

## The Integration of Environmental Based Local Wisdom in Adiwiyata Program in Pacitan Regency, Indonesia (A Case Study at Public Junior High School 4 Pacitan)

Sukundoko<sup>1</sup>, Zaenal Fanani<sup>2</sup>, Bagyo Yanuwadi<sup>3</sup> and Harsuko Riniwati<sup>4</sup>

<sup>1</sup>(Doctoral Program in Environmental Science, Postgraduate School, Brawijaya University, Malang, Indonesia)

<sup>2</sup>(Socio-Economic of Animal Husbandry Department, Faculty of Animal Husbandry, Universitas Brawijaya, Malang, Indonesia)

<sup>3</sup>(Department of Biology, Faculty of Mathematics and Natural Sciences, Universitas Brawijaya)

<sup>4</sup>(Socio-Economic of Marine Fisheries Department, Faculty of Fisheries and Marine Sciences, Universitas Brawijaya)

Corresponding Author: Sakundoko

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**Abstract:** Adiwiyata (green school) program is an environmental education at school. In relation to the environmental management, it is necessary to integrate local wisdom within Adiwiyata program. The objectives of the study were: (1) to analyze Adiwiyata activities; (2) to investigate local wisdom related to environmental management in communities; and (3) to examine the implementation of Local Wisdom in the development and sustainability of Adiwiyata program at PJHS 4 Pacitan. There were two methods of data collection used within this study: field observations and in-depth interviews. Field observation was used to identify student activities related to schools' activities which were environmentally friendly. Furthermore, it was also used to identify school's land management and communities around the school as the form of local wisdom. In-depth interviews were conducted to explore the noble values which were existed in society such as philosophies related to the environmental management. The PJHS 4 Pacitan emphasized environmental education within its learning activities, for examples: disposing garbage in dustbin; waste reduction efforts through composting; waste reduction through 3R (reuse, reduce and recycle); saving water and electricity resources; revegetation or planting trees; and the conservation of family medicine plants through toga gardens. The previously mentioned examples can be considered as local wisdom which is based on community culture and environmental characteristics. PJHS 4 Pacitan which is an Adiwiyata school can employ local wisdom as its basis for developing Adiwiyata school model. Based on the research results, it can be concluded that the commonly found local wisdom around PJHS 4 Pacitan is the Tri Hayu philosophy. In Javanese society the concept of the environment was very close to the main duties of Javanese people. The main duties of humans are drawn from three Javanese philosophies (tri hayu), namely as "sangkan paraning dumadi", "manunggaling kawula Gusti" and "memayu hayuning buwono". These three philosophies for the Javanese were the form of wisdom that regulates human's vertical (with the God) and horizontal (with people) relationships. The model of Adiwiyata development at PJHS 4 Pacitan can be carried out with the implementation of local wisdom which was found within society.

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### I. Introduction

Education greatly influences the development of thought, mental, physical, power, social and human morality. It is the most important tool to protect oneself from negative things and to maintain positive values which exist within oneself, family and society [1]. Education also can definitely improve human knowledge and skills, and can be used as modal in forming positive attitudes [2]. This education will later on shape someone's thought, behavior and act and then it affects his/her mental development, character, or physical ability [3].

The existence of formal and non-formal educational institutions will transform the legacy of knowledge, values and skills from generation to generation. Educational efforts can be carried out by all parties starting from the family, community and government institutions. The parties are expected to participate in the rescue and sustainability of noble values including preserving or conserving the environment [4]. Environmental education in schools is one of the examples of character education application [5]. Character education is an environmental education that instills character values for school members which includes cognitive aspect such

as knowledge, affective aspect or understanding, awareness or willingness and psychomotor aspect such as actions to carry out conservation of the environment [6].

An environmental based education is important to be carried out under the aim of fostering the community to have a responsible behavior to overcome environmental problems (Law Number 23 of 1997). In addition, the implementation of environmental based education is a mandate given by the Ministry of Environment. Environmental education which is applied within school environment could be employed to improve cleanliness, regularity and comfort of school's member that in the end could also improve the convinient of learning atmosphere. Due to the importance of the environment education for society, especially to students, the Ministry of Environment applies *Adiwiyata* program [7].

*Adiwiyata* program is not only for building the character of environmental care but also for saving money; one of *Adiwiyata* indicators is saving natural resources. Therefore, many schools have implemented *Adiwiyata* and it is expected that all schools can implement *Adiwiyata* program, including schools in Pacitan Regency.

Pacitan Regency is a regency which has unique topography. It is located in the karst region with various types of land management. The community of Pacitan regency is a community that has noble values or local wisdom related to land management. Local wisdom is the collected intelligence in developing natural management strategies to maintain ecological balance [8]. These local wisdom can be implemented within the educational materials of environmental based schools or *Adiwiyata* schools. The purpose of this study was to analyze *Adiwiyata* activities at PJHS 4 Pacitan, analyze local wisdom related to the environmental management in communities around PJHS 4 Pacitan and to analyze the Implementation of Local Wisdom in the development and sustainability of *Adiwiyata* program at PJHS 4 Pacitan.

## II. Method

This type of research is qualitative descriptive research. The methods of data collection were field observations and in-depth interviews. Field observations were used to identify the activities of students during school's activities which were environmentally friendly. In addition, field observations were also used to identify the land management in school and the communities around the school as a form of local wisdom. In-depth interviews were conducted to explore the noble values that exist in society such as philosophies related to environmental management. In-depth interviews were conducted with JHS principal, teachers, administrative staff and students at PJHS 4 Pacitan Regency.

## III. Results and Discussion

### 3.1 *Adiwiyata* Activity at PJHS 4 Pacitan

*Adiwiyata* program is one of the Ministry of Environment programs to encourage the creation of knowledge and awareness of school residents as an effort to preserve the environment. Due to PJHS 4 Pacitan status as an *Adiwiyata* school, this school emphasizes environmental education learning activities, such as dumping garbage in a designated place, reducing waste through composting, reducing waste through a 3R (reuse, reduce and recycle), saving water resources and electricity and reforestation or planting trees and conservation of toga plants through toga gardens (Table 1).

**Table 1.** *Adiwiyata* activities at PJHS 4 Pacitan

No	Activities	Purposes
1	Composting	To curate organic waste from plant and other organic wastes
2	Garbage disposal in the designated place	To manage waste generated from the school residents' (students, teachers, school staffs) activities by classifying waste based on the categories which include organic waste, plastic waste, paper, glass and metal waste
3	Waste reduction through 3R	To curate organic waste which still has economic value to be saved in the waste bank provided by the school
4	Savings of water and electricity resources	To reduce/save water and electricity usage
5	Revegetation	To make beautiful school atmosphere

Some efforts can be done to create an eco-friendly school or green school; the tree planting activity can be considered as a way to raise students' awareness, students' sense of belonging, and students' concern for the environment. To instill the environmental education, there was a task which was carried out by each student, looking for information and description of the plant around the school. PJHS 4 Pacitan had sufficient number of facilities related to the plant nursery and tree planting activities, such as greenhouses, toga gardens, green open spaces and mini forest .

Based on the observation results, it can be understood that students performed a planting program on the school yard. This activity had a significant result of an increasing number of school's plants. Moreover, it could also create green environment for the school. The types of plants chosen to be planted in the program

were: chili, orange, guava, Indian marsh fleabane, betel vine, galangal, lemon grass, turmeric, ginger, mango, jackfruit, guava, longan, sapodilla, star fruit, bilimbi, *pandan*, madeira vine, *Orthosiphon aristatus*, rose, Sansevieria and lilies. The existence of these plants can also improve students' understanding of certain subjects such as biology subjects with topics related to plants. Other study in Tanjungrejo Elementary School Malang indicated that preservation of family herbal plant was important as an effort to implement the principal of back to nature. Herbal medicines that relatively cheap, increased green space and able to be used for learning media for living pharmacies [9].

### **3.2 Local Wisdom Related to Environmental Management in Communities around PJHS 4 Pacitan**

Local wisdom in environmental management is important in maintaining the existence of biological resources. Besides it also has more value of unifying the people who run it. This is due to the local wisdom which is carried out by all local communities with the spirit of togetherness or mutual cooperation as one of the local wisdom being enacted. The forms of local wisdom can be in the form of values, norms, ethics, beliefs, customs, traditions, customary laws, and special regulations.

The previously mentioned local wisdom is generally distinctive and specific. It is closely related to the development of local wisdom based on community culture and environmental characteristics. PJHS 4 Pacitan which is an *Adiwiyata* school can make local wisdom as its basis for developing *Adiwiyata* school model.

Based on the research results, it can be inferred that the local wisdom around PJHS 4 Pacitan was based on *Tri Hayu* philosophy. In Javanese society the concept of the environment was very close to the main duties of Javanese people. The main duties of human being are drawn from three Javanese philosophies (*tri hayu*), namely "*sangkan paraning dumadi*", "*manunggaling kawula Gusti*" and "*memayu hayuning buwono*". These three philosophies are the form of wisdom that regulates vertical and horizontal relationships for the Javanese [10].

*Sangkan paraning dumadi* philosophy explains that man was created by God, assigned to the world and will return to God. *Sangkan paraning dumadi* was considered as an effort of human beings to recognize them (searching for their identity). As a religious society, Javanese people believe that people who know themselves also know their God.

Next, *manunggaling kawulo gusti* was defined as the union of servants and God. This philosophy was an elaboration of *sangkan paraning dumadi*. After a human know about himself and how to reach God, the ultimate purpose of his life was to achieve perfection. Therefore people will try to live following the commandments of God and to stay away from God's prohibitions to achieve *manunggaling kawulo Gusti*.

The philosophy of the *manunggaling kawulo Gusti* was intended to see humans as part of nature and the human relations with nature influence each other. Due to the importance of this relation, the will of mankind to do mutual cooperation, harmony, peace, mutual respect and tolerance was highly expected.

*Manunggaling kawulo Gusti* means the merging of servants and God. It can also be interpreted that inside human beings there are two united duties (*manunggaling*). Those are humans as *kawulo*/servants and *gusti/khalifah*. Humans as *kawulo*/servant take place when humans set their relation to God (vertical). When dealing with God the position of man was as a servant who was obliged to carry out the commandments of God and to stay away from His prohibitions. The second duty was as *gusti (khalifah)*, this happens when people are faced with themselves, other people, animals, plants and everything that exist in nature (horizontal relations). As the *gusti/khalifah* of all nature, people are obliged to look after the member of their pack (other people, plant, animal) that they lead in order to stay sustainable (*memahayu hayuning buwono*).

This was also reinforced by the opinion of [11] which stated that *Hamemayu hayuning buwono* or man in this world was a representative of God Almighty/*Khalifatullah*. Every human being has an obligation to save, beautify, and prolong the life of this world, even though this world can possibly end one day. *Hayuning* means to live or beautify or save from damage. Humans also realize that nature has natural forces and it was needed to be taken into account in the context of human relations with God/*hablun minallah*. Humans also have to maintain a harmonious relationship with other fellow humans/*hablun minannas*. Besides, humans also have to maintain good relations with the universe

As the representative of God in the world/*kalifatullah*, the Javanese people should have a slogan: "*nrimah mawi pasrah, suwung pamrih tebih ajrih, langeng tan ana bungah tan ana susah, anteng manteng, sugeng jeneng*", which means as accepting and surrender; free from the element of personal interest; not feeling afraid or anxious; having strong faith and being active and creative; in order to create a prosperous atmosphere under any conditions. In addition, a representative of God/*khalifatullah* should also do "*ing ngarsa sung tulada, ing madya mangunkarsa, and tut wuri handayani*," or have the characteristics of exemplary, driving, and motivating and should be able to understand the situation that he led. The first phrase suggest that human as *khalifatullah* should set himself as an example; and when he was in the middle (second phrase), he should be an encouraging person; and when he was behind, he should provide harmonious initiatives (third phrase)[12].

### **3.3 The Implementation of Local Wisdom in the Development and Sustainability of Adiwiyata Program at PJHS 4 Pacitan**

Creating a caring and cultured school requires a school management model that supports the implementation of participatory and sustainable environmental education. The model of *Adiwiyata* development at SMP 4 Pacitan can be implemented by applying local wisdom in the community. Based on the interview results with the Head of the Department of Education and Culture in Pacitan Regency (2011-2016), the value of local wisdom *sangkan paraning dumadi, manunggaling gusti* and *memayu hayuning bawono* can be used as a model for *Adiwiyata* school development. This was based on the idea that humans are obliged to uphold the power of order in order to achieve the cosmic goal of harmony, justice and order.

Other study showed that culture affected the success of *Adiwiyata* Program [13]. There was a need for integration of spiritual and moral aspects in all type of learnings. This can be applied generally and specifically within the environmental learning. By referring to the theory [14], today's learning was rational empirical because it was built on a secular view. Learning like this will produce students who act like robots. This was also in line with the goal of national education that it was important to instill spiritual values in learning to create a solid character. This spiritual aspect will encourage people to carry out their activities which are in accordance with their responsibilities as one of God Almighty creations [15].

## **IV. Conclusion**

Based on the results of the research, the following conclusions are obtained:

- (1). The PJHS 4 Pacitan as an *Adiwiyata* school emphasizes environmental education in its learning activities.
- (2). The local wisdom found at PJHS 4 Pacitan was based on *Tri Hayu* philosophy. In Javanese society, the concept of the environment was very close to the main duties of Javanese people.
- (3). *Adiwiyata* program development at PJHS 4 Pacitan can be administered by implementing local wisdom in the community.

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## **References**

- [1]. Molchanov, S.V. 2013. The Moral Development in Childhood. V Congress of Russian Psychological Society. Procedia - Social and Behavioral Sciences 86.
- [2]. Crano W and Antonis G. 2015. Attitude Formation and Change. International Encyclopedia of the Social & Behavioral Sciences, 2nd edition, Volume 2
- [3]. Ahmad, M.Z dan Razak, N.A. 2007. Pendidikan Alam Sekitar di Sekolah: Komitmen Guru. Pendidikan Lestari. Jilid 7, Bil. 2
- [4]. Payne, P.G. 2005. Families, Homes and Environmental Education. Australian Journal of Environmental Education, vol. 21.
- [5]. Agboola A dan Kuan, G.T. 2012. Bring Character Education into Classroom. European Journal of Educational Research, 1(1),
- [6]. Jumadil, Kahar M dan Alimuddin H.A. 2015. Penerapan Program Adiwiyata Pada Aspek Kognitif, Afektif dan Psikomotor Tentang Pengelolaan Lingkungan Hidup Sekolah Dasar Di Kota Kendari. J. Sains & Teknologi, Agustus 2015, Vol.15 No.2.
- [7]. Fadlilah, U., Sri N., Lisdiana. 2018. The Adiwiyata School's Role in the Development of Character Caring for the Environment (A Case Study at the Junior High School 6 Tuban). Journal of Innovative Science Education. 7(1)
- [8]. Suhartini. 2009. Prosiding Seminar Nasional Penelitian, Pendidikan dan Penerapan, F MIPA, Universitas Negeri Jogjakarta. Jogjakarta.
- [9]. Yasa, A.D., and Sulistyowati, P. 2018. TOED Preservation (TOED Education) at Adiwiyata School As an Effort to Implement Healthy Lifestyle Jurnal Widya Laksana, Vol. 7, No. 1, pp 41 – 46.
- [10]. Suwardi. 2010. Etika Kebijaksanaan Dalam Ajaran Budi Pekerti Luhur Penghayat Kepercayaan Kejawan. Makara, Sosial Humaniora, Volume 14. Nomor 1. Hal 2
- [11]. Morin.L.L.D. 2014. Problematika Tugu Yogyakarta dari Aspek Fungsi dan Makna. Journal of Urban Society's Art. Volume 14 No. 2. Hal 137
- [12]. Wagiran. 2011. Pengembangan Model Pendidikan Kearifan Lokal Dalam Mendukung Visi Pembangunan Provinsi Daerah Istimewa Yogyakarta 2020. Jurnal Penelitian dan Pengembangan. Volume 3. Nomor 3. Hal 2
- [13]. Susilo, M. J., Kartowagiran, B., Vehachar, R. 2018. Modeling of Cultural Effect on School Autonomy at Religion-Based School in Indonesia. Indonesian Journal of Science Education Vol 7, No 3.
- [14]. Rusuli, I. (2014). *Refleksi teori belajar behavioristik dalam perspektif islam*. Jurnal Pencerahan, 8, 38-54
- [15]. Syarif, F.N (2009). *Al Quwwah Ar Ruhiyah: kekuatan spirit tanpa batas*. Yogyakarta: ArBirr Press

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