



Environmental Health-based Educational Policies at Public Junior High School 1 Karanganyar, Central Java, Indonesia as an Independent Adiwiyata School

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Abstract

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BACKGROUND: Adiwiyata is a program for Indonesian schools to encourage environmental-friendliness and ecological awareness. Public Junior High School 1 Karanganyar is a school in Central Java Province that won the Independent Adiwiyata School award.

AIM: This research aims to describe: (1) The environmentally friendly policies, (2) the curriculum model of Islamic Religion Education subject that have ecologic orientation, (3) the participative-based school activities that color the construction of the Islamic Religion Education subject that have ecologic orientation, and (4) the management of facilities and infrastructure that support the construction of the Islamic Religion Education subject that have ecologic orientation in Public Junior High School 1 Karanganyar.

METHODS: This study uses the method of constructivism paradigm. This descriptive research uses the qualitative approach.

RESULT AND DISCUSSION: The environmentally-friendly school policies encompass the Curriculum of Educational Unit Level and the School Budget and Activity Plans, which contain efforts of environmental preservation. Results show that these policies are also contained in the vision of the Public Junior High School 1 Karanganyar, namely, "To create a generation that is religious, intelligent, have good character, and environmentally-friendly." The curriculum model contains policies on environmental preservation.

CONCLUSION: The participative-based school activities in PJHS 1 Karanganyar are supported by all school components, including in the form of partnerships. The management of the facilities and infrastructure that support ecologic orientation is quite good. Some educative slogans and posters contain ecologic messages put up in strategic places. There are green open spaces, a canteen that reduces plastic usage, and waste management facilities.

Introduction

The lack of environmental awareness has severe consequences for the globe. Many disasters happened in Indonesia, including floods, landslides, and forest fires mostly caused by the human factor [1]. The excessive exploitation of natural resources and environmental pollution may cause such disasters [2]. Worse, there are ecological crises such as global warming, the thinning of the ozone layer, and acid rain [3].

As an effort to prevent further ecological damage, the Republic of Indonesia's Ministry of Environment rolled out the Adiwiyata School program to encourage environmental-friendliness and ecological awareness of schools in 2006. Adiwiyata is a program to gain knowledge on various norms and ethics to create a prosperous life with sustainable development ideals. "Adiwiyata" is the name of the environmental education program in Indonesia. Internationally, it is usually called the "Green School" program [4]. It was first pioneered

in 1975 with the Environmental Education program. It has gone through stages of perfecting, up to the issuing of the Implementation Guidelines of the Adiwiyata Program through the Regulation of the Ministry of Environment No. 5 of 2013 [5].

This Adiwiyata School program is carried out sustainably, from elementary school, junior high school, and up to senior high school. There are also ranks of Adiwiyata, starting from the City/Regency Level, Provincial Level, National Level, Independent Level, ASEAN Level, and up to the Asian Level.

Public Junior High School 1 Karanganyar (PJHS 1 Karanganyar), Central Java has obtained the status as an Independent Level Adiwiyata School. Such a status shows its commitment to fulfilling the four components of a good Adiwiyata School, namely, the provision of curriculum, school policies, participative-based activities, and facilities and infrastructure that support environmental education. Principally, that school has made efforts to encourage students to have environmental awareness. The school also carries out

environmentally-friendly actions, such as separating organic and inorganic waste, planting trees, naming trees, making bio pores, turning waste into composts, taking care of plants, and cultivating hydroponic plants. Apart from that, 20% of the school's budget have been allocated for environmental protection and management.

Religion is often defined as a system of care for nature. It may also be defined as a means to extinguish the anger of superhuman powers that are believed to control nature and humans [6]. Islam has concerns over welfare, environmental preservation, balance, and proportional use of the environment, as stated in the Koran and the hadeeths (the sayings of Prophet Muhammad). For instance, chapter *Al-Baqarah* (2): 60 and 205; chapter *Al-Qaşaş* (28): 77; and the hadeeth, "If any Muslim plants any plant and a human being or an animal eats of it, he will be rewarded as if he had given that much in charity" (Narrated by Imam Bukhari in Shahih Bukhari) [7], [8].

The Islamic religion education developed in PJHS 1 Karanganyar supports the Adiwiyata School program. It introduces Islamic values that have the ecologic orientation as stated in the Koran and the hadeeths. Students are trained to apply these values through environmentally friendly activities.

Thus, the problem of this research is, what is the construction of the Islamic Religion Education and Character with ecologic orientation in PJHS 1 Karanganyar? This research aims to describe: (1) The environmentally friendly policies, (2) the curriculum model of Islamic Religion Education subject that have ecologic orientation, (3) the participative-based school activities that color the construction of the Islamic Religion Education subject that have ecologic orientation, and (4) the management of facilities and infrastructure that support the construction of the Islamic Religion Education subject that have ecologic orientation in PJHS 1 Karanganyar.

Methods

This qualitative research analyzes the program, phenomena, activities, and construction of the Islamic Religion Education subject that have ecologic orientation in an Independent-Level Adiwiyata School, namely, Public Junior High School 1 Karanganyar. The constructivism paradigm is a paradigm that sees development and progress from different sides than the mainstream point of view. This study uses the constructivism paradigm. This descriptive research uses the qualitative approach.

The sources of data in this research consisted of primary and secondary data. The primary data were

obtained directly from Junior High School 1 Karanganyar, from the Headmaster, the Vice Headmaster of the Curriculum Sector, the Field Coordinator, the Environmental Activity Administrator, and the teachers.

The secondary data in this research were obtained from supporting documents, such as the documents regarding various activities that are part of the Ecological Education in Junior High School 1 Karanganyar, Central Java. Such documents were obtained from the Field Coordinator, the Environmental Activity Administrator, and the Junior High School 1 Karanganyar website.

In this research, the data were collected using in-depth interviews, by undergoing face-to-face interviews and focus group interviews through social media. Then, the researchers underwent observation to discover the data on the application of the educational curriculum model with an ecological orientation in Junior High School 1 Karanganyar. Finally, the researchers collected the data that supported the efforts and activities of the ecology-based education construction in Junior High School 1 Karanganyar.

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Results

School policies

PJHS 1 Karanganyar has adapted some of the environmentally-friendly school policies in the

Regulation of the Ministry of Environment No. 5 of 2013 on the Implementation Guidelines of the Adiwiyata Program. It has been applied to its curriculum and even its School Budget and Activity Plans. This school's curriculum has visions, missions, and goals that contain points of environmental protection. This school's vision shows the effort to strengthen the positive values that are very likely to have already been obtained by the students from their families. Iqbal [9] and Achmadi [10] regard that the teaching of religious values (including the environmental friendliness taught in Islamic religion) is not solely the responsibility of the Islamic Religion education subject. However, it needs to be integrated into all school subjects.

As steps or processes to achieve the vision, the missions of PJHS 1 Karanganyar are linear to the vision. The effort to create an environmentally friendly generation is supported by three of the twelve missions, namely, missions 8, 9, and 10, as shown in Figure 1. This school's goals also support the vision and mission, showing its strong concern for environmental awareness. This is also according to one of the standards of Curriculum of Educational Unit Level that contains the efforts for environmental protection and management.

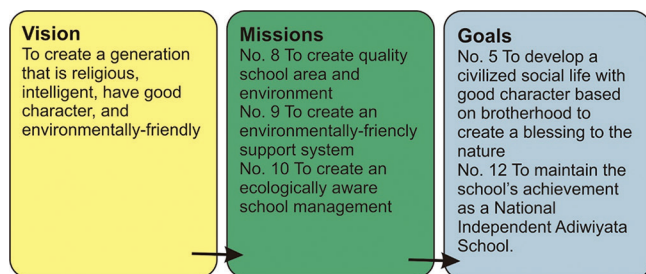


Figure 1: The environmentally-friendly visions, missions, and goals of PJHS 1 Karanganyar [8]

Islamic religion education curriculum

The Islamic Religion Education and Character (IREC) and environment awareness mandatory subject in PJHS 1 Karanganyar is demanded to adapt to the school's vision, mission, and goals. The IREC was mandated by the school statutes establishment, meaning that it is the core of the main character of PHJS 1 Karanganyar. Environmental awareness was mandated by a governmental decree. The Adiwiyata School program aims to develop environmental awareness, as it is a green school program. Thus, the curriculum is also demanded to develop the spirit of environmental awareness. The curriculum is developed through the formulation of the lesson plan. Research shows that all lesson plans of this subject – including those for grades 7–9 – contain ecological messages. In every introduction stage of the lesson, the IREC teachers always ask the students to clean the class and the seats. Thus, the IREC teachers do not only guide students to have religion, but also to be religious and to be humane.

According to Tobroni [11], IREC develops the inner force and the *elan vital* of students. Thus, they have the passion to carry out actions to resolve problems around them, including ecologic issues. This is a manifestation of the reconstruction of the IREC's substantive aspect. Tobroni [11] also stated that the IREC materials need to be developed into a system in Islam that is connected to God, people, nature, creation, and safety – instead of mere normative Islamic teachings that cover the belief system (*aqidah*), worship, virtue, and history.

This is in line with UNESCO's concept of education, that education is the whole process to know, to understand, to do, and how to work together [12]. Similarly, Hamzah argues that environmental education is aimed to develop the understanding, motivation, and skills on preserving, conserving, and using natural resources properly [13]. Then, Muhaimin also stated that the development of morals and the ecopedagog culture may be implemented through habit formation and cooperative activities, apart from the need for role models and support from the school's physical environment [3].

PJHS 1 Karanganyar's ecologically-aware curriculum gives students the chance to carry out learning activities on environmental protection and management through real actions, such as by learning how to take care of birds and fish, planting trees, preventing environmental pollution and destruction through their participation in waste management and waste banks, creating compost from waste, and their participation in making greenhouses and school gardens. These activities aim to facilitate the students in learning how to apply their environmental knowledge to resolve daily environmental problems. IREC teachers also allow students to communicate the results of "Environmental Protection and Preservation" and "Likes to do good deeds and be kind to others" lessons. The school also developed the materials by organizing competitions, exhibitions, and multimedia creations (in the form of posters or YouTube videos).

Thus, the IREC curriculum in PJHS 1 Karanganyar is not merely the transfer of knowledge nor a mindset that is taken for granted, but it is directed to the transformation of knowledge and critical thinking, just as Tobroni's methodological aspect of IREC reconstruction [11]. Such an implementation of the IREC curriculum makes the Islamic teachings transformative – as it elaborates goals, functions, and alternative approaches to the relevant religious education with transformation. The aforementioned religious education approach covers three things, namely, the humanistic-religious approach, the rational-critical approach, and the functional approach [10]. Such approaches are in line with the IREC mechanism education model, rather than a dichotomic model. The mechanism model in the development of IREC perceives that life consists of

several aspects. Then, education is perceived as the planting and the development of a set of life values, including the values of cleanliness, discipline, and compassion. Each maneuver and runs according to its functions, just like a machine that contains several components or elements that have their functions that may or may not consult each other [3].

Participative-based school activities

Referring to the participative-based standard of school activities as part of the Adiwiyata school program as stipulated in Regulation of the Ministry of Environment No. 5 of 2013 on the Implementation Guidelines of the Adiwiyata Program, it can be concluded that PJHS 1 Karanganyar has implemented environmental protection and management activities that are also contained in the IREC subject. Such activities are manifested in the form of maintaining and taking care of the school buildings and environment every first and third Friday of the month, with the "Clean Friday" agenda. School grounds and facilities are used to support the Adiwiyata school program, for example, by building greenhouses, school gardens, and green open spaces. Students are trained to take care of birds and fish. They learn how to grow hydroponic plans, how to manage waste to make composts, and how to make creations using waste. Ecological ideas and messages are displayed on walls in the form of opinions and poems. There are also paintings and messages in the form of graphic designs. The school also actively participates in the environmental actions organized by the Karanganyar Regent, the Karanganyar Regency Education Service, the Karanganyar Regency Environmental Service, and the Karanganyar Regency's Ministry of Religion.

The activities of IREC teachers and other teachers carried out at PJHS 1 Karanganyar that is supported by the headmaster are in line with Al-Qaradhawi's thought [14], that there are three objectives of the creation of humans as leaders of the earth. One of them is to spread kindness and benefit, by bringing prosperity and welfare to the earth [15].

Apart from the planned activities of environmental protection and management, the school also carried out partnerships with various parties, as stipulated in Regulation of the Ministry of Environment No. 5 of 2013 on the Implementation Guidelines of the Adiwiyata Program. For example, it has invited figures from the Indonesian Art Institute Surakarta, the Environmental Service, and the Agricultural Service to coach the school components on reusing cardboard waste, etc. Such activities and other activities on environmental protection and management may only be successful due to the support of various parties, such as the school components, the regency and the provincial governments, and the school committee.

Some teachers in PJHS 1 Karanganyar became speakers in some schools to train and to encourage

environmental learning at the elementary school level (Public Elementary School (PEC) 1 Popongan and PEC 1 Karangpandan), junior high school level (PJHS 2 Colomadu, PJHS 1 Tasikmadu, PJHS 1 Tawangmangu, PJHS 2 Tasikmadu, PJHS 3 Tasikmadu, PJHS 5 Karanganyar, PJHS 1 Jumantono, PJHS 1 Kerjo, and PJHS 2 Karangpandan), and senior high school level (Public Senior High School 1 Karanganyar). It is to support other schools and to encourage them to develop efforts to protect and manage the environment. There needs to be a continuous and sustainable awareness that nature is created to fulfill human needs and that as leaders of earth sent by God, humans have the responsibility to bring prosperity. They must use the resources wisely and prevent greed that destroys the environment.

Sharing activities through training and coaching were carried out by PJHS 1 Karanganyar teachers, including IREC, teaches. It is a form of social piety, that is, where people are responsible for the development of society or that they have participatory superiority. Apart from having creativity, socially pious people care for the harmony of the social and natural environments around them [16].

Supporting facilities and infrastructure

PJHS 1 Karanganyar provides adequate facilities and infrastructure to support the Adiwiyata school program. For instance, it displays educational posters that encourage students to care for their environment in strategic places. The posters contain such messages, "Keep it clean," "Save water," "Turn off lights when they are not in use," "Discipline: Who else will do it if it is not us, when else will it be if it is not now, where else if it is not at our environment," "Clean nation, healthy school, healthy environment," etc. Some posters contain ecological messages, for example, "When trees are cut and factory smoke swallow clouds, the earth's atmosphere is torn apart. The sun becomes hotter as if it approaches. Drought, floods, and natural disasters are everywhere. These are the effects of global warming. Stop Global Warming and Disasters. Revive the Nature", "Do not litter", "Stop illegal logging, change the condition by caring for nature," "Save our forest, go green, plastic bag decomposes in 500 to 1.000 years, use a degradable bag or bring your own bag, to reduce plastic waste," show the educational messages with ecological orientation.

PJHS 1 Karanganyar also provides green open spaces. There are trees in front and behind the rows of classrooms. These are a manifestation of a school facility with an ecological orientation. The school also provides various rubbish bins, such as the separation between "hazardous waste – inorganic (reuse) – inorganic (recycle) – organic (easily decomposed) – other waste (residuals)." It also provides facilities to produce composts.

PJHS 1 Karanganyar's canteen provides foods and drinks that reduce the use of plastics. Thus, it implements the "reduce" slogan as shown in the ecological posters. Thus, it shows the school's commitment to protecting the environment.

The construction of the Islamic Religion Education and Character with ecologic orientation in PJHS 1 Karanganyar is shown in Figure 2.

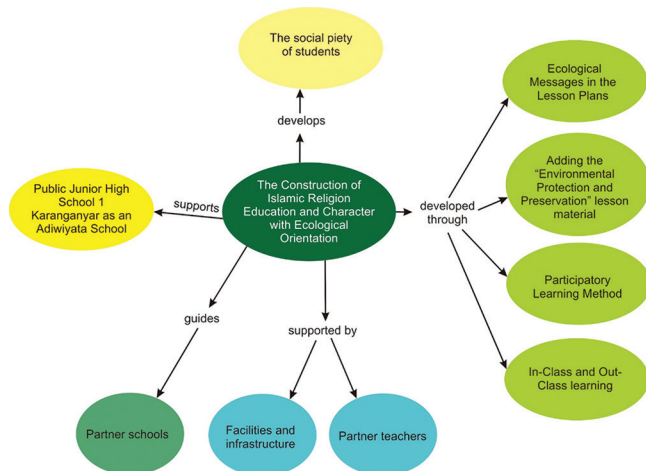


Figure 2: The construction of the Islamic Religion Education and Character with ecologic orientation [17]

To measure the cognitive changes or development of the students in their competencies to protect and preserve the environment, the teachers provided some questions with the indicator of the students' competence achievements. An example is Figure 3 as follows:

Appendix 9: Written-test questions.

1. Write an example of environmental destruction that happened around you!
2. Mention the causes of environmental destruction due to humans!
3. Write the verses of religious education on protecting the nature created by God and on reusing items!
4. What efforts must be carried out to protect and preserve the environment?
5. Make a "love for the environment movement" program at school and home!

Figure 3: Questions to Indicate the Students' Competence Achievements [18]

Discussion

In the last several years, the teachers of each class have inserted ecological commitment-based service-learning, civil involvement, field trips, and ethnography. Such involvements were further

developed by considering contemporary concerns. More specifically, teachers made a field guideline to develop texts, tasks, lectures, and discussions of individuals that provided facilities to identify the intellectual capabilities of the students.

Based on the results above, the measure of achievement in the competence achievement indicator that emphasized cognitive capabilities are seen in the first four competence achievement indicators, that was carried out using written tests. Then, the fifth and the last measure of achievement in the competence achievement indicator emphasized affection development. Thus, even though the students were asked to make a "love for the environment movement" program at school and at home, this program is hoped to stem from the reflection of their testimony on various environmental problems. Their spirit to protect and preserve the environment is hoped to start from the movement in school and at home.

The construction of the Islamic Religion Education and Character with ecologic orientation in PJHS 1 Karanganyar as an Adiwiyata school is carried out as a form of support to the school that develops programs on environmental friendliness and ecological awareness. The IREC construction that has ecologic orientation supports the school policies whose vision, missions, goals, strategic plans, and school budget contain the development of ecologic values. The construction of IREC with ecologic orientation is developed through: (1) The development of lesson plans that contain ecologic messages; (2) the addition of the "Environmental Protection and Preservation" outside of the 2013 curriculum syllabus; (3) the development of participative learning methods; and (4) the development of in-class and out-class learning.

The construction of IREC with ecologic orientation is supported by the school and the partnerships with other teachers. It is also supported by the provision of facilities and infrastructure that support the creation of an environmentally-friendly school. There needs to be a policy and also support from the community [17], [18], [19] so that the objectives of the establishment of the model can be realized [20].

Conclusion

The policy of the PJHS 1 Karanganyar as a school with ecological awareness starts from the formulation of an ecologically aware vision, namely, "To create a generation that is religious, intelligent, have good character, and environmentally-friendly." It is derived from the missions, goals, strategic plans, school budget, and activity plans strategically and coherently. The construction of the Islamic Religion Education and Character with ecologic orientation in

PJHS 1 Karanganyar is developed from the insertion of ecologic messages in every lesson plan. There is also the development of in-class and out-class learning, apart from developing the individuals' piety.

The participative-based school activities that colour the construction of IREC with ecologic orientation in PJHS 1 Karanganyar as an Independent Adiwiyata School is supported by all school components, including in the form of partnerships. The management of the facilities and infrastructure that support the construction of IREC with ecologic orientation is quite good. Some educative slogans and posters contain ecologic messages put up in strategic places. There are green open spaces, a canteen that reduces plastic usage, and waste management facilities.

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