuan Guru. The implementation of Islamic teachings and values in this *pesantren* proves that the spiritual values that are instilled can directly help human life in the hereafter and worldly aspects such as ecology, economy, and social life [9]. The integration of the element of monotheism in the school curriculum is shown by the approach of inculcating the value of searching for the meaning of the verses of the Qur'an about the concept of the environment. In addition, the level of awareness of students in implementing the science of monotheism in the curriculum can support the success of environmental conservation in the vicinity [11].

The theological study of eco-theological practice in the perspective of the *pesantren* is increasingly interesting to study because of the strategic role of *pesantren* as a medium of knowledge transfer and agents of social transformation in society, especially in disasters. On the other hand, there are still few studies that comprehensively describe the application of green education in the *pesantren* environment. Therefore, this study discusses how the practice of habituation of green education in the Nurul Haramain Islamic boarding school in Lombok is carried out through Pierre Bordieu's Habitus theory.

Islamic boarding schools play an important role in environmental literacy in Lombok. This is inseparable from the important position of Tuan Guru (ulama) in Lombok society, which is predominantly Muslim. Tuan guru Hasanaini drives *pesantren*-based environmental literacy. Literacy that is carried out not only transfers knowledge, but also internalizes Islamic values in environmental management through daily practices in the Islamic boarding school environment. Education in *pesantren* does not teach formal knowledge, but also insights and practices in natural management through the Integrated Farming program. Even the implementation of education is also carried out in open spaces. This is an important part of habituation of green education practices in the *pesantren* environment.

2 Method

This study uses a qualitative method. This research approach seeks to obtain in-depth data about culture, understanding a phenomenon by means of fieldwork or intensively going into the field [12]. The subjects of this study were students of Nurul Haramain, Narmada, West Lombok. To obtain data, researchers used informants consisting of caregivers, administrators/ustadz, and students of the Nurul Haramain Islamic Boarding School. This research was conducted at the Nurul Haramain Islamic Boarding School, West Lombok, West Nusa Tenggara. The location determination was based on the consideration that this Islamic boarding school was carrying out reforestation practices both in terms of education, as well as real action in the *pesantren* environment and the surrounding community. In addition, there is also a movement to protect the environment by planting one million trees, and carrying out volunteer work during the Lombok earthquake in 2018. The religious leaders of this *pesantren*, namely the ulama or master teachers and the *ustadz* and clerics at the Nurul Haramain Islamic Boarding School are actively involved in reforestation activities, campaigns, disaster literacy, and volunteering when an earthquake occurs.

The researcher used purposive sampling technique as an informant selection technique by determining the research informants directly by considering the involvement and understanding of the pesantren's green movement. The researcher also interviewed students and environmental activists from non-governmental organizations (NGOs) as informants. Before the interview, the researcher made a research instrument that contained interview guidelines. In addition, observations and documentation studies were also carried out by researchers to obtain accurate data. After the data collection stage has been completed, the next step is to analyze the data through the Huberman and Miles Interactive data analysis model which begins with condensing the data, presenting, and drawing conclusions. Then the data will be checked for validity by triangulation to various sources and techniques until the data is saturated [13]. That is, the data analysis process is carried out in line with data collection and data verification so that the data obtained is objective, reliable, and valid. The data that has been obtained is then collected and reduced by selecting data that is relevant to the focus and formulation of the problem. The next step is compiling the data into complete sentences through inductive logic so that conclusions can be drawn.

3 Result and Discussion

3.1 Eco-Theology of Pesantren Nurul Haramain Narmada, Lombok Barat, NTB

The Nurul Haramain Islamic Boarding School is a religious institution engaged in both informal and formal education. Like *pesantren* in general, there is a dormitory as a place to sleep for the students. The vision of this *pesantren* is good, prosperous, useful, beautiful, and true. The indicators to achieve the vision are by improving the quality of education and non-education, knowledge or insight, foreign language skills, organizational skills, prosperity and involvement of alumni in community activities. The facilities and infrastructure in Islamic boarding schools are very complete, ranging from mosques, male and female dormitories, classrooms consisting of two categories, namely

outdoor and indoor, waste processing and burning areas, buses belonging to three Islamic boarding schools, screening and management areas. Good water, facilities for integrated farming with farming interspersed with raising freshwater fish, chickens, ducks, geese and goats. The *pesantren*'s agricultural land is planted with various plants, including stevia which contains sucrose as a substitute for glucose in cane sugar. Based on the explanation of one of the *pesantren* officials, if this plant can be cultivated properly, the market opportunity will be high because considering the number of neighboring countries that consume stevia as a sugar substitute. In addition, there are also facilities to develop the talents of students and students in the field of production and distribution of cakes or bread. In addition, the Nurul Haramain Islamic Boarding School also accommodates its students to be active in community activities, either in the form of humanitarian action or preserving the environment.

Referring to Tuan Guru Hasanain's opinion, preserving the environment is an obligation for all mankind. In Islamic theology, the philosophy of this obligation is linked in the double mandate of the process of human creation as God's creatures. This trust is associated with faith and security in reality is mutually sustainable with the process of environmental preservation. The concept of environmental conservation in Islamic jurisprudence has been explained clearly, as in Surah Hud: "الْأَرْضِ وَاسْتَعْمَرَكُمْ فِيهَا هُوَ أَنْشَأَكُمْ مِنْ" From the fragment of the verse, it can be interpreted if Allah SWT created humans from soil and asked humans to preserve them. From there, there is also an interpretation if it is necessary for each individual to be careful in carrying out life on earth. Earth is likened to a mother who must be cared for, cared for, and loved wholeheartedly. Eco-theological studies explain the understanding that if every tree is planted, cared for, and cared for by humans, people will turn to pray for those who plant them. In other words, the law of cause and effect is instilled in the individual from an early age. The legitimacy of society towards *Pesantren* emphasizes the function of *pesantren* as an institution that inherits civilization. All kinds of ways to close the hole of past mistakes on the environment are increasingly being carried out by *pesantren* through two channels, namely learning directly from experience and hard work. Theologically, the basic concept of planting refers to a symbiotic process of mutualism that gives each other the opportunity to live and give life.

The application of eco-theology at the *Nurul Haramain* Islamic Boarding School interprets the process of greening the environment as a revolution from the books taught among students. Starting from the yellow book which is basically the main teaching for the students to study, moving on to the green book which is oriented to environmental conservation programs and the greening movement. The reforestation movement is carried out by all *pesantren* residents by planting in the *pesantren* environment. Tuan Guru Hasanain said that the disasters that occur today are a form of debt from the past when humans did damage to nature.

In fact, if we look at the advice of Islam, protecting nature is a fundamental thing that humans must do. For this reason, efforts to recover from all the damage that have been made by mankind are needed in the simplest but most difficult way, namely reforestation and planting as many trees as possible. Internalizing Islamic values in the context of environmental theology, the deliberation process is prioritized through educational institutions by looking at various opportunities to take advantage of nature through planting

programs but minimize natural damage. As stated in the quote from Allah's word in Surah Ash-Shura: 38 which means that every human affair is recommended to take a middle way to resolve it through a process of deliberation.

3.2 Green Education Practices in Pesantren

Green education is an effort to increase awareness, understanding and behavior in protecting and preserving the environment, both formally and informally. The practice of green education in the Nurul Haramain Islamic Boarding School is implemented through several programs including integrated farming, waste management, schools in the open, and tree planting programs. First, the implementation of the integrated farming program is carried out by utilizing water from the pond flow to irrigate rice plants, so that rice management in this cottage does not require fertilizer.

It is in line with the statement made by the board of the Nurul Haramain Islamic Boarding School which stated that the implementation of integrated farming can save around 7 million per hectare of expenditure. The program also supports the low cost of feed for fish livestock. In reducing the cost of fish feed, the Islamic boarding school uses an endemic feed called "lemna minor". The implementation of the use of feed can support the hope of the Nurul Haramain Islamic boarding school to become a pioneer in the use of feed for agricultural fields. In addition, Tuan Guru Ponpes Nurul Haramain also said that the implementation of integrated farming will produce biogas to be used in Islamic boarding school activities.

The second practice is the management of Islamic boarding school waste. This practice can be seen in the ownership of landfills. The TPS are managed by the students themselves, especially the OSIS administrators and the Islamic Boarding School administrators. All forms of waste will be accommodated in that place which will then be sorted by the students themselves before being sent to the final disposal site. So, in implementing the philosophy of creation mandate, waste management is part of the Islamic boarding school's environmental conservation movement.

The third practice is that school learning activities are carried out in an open environment. The implementation of the learning supports the Islamic boarding school learning system that applies environment-based learning. The learning activities are carried out in gazebos which have been prepared by the Islamic Boarding School as a place for learning outside the classroom. The last practice is a tree planting program initiated by Tuan Guru Pondok Pesantren Nurul Haramain. Tuan Guru said that the tree planting program started with planting tree seedlings at the airport where he mobilized 3000 students of Nurul Haramain together with other stakeholders. Starting from there, until now the Islamic Boarding School has implemented a planting program in the Islamic Boarding School environment. The implementation of the program still involves the students to instill environmental literacy in the students.

4 Conclusion

Islamic boarding schools are the basis for planting religious-based environmental literacy in Lombok. This is not from Tuan Guru's role as a caregiver who has an active mind in carrying out conservation through da'wah and education in Islamic boarding schools.

The important position of the master teacher in the *pesantren* has a strong influence on the implementation of environmentally friendly curriculum and learning practices. Through various programs and learning facilities, Islamic boarding schools educate students to play an active role in environmental conservation. Not only that, the *pesantren* also provides a natural laboratory for media for environmental management practices.

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Authors' Contributions. This article contributes in the form of new insights about green education in Islamic boarding schools. *Pesantren* as an informal educational institution implements an environmental curriculum, not only around Islamic education. Green education based in Islamic boarding schools is expected to be an alternative in environmental and disaster literacy for disaster-prone communities. The authors of this article who come from various backgrounds such as Sociology, Geography, Communication, and Islamic Religious Education have provided a comprehensive perspective on disaster literacy.

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