

Ecological, social and economic national Adiwiyata school program impacts in senior high School in Pekanbaru

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Ecological, social and economic national Adiwiyata school program impacts in senior high School in Pekanbaru

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ABSTRACT

Research on the ecological, social and economic impacts of the national Adiwiyata school program was carried out in September 2017. The study was conducted with a survey method with interview and observation data collection techniques. In this study, the schools that became the sample of the research were SMAN 2 Pekanbaru, SMAN 4 Pekanbaru, SMAN 1 Pekanbaru, SMAN 6 Pekanbaru, and SMAN 9 Pekanbaru which had won the national adiwiyata school. SMAN 7 Pekanbaru, SMAN 10 Pekanbaru, SMAN 14 Pekanbaru which had not won national adiwiyata schools. The results obtained that the national adiwiyata school program has a positive impact in terms of ecology, social and economic. The adiwiyata school program makes the school environment comfortable and beautiful and increases students' concentration in learning. From social impacts, it fosters a spirit of environmental conscious behavior. From an economic standpoint, it has an impact on increasing entrepreneurship in school residents

Key words: Adiwiyata, Social, Ecology, Economics.

Introduction

Increasing of environmental problems in the form of environmental pollution and reduced natural resources require an understanding of environmental conservation efforts. Law Number 32 of 2009 concerning Protection and Management of the Environment in the fourth point of article 65 state that every person has the right and role in environmental management. This means that anyone, both government and society, have an obligation to participate in environmental protection and management efforts.

School as an educational institution is a place of education for humans to be involved in efforts to manage the environment through implementation in every subject in the world of education. School

education is one part of the activity to educate the successor of the nation in promoting intellectual intelligence, educating morals, and character. The aim of character education is to build the character of each student in building positive personality and behavior through the environment that can affect the knowledge, skills and well-being of humans to carry out social activities.

Environmental education is one of the important factors in the success of environmental management being a very important means of producing human resources that can implement the principle of sustainable development. According to Nurjhani and Widodo (2009) environmental education is needed and must be given to children early so that they understand and do not damage the environment.

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Understanding the importance of maintaining and preserving the environment so that its sustainability is maintained and being balanced in life on earth needs to be understood by humans and this understanding must be instilled from generation to generation. Basic understanding of the importance of the environment must be understood by humans whom as one of the living things that exist in this system, have the ability to think and have a conscience to capture information, culture and technology (Soerjani, 2007).

The Ministry of Environment in collaboration with the Ministry of Education and Culture encourages schools to create a school environment that is culturally environment by holding an Environmental Culture School competition known as the Adiwiyata Program. This program was launched in 2006 as a follow-up to the MOU on June 3, 2003 between the State Minister of Environment and the Minister of National Education. The Adiwiyata program was only started in 2006 and is devoted to Java because it is still at the stage of looking for a model for its criteria. However, since 2007 this program has been carried out thoroughly in each province in Indonesia (KLH, 2010).

School management on the one hand can display contradictory conditions if viewed from the perspective of environmental preservation. This is mainly seen from the behavior of teachers and school students who are not environmentally friendly, such as excessive use of clean water, garbage disposal in places, arid school environment without plants and so on. On the other hand, the built environment facilities and infrastructure which are expected to support school facilities are sometimes planned by ignoring the principle of environmental preservation, for example the construction of massive school fields so as to reduce the extent of water catchment areas. Environmental pollution occurs in schools mainly due to negative environmental hygiene behaviors such as various forms of littering/ dumping, vandalism of built environment objects or natural environment, the existence of banalisms of plants that influence plant life cycle is a fact that occurs in every facility and infrastructure school.

School management in certain conditions and situations was responded by teachers and students with a culture that was "less environmentally conscious" due to their exclusion from active participation in school management, attitudes tend to be ig-

norant, apathetic and not supportive of the existence of schools in their area. This psychologist creates a feeling of discomfort when students carry out teaching and learning activities, while on the other hand, the government through the environmentally friendly adiwiyata school program relies on the role of students and all teaching and learning activities as the main actors achieving the quality of the adiwiyata school.

In realizing a caring and cultured school, the school community needs to be involved in various environmental learning activities. In addition, the school is also expected to involve the surrounding community in carrying out various activities that benefit the school community, the community and the environment. These activities include creating extracurricular / curricular activities in the field of participatory-based environment in schools, participating in environmental action activities carried out by outsiders, building partnership activities or initiating the development of environmental education in schools, management and development of school supporting facilities.

School is a community that consists of students, teachers, principals, administration and employees, which is one of the effective mediums for learning and awareness of school residents. Every individuals, ranging from teachers, students and workers are involved in efforts to stop the rate of environmental damage caused by human hands, (KLH, 2005). In the implementation of environmental education subjects toward adiwiyata school there are still some things related to the implementation of environmental education subjects that have not been implemented such as the absence of teachers or student handbooks, syllabus, and assessment structure, firm policies from school leaders and support from outside parties. In preparation for the Adiwiyata School there are still a number of things that have not been well prepared such as strict policies from the leadership, school gardens and healthy canteens as well as school physical facilities.

Materials and Methods

This research was conducted in September 2017 until October 2018 with research sites in Pekanbaru city high school, namely: SMAN 2 Pekanbaru, SMAN 4 Pekanbaru, SMAN 5 Pekanbaru, SMAN 6 Pekanbaru, SMAN 9 Pekanbaru which had won the National Adiwiyata School and SMAN 7

Pekanbaru, SMAN 10 Pekanbaru, SMAN 14 Pekanbaru who have not won the National Adiwiyata School award.

In this study data is used for qualitative data analysis, namely by means of collected data processed and analyzed to answer research problems and research hypotheses. The data obtained is organized in accordance with the demands of statistical presentation / processing to be used in the form of frequency tables or percentages.

In the data processing phase data editing is done to ensure the perfection of the filling of each data collection instrument. Then coding is done in a matrix sheet to be used in data tabulation either cross or singly. The statistical test of product moment is used to interpret or infer data tabulation in national Adiwiyata School at Pekanbaru Senior high School.

The methods used in this research collecting data are survey and field studies. It aims to collect the informations as much as possible by observation approach, and distributing questionnaires, interview and group discussion in the field of research location.

Results

SMAN 2 Pekanbaru is located in Nusa Indah Street no 4, Payung Sekaki District which has area of 6.300 m² and has been established in 1975 with NHS 301096008039 and NPSN 10404013. There are 1.025 students, 56 teachers, 11 academic staffs. SMAN 2 Pekanbaru which is led by Dr. a. Hj. Zurina is an entrepreneur school from ministry of education and has been awarded national adiwiyata in 2016 from ministry of environment.

SMAN 4 Pekanbaru is located in Adisucipto Street no 67, Maharatu, Marpoyan Damai District. It has an area of 15.820 m² and was established in 31 January 1981. This school was accredited A in 2015 with the score of 98 which has been written in SK Akreditasi No MA. 028810 dated 22 October 2015. SMAN 4 Pekanbaru registered in NSS 301096007038 and NPSN 10404015. It is led by Hj. Nurhafni, M.Pd with the amount of 1.1.123 students, 67 teachers and 16 academic staffs. In 2014, SMAN 4 Pekanbaru was awarded as an anti corruption school from the Ministry of Education, national adiwiyata school from ministry of environment. In 2015, it was awarded as pilot school of national liberation from ministry of education, child friendly school from ministry of

empowerment of women and children, gender responsive school from province education authorities, family partnership school from directorate of family education ministry of national education. In 2016, it was awarded as school of anti narcotics from national narcotics agency, school of health from health service and ministry of health. In 2017 it was awarded as inclusive school from province education authorities, cool school from ministry of national education and school of secondary education affirmations (ADEM) from directorate of PKLK ministry of national education. Its vision is to create SMAN 4 Pekanbaru as a school with knowledge of IMTAQ and IPTEK, achievement, character, cultured, environmental aware and globally competitive.

SMAN 5 Pekanbaru is located at Bawal Street no 43, Wonorejo, Marpoyan Damai District with NPSN 10404016 and was established in 1983. It has an area of 2232 m² with the amount of 1244 students 79 teachers and 6 academic staffs. SMAN 5 Pekanbaru which is led by Drs.H. Erdani, MM is a parent school cluster of curriculum development 2013, as reference school and was awarded national adiwiyata in 2014 from ministry of environment. Its vision is to create SMAN 5 Pekanbaru as a quality school in academic, virtuous based on IMTAQ, cultured, knowledgeable and environmental aware.

SMAN 6 Pekanbaru is located at Bambu Kuning Street no 28, Rejosari, Tenayan Raya district Pekanbaru. It is 5 km away from the capital of district and 2 km to the main road which is Hangtuh Street and 6 km from uptown. It has an area of 5.400 m². It was established in 1983. In 2009, it was accredited A with NSS 301096008039 and NPSN 10404017. Since 2007/2008 this school has 30 study groups spread among classes with 10 groups in each grade. SMAN 6 Pekanbaru is led by Drs. Syamwar with the amount of 1.025 students, 56 teachers and 11 academic staffs. Currently SMAN 6 Pekanbaru is a parent school cluster of curriculum development 2013 and was awarded national adiwiyata in 2016 from ministry of environment. Its vision is to create SMAN 6 Pekanbaru as school of achievement, attitudes, National standard, IPTEK based, creative, discipline and develop local cultured as well as environmental knowledge.

SMAN 7 Pekanbaru was established in 1984 with NPSN 10404018 NSS 301096002033. It was accredited A and located at Kapur Street gang Kapur III No 7, Kampung Baru, Senapelan District

Pekanbaru. It has an area of 7.670 m². It is led by Dra. Hj. Adrias with the amount of 733 students, 59 teachers and 7 academic staffs.

SMAN 9 Pekanbaru was established on 22 December 1984 with NPSN 10404031 NSS 301096003036 and was accredited A. It has an area of 5.760 m². It is located at Semeru Street no 12, Rintis, Lima Puluh District. It is led by Dra. Hj. Zuraida with the amount of 1.014 students, 75 teachers, and 14 academic staffs. Currently this school is a parent school cluster of curriculum development 2013 and was awarded as national adiwiyata in 2016 from ministry of environment. Its vision is to create SMAN 9 Pekanbaru as the centre of IPTEK, Excel in achievement, cultured, character and environmental knowledge based on IMTAQ 2020.

SMAN 10 Pekanbaru was established on 1 January 1990 with NPSN 10404020 NSS 301096007040. SMAN 10 Pekanbaru was accredited A and is located at Bukit Barisan Street, Tangkerang Timur, Tenayan Raya District Pekanbaru. It is led by Drs. Hamdani, MM with the amount of 1.216 students 67 teachers and 9 academic staffs.

SMAN 14 Pekanbaru was established on 22 April 2008 with NPSN 10595226 NSS 301096006052. SMAN 14 Pekanbaru was accredited B and is located at Tengku Bey Street Simpang Tiga, Bukit Raya Pekanbaru. It has an area of 11.000 m². It is led by Slamet S.Pd with amount of 727 students, 48 teachers and 5 academic staffs.

The research regarding application of school with environmental knowledge via national adiwiyata program in government high school in Pekanbaru was done by data compilation method using questionnaire filled up by 4 types of respondents. those respondents were people involved in education.

School with environmental knowledge will give a positive effect towards environmental aspect. School environment becomes beautiful and comfortable for everyone. School Adiwiyata Program produces schools which have many plants that result in cooler and more oxygen. Comfortable and healthy environment gives positive effect in increasing learning process. To create beautiful and comfortable school environment needs the support from every party in the school. This is in accordance with the research of Mirza Desfandi (2015) that the purpose of adiwiyata program is to boost and form caring and environmental cultured school which able to participate and conduct the environment preser-

vation and advance development for current and future generations. Through this program is expected every part in the school is involved in school activities towards healthy environment and avoid negative effect. Every people in school has to be the model for society to create caring society. To achieve it, it is needed all participation starts from government central to regions, all schools, societies, parents and public figures.

Based on the social aspects, High school in Pekanbaru has to involve students in social service. The aware and high attitude students towards environment will result in students who care to the environmental preservation. This result in school environment becomes more beautiful. School adiwiyata program affects to students social living, teachers them to socialise, changes their behaviour to be environmental loving.

Discussion

The Adiwiyata indicator covers various aspects of both internal and external schools that influence the formation of school behavior such as education, environment, culture, and socio-economy. Adiwiyata implementation in schools has several advantages, namely (1). Support the achievement of basic competency / competency standards and graduate competency standards (SKL) for primary and secondary education; (2). Increase the efficiency of the use of school operational funds through saving and reducing consumption from various resources and energy; (3). Create school community togetherness and more comfortable and conducive teaching and learning conditions; (4). Become place of learning 5 out the values of good and correct maintenance and management of the environment for the school community and the surrounding community; (5). Increase environmental protection and management efforts through pollution control activities, damage control and preservation of environmental functions in schools (Adiwiyata Nasional Team, 2012).

In terms of economy, high schools in Pekanbaru apply the rules of reciprocal paper use to their school residents. High schools in Pekanbaru apply the rules for recycling waste in schools. The garbage commonly found in schools is organic waste in the form of plant residues (leaves and twigs), paper and inorganic waste in the form of food wrappers and drink bottles. Organic waste is usually processed into compost. Inorganic rubbish is usually used as

crafts and student creations. High schools in Pekanbaru that have managed waste well are high school 2,4,5,7,9 and 10.

The garbage in SMAN 2 Pekanbaru is managed by sorting its according to its type. Plastic waste (inorganic) is placed in a yellow trash can, paper waste is placed on a white trash can, and wet (organic) garbage is placed in a blue trash bin. Inorganic rubbish such as beverage bottles is used as a decoration and craft for recycled goods. SMAN 2 Pekanbaru has not collaborated with NGOs or waste management institutions.

Organic waste in SMAN 4 Pekanbaru is managed as compost. Composting results are used as fertilizer for plants in the school environment. But if the number of composting results is a lot, it will be sold to the parents of students. Inorganic waste is managed by collecting and sold to TDB waste banks. SMAN 4 Pekanbaru environmental learning is taught in class X and XI. Environmental learning is carried out in a monolithic 2 lesson hours / week.

SMAN 5 Pekanbaru manages its organic waste made compost. Inorganic waste that is still good is managed to be a raw material for handicrafts, while the damaged ones are collected and sold in kilos. SMAN 5 Pekanbaru also uses the environment for plant development. Plants that are developed are carried out using hydroponics. The social activity carried out by the SMAN 5 Pekanbaru was collaboration with the waste management, namely the DalangCollection garbage bank in the LPM of Wonorejo Village.

Organic waste in SMAN 7 Pekanbaru is managed to be used as compost. The resulting compost fertilizer is used to fertilize plants around the school. Plants that are usually given compost are TOGA plants (family medicinal plants) and vegetable plants in the greenhouse. Inorganic waste is managed by collecting in garbage cans and continued with sorting and utilization. Used beverage plastic waste is recycled into a number of handicrafts and as a mushroom house wall. While the other bottles if in damaged conditions will be collected and sold to Bangarna bank (garbage bank). SMAN 7 Pekanbaru collaborated with SMAN 9 Pekanbaru, namely as a building school, with a waste bank and with Jikalahari (an environmental NGO). Social activities carried out in schools are mutual cooperation activities and community service with the community in the school environment.

SMAN 9 Pekanbaru manages organic waste by

making compost by teachers and students through an environmental extracurricular activity program. Inorganic waste such as beverage bottles are made for recycled crafts and some are sold with TDB waste banks. Through craft learning and local content the teacher gives assignments to students to make products from recycled materials. Good recycled products are sold to teachers and parents through exhibition activities and some are stored for preparation of exhibition competitions outside of school. The social activities carried out by SMAN 9 Pekanbaru are providing assistance to schools that want to get guidance on environmental issues. In addition, it also works with other parties in tree planting and mutual cooperation programs.

Organic waste in SMAN 10 Pekanbaru is managed by making compost and processed into innovation. The innovation that is being done is breadfruit leaves made into tea and starch acid candied. However, the innovations being carried out are in the process of testing the substances contained in BPOM.

Waste that is in the SMAN 6 Pekanbaru and SMAN 14 Pekanbaru is not optimal. SMAN 6 Pekanbaru organic waste is used as compost fertilizer, while inorganic waste has not been properly managed. The management of inorganic rubbish is only collecting and continuing sales with the NGO DISHUTLING. The social activities usually carried out by SMAN 6 Pekanbaru are social services of community partners. The usual activity is in the form of planting protective plant seeds. SMAN 14 Pekanbaru still lacks waste management. Organic and inorganic waste is still mixed into one and the infrastructure for waste management is still not supportive.

In accordance with the research conducted by MaidoraPuspita Sari, Maihasni and Irwan (2017) said that the Impact of the Adiwiyata Program for school residents at SMAN 6 Padang: namely the condition of the school environment being green and conducive in obtaining knowledge, SMAN 6 Padang can establish cooperation with schools abroad such as schools in Japan, then becoming a target school under the auspices of UNESCO, Padang Public School 6 became a School of Trustees for schools that are pioneering into Adiwiyata schools, students are taught entrepreneurship by processing waste into useful items and selling value, and caring for school residents become increasing towards the environment.

Conclusion

The adiwiyata school program has a positive influence in terms of ecology, social and economy. The adiwiyata school program makes the school environment comfortable and beautiful and increases students' concentration in learning. From social impacts, it fosters a spirit of environmental conscious behavior. From an economic standpoint, it has an impact on increasing entrepreneurship in school residents.

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Ecological, social and economic national Adiwiyata school program impacts in senior high School in Pekanbaru

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1	Nurhafni Nurhafni, Almasdi Syahza, Auzar Auzar, Nofrizal Nofrizal. "The Strategy of Environmental School through the Program of National <i>Adiwiyata</i> School in Pekanbaru (High School Level)", Interdisciplinary Journal of Environmental and Science Education, 2019 Publication	% 16
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