Environmental Awareness to Realizing Green Islamic Boarding School (Eco-Pesantren) In Indonesia

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Abstract: This paper is based on Community Engagement Grants program which developed through stakeholder cooperation method. It means the involvement and participation of Pesantren community and the peoples around it as well as the institutions whose have aim related with the program try to realize good environmental health for communities around it. Through empowerment approach which positioning Pesantren community, local people, and related institutions as a subject, the moral and religion values in Pesantren into moral value of environmental sense in form of value and knowledge that should be improved for the better environment health. Environmental development engagement could be done through two kinds of approaches. First is by project approach and the second is motivation approach or it could be both of them in integrated way. The second approach (motivation), although relatively spend longer time, it will effected more positive because the target will gradually change their attitude and behavior in persuasive manner. The behavior of ignoring environmental problem will turn into dynamically attitudes that will always grow and culminate in stability of environmental engagement.

Keywords: environmental education, Islamic education, environmental awareness, pesantren, Engagement

1. Introduction
Environmental crisis in the modern society is caused by environmental management that ignored the sustainable principle. The damage of environment signed by environment degradation which makes modern civilization faces a condition to invade limited natural resources. Many methods have been done to solve this natural damage problem. However until now, there is no instant and quick formula to fix natural damage. Therefore, it needs another long term formula in solving this natural problem. One way that can be used is by educational approach [1].

In developing countries, environmental educational approach begins to be conducted massively. According to Bishnu’s research, the environmental care approach in Asia Pacific is engaging in early time since this area has incredible natural resources but the damage area is also wide [2]. For example in Indonesia, environmental education is developed in formal school at early time. However since long time ago, there is traditionally educational system in Indonesia called Islamic Boarding School (Pesantren) as education institution that can be a key of educational development with environmental care basis.

Indonesia is the largest Muslim country in the world with more than 200 million adherents Muslims. There are more than 50,000 Islamic schools in Indonesia, where its religious lessons have direct and long term impacts for Islamic living orientation inside this country. Islamic lesson began in...
Indonesia since about the 13th century in form of Al Quran study at the village mosque, prayer houses, and at religion teacher’s house. Islamic lesson was taught for children from six to eleven years old. During the time, various types of Islamic schools appeared in many regions of Indonesia, such as Pesantren and Pondok (mostly in Java and Kalimantan), Surau or mosque (in West Sumatra), Dayah (in Aceh), Madrasah and Islamic schools. Pesantren, Pondok, Surau, and Dayah were generally regarded as “traditional” Islamic educational institutions which have long history since Islam coming in Indonesia [3].

In Indonesia, Pesantren (Islamic Boarding School) especially traditional Pesantren is one of the traditional educational institution that still existed since hundreds years ago. In the beginning, Pesantren was a place to teach just about Islam, but now Pesantren has been transforming to become educational institution that not only teaches religion and morals, but also graduate cadres in economy, culture, and even environment sectors. In occasion of environmental sector in Indonesia, Pesantren which implementing green principles especially for environmental health has been grown recently. The Environmental health becomes crucial issue in creating eco Pesantren, since the former stereotype of Pesantren (especially traditional one) was seedy, squalid, and dirty. This perspective is not always wrong because many Pesantrens have less care of their students and workers’ health due to the reason of isolated location, limited land, and limited funding. Therefore it negatively influences the health of traditional Islamic boarding school community [4]. Pesantren is assumed un-civilized as various diseases caused by dirty Pesantren’s environment.

The special thing on boarding school education is learning from classical Islamic intellectual roommates treasure known as the yellow book (yellow book). In the past time, usually boarding school taught religion subject base, but now it is mostly completed with base elementary school subjects. This was the result of state Reformation in the late of 1970s. Besides non-religious subjects, many Pesantren also offer vocational courses such as agricultural skills, vehicle repair, and business enterprising skills, and environment awareness [5]. However mostly Pesantren has bad condition like badly need water, sanitation and hygiene, and the level of intensity of the relationship between human contacts is very vulnerable, especially in children particularly at risk to environmental health hazards.

2. Theoretical Overview

Environment degradation as environment social problem which is combination of supply, accessibility, and novelty of natural resources value that confirm the level of needed natural conservation. The stressed is environment value which is proportionally with the resource of natural resources that human needs. In this perspective, the core of degradation definition is externality, stack consumption, and error of differentiating human capital with natural capital. This perspective is dominated by relationship between consumer and reduce environment loss through scarcity natural resources consumption management. Natural degradation from consumption which consist of pollution and loss of diversity is indirect effects (Hampel, 1996).

The weakness of natural care in case of badly environment management is happened since environment still assume as load. There are natural characteristics which caused difficulties for policy to internalise natural aspect into their policy. Those characteristics are:

1. Environment is intangible which means difficult to quantify.
2. Natural impacts will be happened in long term impact.
3. Natural impact will have characteristic of negative externality.
4. Environment as space and natural resources is assumed as public belonging.

However on Pesantren circumstances, the needed of synergized with environment is a must. Even though a lot of Pesantren are not able yet to realize its institution as educational institution with environmental friendly. Pesantren is expected to maintain and preserve the environment through Eco-Pesantren. The Society in this class tends to be apathetic to the environment. Commonly, the people will be aware after facing a greater impact due to environment damage. This is absolutely unwell because it will disturb people’s activities and environmental conditions. Therefore, the engagement of maintaining the nature for public interest becomes together responsibility that cannot be negotiable anymore [6].
Besides improving religious knowledge, Pesantren also teach the students to become useful people and could implement the values of the environment. Pesantren is mostly located in rural areas where the Kiyai, religious teachers, students, and administrators are lived together in one environment and based on their own Islamic values, norms, and habits. That makes this institution has a strategic position in carrying out the roles of education and socio-economic development for the community. Those become effort to preserve the environment and increase the important of health awareness. In keeping Pesantren environment well, some activities can be done such as recycling used goods, composting process, and applying technology for environmental pollution mitigation such as water treatment. Meanwhile in occasion of health, Pesantren can set up local herbal pharmacy by cultivating medical plants and all are arranged by santri or santriwati (Pesantren’s student in both, male and female) under supervision of Pesantren staff.

As we know together that the natural condition now is dramatic and dangerous for the human health as pollution in the air, sea, and land. In addition, the climates change the caused damage and environmental pollution on earth roommates showed by the increasing of floods, landslides and Drought. It is the caused by the deforestation where 5100 growth natural forests were lost every day. Islam clearly gives instruction to maintain the nature and its balance. Moreover, Islam also warns us for not to break and damage the environment [7]. The environment that was beautiful in the former, is destroyed by irresponsible hands recently. This is caused by humanitarian and social morality crisis as well as human lifestyle that tend to be consumptive who result in loss of natural balance [8].

Many results of study about environment care effectiveness shows that the efforts of natural conservation from a kind of institution will create a number of benefits especially for its community and people in general. Hence, through education, environment care could be continually developed. Study of Larijani (2008) shows that when a teacher could deliver their science and experience in environment management, the student will gradually follow and practice it in daily life and in their environment [9].

3. Methodology

This activity is carried out through community approach as a subject. The methods of this research is based on the result of community engagement grants. In addition, statistical assessment by sustainable index methods is also conducted. The Ecopesantren sustainable index uses Multi-Dimensional Scaling (MDS) approach. This concept is actually modifying the approach of Rapid Appraisal Techniques for Fishery (RAPFISH) at the University of British Columbia (Kavanagh, 2001) where initially measures the sustainability of resources and fish catches.

Pesantren shares its value and knowledge as well as develops and improves it to be better than before. It has conducted community empowerment activity through Eco-Pesantren education as the basis of moral character building with environmental sense. The activities are:

1. The establishment of Pesantren Waste Bank (3R, reuse-reduce-recycle)
   One of the problems that many people who live in urban or rural areas faces is wastemanagement. The greater waste sources are coming from household, agriculture, industry, service, and office activities. That waste have potentially polluted and damaged the environment instead natural resources. Meanwhile waste management is actually very easy by process of recycling for instance.

2. The Simple Waste Water Installation (Sanitation and Clean Water)
   Pesantren area should be produced a lot of waste water without proper treatment and gradually impacted on environment pollution. Therefore, the water treatment can be used to treat unused water to be used again for public interest.

3. Green Pesantren and Land Exploration
   The application of Green Pesantren program is by planting various plantations such as ornamental plants, vegetables, fruits, or herbal plants. The planting uses several methods such as vertical garden, hydroponic, green house, and this circumstance will beautify Pesantren itself.
4. Green Curriculum in Teaching Process Includes Library and Information Service with Environment Basis.

Green School Movement should be arranged holistically by linking the whole programs in Pesantren and considering various influenced factors such as supporting or inhibiting factors. The Internal potential Pesantren are in form of land, water resources, energy, and waste as well as local wisdom as society ones around Pesantren.

4. Result

According to Rapfish, the modification of techniques that adjusted with sustainability of Ecopesantren is done. Method of MDS is statistical analysis technique with computer basis by using statistical software on computer. It performs transformation of any dimension and multidimensional of renewable resources sustainability management in border area. Data analysis with MDS covers sustainability aspect on dimensions of ecological, economic, and social culture.

| Dimension       | Sustainability index | Statistical value | Iteration |
|-----------------|----------------------|-------------------|-----------|
|                 | MDS                  | Monte Carlo       | Stress    | R²      |     |
| Multidimensional| 62,64                | 62,66             | 0,2147    | 0,8972  | 2   |
| Ecology         | 50,20                | 50,22             | 0,1532    | 0,942   | 3   |
| Economy         | 64,58                | 64,56             | 0,15135   | 0,9023  | 3   |
| Social culture  | 53,05                | 53,04             | 0,1349    | 0,9506  | 3   |

Table 1. Sustainability Index and Statistical Value

In appointing Ecopesantren sustainability index, one of the main keys to turn the concept into a measurable sustainability index conducted by MDS is finding or even input of quantitative data. The types and forms of data is highly dependent on character and type of conducted research. The index value of Ecopesantren sustainability status is determined on the scores for each attribute in each dimension in accordance with the conditions of recent management with reference to the criteria of sustainable development concept.

The result of research shows that Ecopesantren sustainability level is in the level of sustainable enough (50.01 to 75). This describes the condition of existing Ecopesantren is in a good level, but unsustainable yet.

In the progression, any Islamic boarding school has developed in various norm and ethic [10-11]. One of the examples is the Eco-Pesantren. Eco-Pesantren the model is arranged in order to the make boarding school as a center of environmental study based on Islamic science for the students and the community around it. The development with human ecology approach will mix the right boarding school as united social-cultural. This model of the make doubt of few parent, however, Kiyai will motivate the students that this could be a model of provision for reviews their future life.

Environmental motivational approach can be done in Pesantren education management. The sense of environmental balance that arises from base understanding of the problems and the implication of *ukhrawi* and worldly welfare can be taught and developed through education in this environment. Meanwhile the development of the green area and its supporting system is a part of environmental management program. The development of environmental basis curriculum can be integrated arranged or monolithic. Material development, learning models, and various learning methods are conducted to provide insight for the students and people around about environment which associated with everyday environmental local issue.
So many success stories with their own characteristics in every region, and now it is trying to be applied in Pesantren. Usually, waste is just throwing away without sorting or recycling process. Through the development of Waste Bank system, the students will be more motivated to sort the waste and then get moral lesson on how we deal with waste. If the Waste Bank system success in Pesantren, the local community would be interested to adopt it. According to Sabah research (2008), environment protection raised as passion of environment guard. The success of environment program can result in the willing of spirit reproduction in another form based on environment protection [12].

Hence, the Eco-Pesantren community engagement as environmental character building basis is easy to be implemented at Pesantren and the people around it. The Indonesia's natural condition which degrade and danger for human health is caused by people’s vandalism. The green Pesantren development through cooperation of stakeholders can be realized as principles and rules of environmentally education development. Pesantren as basis place for character and Islamic morality builder which synergized environment sense inside is demanded to comprehend not only religion and science subjects, but also becomes role model for the future humans who pro and care with the environment.

5. Conclusion

The results of activities showed that environmental sense and health could be optimized when it actualized in form of integrated environmental education curriculum. The good environment situation could be created through approaches of knowing (knowledge, cognitive), being (attitudes), and doing (psychomotor). In addition, the value and norm of environmental health, behaviors, water management for health standard, fresh ventilation and air circulation, waste management in 3R (Reuse, Reduce, Recycle), as well as available public facilities are also contributing good Pesantren environment.

The results of environmental health program show significance changes as follows:

1. The program is more optimum after actualized in the form of integrated environmental education curriculum. The good environment situation could be created through approaches of knowing (knowledge, cognitive), being (attitudes), and doing (psychomotor). In addition, the value and norm of environmental health, behaviors, water management for health standard, fresh ventilation and air circulation, waste management in 3R (Reuse, Reduce, Recycle), as well as available public facilities are also contributing good Pesantren environment.
2. The raise of Pesantren’s efforts to protect and maintain health facilities that related with environment. The examples are establishment of regulation for Pesantren community to create environment order and cleanliness as well as punishment for the violence actor.
3. The cleanliness program which is held regularly in daily or weekly and involved surrounding community as well as cleanliness competition between religious institutions.
4. The support from competent institution to conduct health surrounding communities.
5. The squalid, seedy, exclusive (closed), anti-socialization, and social un-responsibility images in Pesantren before become degrade and disappear through together environment cleanliness and health activity that integrated and merged with surrounding community nowadays.

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