

# National and Independent School Perspective towards Asean Eco Schools 2019: Semarang City, Central Java, Indonesia

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**Abstract:** This research examines the Adiwiyata school program, the attitudes and perceptions of the Principal and Teachers, as well as stakeholders who are authorized to produce Adiwiyata Schools. Based on preliminary observations, four of the eleven Adiwiyata schools could not continue their research so that there were still 7 schools that could continue this research. The research aims to find out the Adiwiyata school programs that have been running in the School, analyze the attitudes and perceptions of stakeholders in the city of Semarang, and find the formulation of the Adiwiyata school in Semarang City, so as to find perspectives on the Adiwiyata School at the National and ASEAN levels. This study uses interview, observation, documentation and trianguli techniques. Based on the study of documentation, observation and interviews, the Adiwiyata school program in seven Adiwiyata National and Mandiri schools has gone well. Based on the analysis of the results of the Principal's attitude and perception questionnaire in the seven schools, the four components of Adiwiyata's interpretation were very strong, covering 95.716% Environmental-Based Policy, 98.215% Participatory Environmental Activities, 98.215% Environmental Learning, 100% Environmental Management Facilities and Infrastructure. Based on the analysis of the questionnaire results of the attitudes and perceptions of the teachers in the seven schools, the four components of Adiwiyata's interpretation are very strong, including the Environmental-Based Policy 98.334%, Participatory Based Environmental Activities 99.762%. 100% Environmental Learning, 100% Environmental Management Facilities and Infrastructure.

**Keywords:** Environmentally Friendly Policy, Education for Sustainable Development, ASEAN Eco Schools, Community Participation, Eco Green, Adiwiyata School.

**Abbreviations:** ASEAN, Association of Southeast Asian Nations; AEEAP, ASEAN Environmental Education Action Plan; AEY, ASEAN Environment Year; NAAEE, North American Association for Environmental Education; EE, Environmental Education; ESD, Education for Sustainable Development; SWOT, Strengths, Weaknesses, Opportunities, Threats.

## I. INTRODUCTION

Efforts by the Government of Indonesia to provide awareness to young people about the environment continue to be improved both through school education and non-school education. Schools become the most important part to contribute to efforts to save the earth. A thematic

education concept was introduced in 1984. Therefore, the Government of Indonesia conducts one of the improvement programs in the field of environment through schools by giving authority to the Ministry of Environment in collaboration with the Ministry of National Education to develop environmental education programs at the level of primary and secondary education through the Adiwiyata program, which is expected to be able to change patterns think, patterns of attitudes and behavior of students to care about the environment.

As the capital of Central Java Province, Semarang City has a number of Adiwiyata schools at the primary, secondary and senior levels, which certainly have the potential and adequate access to compete for the Adiwiyata school awards at the National and ASEAN levels. The Adiwiyata school supervisors include the Education and Culture Office, BAPPEDA, DLH, in Semarang City jointly responsible for fostering and succeeding the Adiwiyata school programs in the city of Semarang. The main problem in this research is how far the motivation and actions of Adiwiyata schools in the city of Semarang in preparing their programs as a National and Independent Adiwiyata school. In addition, data enrichment will also be found covering Adiwiyata's main components, which are related to the target area in the ASEAN Environmental Education Action Plan (AEEAP) 20014-2018.

## II. MATERIALS AND METHODS

### 2.1 Materials

Law of the Republic of Indonesia No.32 of 2009 concerning Environmental Protection and Management (UUPPLH), states that sustainable development is a conscious and planned effort that integrates environmental, social, and economic aspects into development strategies to ensure environmental integrity and safety, the ability, welfare and quality of life of present and future generations. Sustainable development can be interpreted as development to meet the needs of the present without reducing the ability of future generations to meet their needs. Demands of laws and regulations that apply, and as an idealistic reason is to maintain the quality of the environment so that it is not damaged due to development projects, national

development is directed to apply the concept of environmentally sound development or sustainable development.

One element in the concept of sustainable development is environmental education (environmental education). Formally environmental education is one of the rational alternatives for incorporating environmental education into the curriculum. Environmental education is one of the important factors in success in environmental management and is also a very important tool in producing human resources that can implement the principles of sustainable development (Yustina, 2006). Through EE (Environmental Education), it is expected that the community will have the knowledge, skills, attitudes, and behavior, motivation and commitment to work together to solve various current and future environmental problems. With EE (Environmental Education) it is also expected that human resources can implement the principles of sustainable development (UNESCO, 2012).

Education for Sustainable Development or ESD (Education for Sustainable Development) is a broad and lifelong effort that challenges every individual, institution and community to view tomorrow as a day for all of us. The Education Policy for Sustainable Development (ESD) in Indonesia was established on February 19, 2004 by the Ministry of Environment together with the Ministry of National Education, the Ministry of Religion, and the Ministry of Home Affairs. The skills expected from this ESD can be learned and implemented in formal, informal and non-formal education. ESD is education that has broader insights and concepts than Environmental Education. The ESD dimension is broader because it covers economic, environmental and socio-cultural aspects. In Indonesia, ESD aims to prepare future generations to better contribute to the implementation of sustainable development. The ultimate goal of ESD is noble education from an early age to tertiary education (Sudibyo, 2008).

Indonesia's future sustainability formulates education that is meaningful and functioning very precisely ESD which aims to: (1) development that can meet the needs of the present generation without having to put aside the ability of future generations to meet their needs, (2) improve the quality of human life by stay alive in the carrying capacity of ecosystems, and (3) benefit all creatures on earth (humans and ecosystems) now and in the future. Thus ESD values can be the spirit of education. ESD brings the concept of integrated education, interdisciplinary, multidisciplinary, and interdisciplinary in nature, the concept of education that not only has a vision of pure education, but also combines the concept of development from an economic, social, cultural and environmental perspective arising from the demands of the times due to human awareness about the need to preserve the environment so that it can be enjoyed by present and future generations (Noor Endah Mochtar, 2014). Adiwiyata School has an understanding or meaning of a good and ideal place where all knowledge and various norms and ethics can be obtained that can be the basis of humanity towards the

creation of welfare and towards the ideals of sustainable development. Adiwiyata School is expected to be able to create good conditions for schools to become a place for learning and awareness of school residents, so that in the future these school residents can take responsibility in efforts to save the environment and sustainable development. The main activities of the Adiwiyata school are directed at the realization of school institutions that care about and are cultured in the environment, in addition to developing basic norms which include togetherness, openness, equality, honesty, fairness, and the preservation of environmental functions and natural resources, as well as the application of basic principles, namely participatory, where the school community is involved in school management which includes the entire planning, implementation and evaluation process according to their responsibilities and roles; and sustainable, where all activities must be carried out in a planned and continuous manner in a comprehensive and sustainable manner (Ministry, Ministry of Environment, 2012).

Adiwiyata School can provide learning resources that can help students gain meaningful knowledge on environmental material. There are two basic principles of the Adiwiyata school program. First, participatory. School residents are involved in school management through the planning, implementation and evaluation processes according to their roles and responsibilities. Second, sustainable. All activities must be carried out continuously in a comprehensive manner. Based on these two principles, four standard components have been established which form a unity in achieving Adiwiyata schools, namely; The first component is an environmentally responsible policy with an applicable curriculum standard that includes an Environmental Education (PLH) effort and an assumption of School Budget Activity Plans (RAKS) that support the efforts of environmental management; The second component, in the form of environmental funding, is based on the environment with teacher standards; have competence in developing development activities for the environment and students who have carried out learning activities about PLH; The third component, is participatory-based environmental activities with PLH implementation standards planned for school residents and forging partnerships in PLH efforts with various parties (community, government, private sector, media, other schools). The last component, what is the management of environmentally friendly supporting facilities with the standard availability of supporting infrastructure that is environmentally friendly and improving the quality of management of environmentally friendly facilities and infrastructure in schools. Thus, the Adiwiyata school is not an instant school, but it requires a process and governance.

Adiwiyata Mandiri School's attributes or characteristics namely; First, schools are able to realize school members who are responsible for environmental protection and management efforts through good school governance to support sustainable development. Second, schools are able to apply the basic principles of the Adiwiyata program, which is Participatory,

where the school community is involved in management which includes the whole process of planning, implementing, and evaluating according to their responsibilities and roles; and Sustainable, where all activities must be carried out in a planned and continuous manner in a comprehensive manner. Third, able to realize the four program components which constitute a unified whole. (1) Environmentally Friendly Policies, (2) Implementation of Environmental-Based Curriculum, (3) Participatory-Based Environmental Activities, (4) Management of Environmentally Friendly Supporting Facilities. The forum for global meetings at the Southeast Asia level has an ASEAN Environmental Education Action Plan (AEEAP) from 2000-2005. It was continued in 2008-2012, with the theme of Environmental Education for Sustainable Development, which was endorsed by the ASEAN environment ministers on September 6, 2007. This plan is a regional cooperation framework for the development and implementation of environmental education initiatives in ASEAN. In AEEAP 2008-2012, it was continued with AEEAP 2014-2018 consisting of 4 target areas with their respective objectives; (1) The formal sector with the objectives, Environmental Education (EE) and Education for Sustainable Development (ESD) integrated at all levels of the formal sector. (2) The informal sector with the aim of the informal sector is enhanced through the integration of socio-cultural, economic and ecological knowledge through EE and ESD to overcome local, regional and international environmental problems and challenges. (3) Institutional capacity and human resources with the aim, strengthen institutional capacity in EE and ESD and train human resources in EE and ESD. (4) Networking, collaboration and communication, with the aim of increasing the exchange of environmental information, skills and resources in the region and increasing support and commitment to EE and ESD and capacity building through formal and informal networks at the local / national, regional level and internationally (The ASEAN Secretariat, 2015). The ASEAN Eco Schools Action Plan gave birth to an ASEAN level award for Adiwiyata Mandiri schools in ASEAN. Starting in 2012 it has already been held twice the last time in 2015 to be exact on August 4, 2015. The aim is in the ASEAN region to deepen collaborative and collective efforts to successfully implement regional environmental action plans.

Programs to realize schools that are responsible for environmental protection and management efforts through good school governance to support sustainable development, carried out by organizations / institutions or other parties provide guidance in improving the achievement of adiwiyata program performance that has a positive impact on environmental protection and management (Alsaad, 2011). The objectives of fostering Adiwiyata schools include increasing the achievement of Adiwiyata management performance in both the province and district / city, including schools and surrounding communities. Community Participation needs to get serious attention because for

environmental management the school needs to establish partnerships with the community.

## 2.2 Methods

The research site was conducted at eleven Adiwiyata schools in Semarang City, and in three offices, namely the Office of Education and Culture, the BAPPEDA office, and the DLH Semarang office. Site selection is done with a purposive system that is location selection based on specific objectives. In addition, it revealed the motivation, actions, and behavior of school residents towards the Adiwiyata programs that were already running in schools, including how the attitudes and perceptions of the stakeholders interests, also found a good Adiwiyata School model. As for the results of the preliminary study at Adiwiyata Nasional and Adiwiyata Mandiri schools in Semarang City, it turns out that there are several schools that do not allow continuing research at the school due to several reasons.

Research data processing is done through the stages of editing, coding, data entry, tabulating, trianguli, data analysis. To get the correlation between the attitudes and perceptions of stakeholders with the governance of the main components of the Adiwiyata program, a spearman correlation statistical test was conducted. Spearman correlation statistical tests conducted for this study can use the help of SPSS software. Each statistical test is carried out based on the provisions obtained from existing conceptual models. To make it easier to identify the correlation coefficient done, a recapitulation of the calculation results is made into a table in accordance with the three conceptual models built.

Conceptual model is a diagram that shows the correlation between one construct and another construct. The conceptual model for this study is divided into 3 parts. The three conceptual models aim to see the relationship of the Adiwiyata component criteria with stakeholder governance and guidance. The first part of the conceptual model examines the relationship between each of the main components of Adiwiyata with the attitudes and perceptions of stakeholders in the Adiwiyata program. This conceptual model tries to identify whether the attitudes and perceptions of stakeholders can have an impact on the development of the Adiwiyata component governance criteria. With this conceptual model in the first part, the research is to see the level of correlation between the attitudes and perceptions of stakeholders and the governance of the Adiwiyata component. can be seen effectively and in more detail. The second part of the conceptual model aims to examine the relationship between the combination of all attitudes and apperceptions of stakeholders in the Adiwiyata program and each of the Adiwiyata component criteria. For this reason, this conceptual model tries to combine the attitude and apperception sub-variables of the Adiwiyata program stakeholders into one and then identify the relationship level. The third part of the conceptual model aims to examine the relationship between the combination of all subvariable attitudes and the perception

of the Adiwiyata program stakeholders with the combination of all the Adiwiyata governance components. By developing the conceptual model of the third part, researchers to see the level of relationship between the attitudes and apperceptions of stakeholders in the Adiwiyata program and the governance of the Adiwiyata component can be used by a good Adiwiyata school model in Semarang City.

### III. RESULTS AND DISCUSSION

#### 3.1 Result

The course of this research outlines through three stages: pre-field, fieldwork, coding, trianguli, and data processing and conclusions. Data from the four components of the Adiwiyata questionnaire, the results of attitudes and perceptions of the Principal and respondent teachers can be described as table 1, table 2, and table 3 as follows.

**Table 1.** Interpretations of the Attitudes and Perceptions of Adiwiyata School Principals

No.	Adiwiyata Component	Average	Interpretation
1.	Environmentally Friendly Policy	95,716 %	Very Strong
2.	Implementation of Environmental Based Curriculum	98,215 %	Very Strong
3.	Participatory-Based Environmental Activities	98,215 %	Very Strong
4.	Management of Environmentally Friendly	100 %	Very Strong

**Table 2.** Interpretation of the Attitude and Perception of Adiwiyata School Teacher’s

No.	Adiwiyata Component	Average	Interpretation
1.	Environmentally Friendly Policy	95,716 %	Very Strong
2.	Implementation of Environmental Based Curriculum	98,215 %	Very Strong
3.	Participatory-Based Environmental Activities	98,215 %	Very Strong
4.	Management of Environmentally Friendly	100 %	Very Strong

**Table 3.** Numeration Matrix Interpretation of Attitudes and Perceptions of the Head of the Office of Education and Culture, Head of DLH, Head of BAPPEDA on the Adiwiyata Program

	Head of Semarang City Education and Culture Office	Head of DBLH, Semarang City	Head of BAPPEDA, Semarang City
Description of the motivation and expectations of Stakeholders towards schools in following and organizing the Adiwiyata School Program management including welcoming the ASEAN Eco Schools 2019	87,75 % (very strong)	98,43 % (very strong)	100 % (very strong)
Description of the potential and constraints faced by the head of the office related to the school of Adiwiyata school Program organizers including the ASEAN Eco Schools 2019	85,58 % (very strong)	97,55 % (very strong)	97,75 % (very strong)
Description of the potential and obstacles faced by the Head of Office related to the Adiwiyata School Program organizer including welcoming the ASEAN Eco Schools 2019	85,58 % (very strong)	100 % (very strong)	98,43 % (very strong)
Hopes and appeals from the Head of Office related to the school organizers of the Adiwiyata School Program including welcoming the ASEAN Eco Schools 2019	83,41 % (very strong)	97,74 % (very strong)	97,79 % (very strong)
Average	85,58% (very strong)	98,43% (very strong)	98,43% (very strong)

In 2018 the number of Adiwiyata National and Independent Schools in Semarang City that met the sampling purpose in this study were seven schools. Supporting the attitudes and perceptions of stakeholders in the Adiwiyata program at the National and Independent Adiwiyata Schools in the city of Semarang both from the Principal, Teacher, Head of the Semarang City Education and Culture Office, Head of the DLH of the City of Semarang, Head of the BAPPEDA of the

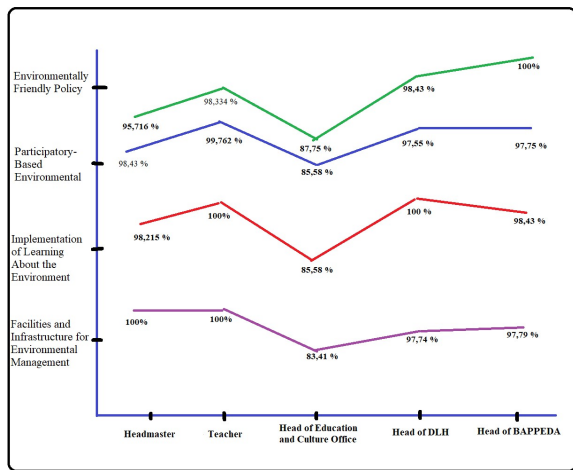


City of Semarang interpreted very strongly, as shown in table 4 below.

**Table 4.** Interpretations of the Stances and Perceptions of Stakeholders of the Adiwiyata School in Semarang City in 2018

No.	Adiwiyata component	Headmaster	Teacher	Head of Education and Culture Office	Head of DLH	Head of BAPPE DA
1	Environmentally Friendly Policy	95,716 %	98,334 %	87,75 %	98,43 %	100 %
2	Participatory-Based Environmental Activities	98,215 %	99,762 %	85,58 %	97,55 %	97,75 %
3	Implementation of Learning About the Environment	98,215 %	100 %	85,58 %	100 %	98,43 %
4	Facilities and Infrastructure for Environmental Management	100 %	100 %	83,41 %	97,74 %	97,79 %

The following charts describe the attitudes and perceptions of each of Adiwiyata school stakeholders in the city of Semarang. Results of the average attitude and perception of the principal, teacher, head of education and Culture office, head of the Environment office, head of Regional development planning agency, City of Semarang, to the governance of four main components of Adiwiyata show Very good interpretation. Overall head of education and culture office is the lowest compared to other.



**Fig. 1.** Chart of Attitudes and Perceptions of each of Adiwiyata school stakeholders

### 3.2 Discussion

The discussion in this study is divided into three parts namely the results of observations, statistically and refer to the results of previous studies. the results of observations at seven

National Adiwiyata and Adiwiyata Mandiri schools, two of which have been Adiwiyata Mandiri, show the fact that the Adiwiyata program has been running in each school. The four criteria for the Adiwiyata component are already apparent, including the application of the 5R in each Adiwiyata school. The support of the school community in the success of the adiwiyata program was evident from the Principal, the council of teachers, employees, students, the school canteen and school guests who entered the school area with many indications indicating the existence of Adiwiyata School. From the shade of vegetation, photographs and pamphlets spread in the school environment make it easy for residents and school guests to adjust to the criteria of the Adiwiyata School.

The statistics discussion carried out is to identify the nature of the data that might have an impact on the correlation values obtained differ from one another. The measurement of attitudes and perceptions of each of the stakeholders of the Adiwiyata program governance with a Likert scale shows that the results interpreted are very strong attitudes and perceptions given to the ongoing four-component Adiwiyata program and its indicators in each school. i.e. almost all lines above 80%. From the results of the statistical test of the Spearman correlation, the results showed a significant positive correlation of the attitudes and perceptions of each stakeholder towards the sustainability of the four Adiwiyata component criteria.

Whereas through the results of previous research by Nanik Hidayati, Tukiman Taruna, Hartuti Purnaweni at SMKN 2 Semarang in 2013 seemed synergistic with the results of this study in terms of the Adiwiyata Program run by SMKN 2 Semarang in the form of changes in the behavior of school residents who are aware of environmental needs. They realize that a clean, disaster-safe environment, smooth sanitation is a comfortable place in life. Teachers and friends without being reluctant and bored to always reprimand and advise students or other school members who contribute to damage the environment (Nanik Hidayati, et al, 2013). Previous research by Ainul Ulumiyah, Harti in 2014 at SMN 9 Surabaya, was also relevant to the results of this study. It was stated that the knowledge of Eco-School had a significant effect on the decision to buy green products in SMAN 9 Surabaya students, with a coefficient of determination of 0.275. The influence that occurs is a positive effect shown from the coefficient of determination which is positive and is classified as low. This means that the more positive the level of knowledge of Eco School, the more influence the decision to purchase green products (Ainul Ulumiyah, 2014). The same thing was revealed by Onny Setyowati, Ananto Aji, in a study at SMKN 2 Semarang in 2015, that the implementation of the Adiwiyata school program was in accordance with Adiwiyata school standards according to the criteria of the Ministry of the Environment (Onny Setyowati, 2015). In accordance with the conceptual model of the third section, the attitudes and perceptions of stakeholders correlate significantly very

strongly with the governance criteria of the Adiwiyata School component. It is highly recommended to be a model of the Adiwiyata School in the City of Semarang that builds synergistic relationships and coaching between the Adiwiyata School and stakeholders, especially the Head of the Education and Culture Office, the Head of DLH, the head of BAPPEDA.

#### IV. CONCLUSION

The statically-related discussion is to identify the nature of the data that allows it to have an impact on the value of the correlation obtained differently between each other. Measuring the attitudes and perceptions of each of the interests of governance of Adiwiyata program on the scale of Likert shows the very strong results and perception given to the continuity of the four components of the Adiwiyata program and indicators in each school. That is almost in all lines above 80%. From the statistical test results of the Spearman correlation shows the results that are the positive correlation of the attitude and perception of each stakeholder to the sustainability of four criteria of Adiwiyata component. The attitude and perception of the head of the Education and Culture Office of Semarang to support Adiwiyata program is limited to the program, while the attitude and perception of the head of the provincial education and culture Office of Adiwiyata School is still very minimal because the new level of equipment to manage SMA and SMK in Central Java just started in 2017. The attitude and perception of the head of DBLH and head of Bapeda of Semarang in the school of Adiwiyata support each program which is estimated by the head of Bapeda and detailed activities by the head of DBLH. But since the year 2017 the authority of DBLH head is only limited to manage ELEMENTARY and junior high School, while SMA/MA and SMK are managed by DBLH Province.

In accordance with the third part conceptual model, stakeholder attitudes and perception are significantly correlated with the governance of the Adiwiyata school component criteria. It is highly recommended to be a model of Adiwiyata school in the city of Semarang that builds relationships and synergistic coaching between Adiwiyata School and its stakeholders, especially the head of the Education and Culture office, head of DBLH, head of BAPPEDA. The most appropriate Model of Adiwiyata school to implement in the city of Semarang is capable of realizing the activities of Adiwiyata school in accordance with the 4 components of Adiwiyata school policy that has been established by the KLH, or according to 19 The indicators set by ASEAN.

Based on the results of the analysis and discussion, the conclusions obtained after describing the conditions and conditions of the National and Independent Adiwiyata Schools in the City of Semarang, and statistical testing so as to get the results of the attitudes and perceptions of stakeholders towards the governance of the Adiwiyata program in the National Adiwiyata School and Adiwiyata Mandiri in the City Semarang in 2019 which provided support

with very strong interpretations. Even though the independent Adiwiyata School in the City of Semarang has not been able to win the ASEAN Eco Schools award, but Indonesia remains proud because in October 2019, the Indonesian education world carved out the award of the 3rd ASEAN Eco Schools in Siem Reap, Cambodia. At the event, each ASEAN member country has the right to submit 2 schools with environmental insights, namely 1 primary school and 1 secondary school to get an award that is held every 4 years. From Indonesia which has the right to participate in the ASEAN Eco Schools selection are Adiwiyata Mandiri schools for the 2015-2018 acquisition year. The ASEAN Eco Schools 2019 Award from Indonesia was given to SMPN 10 Malang and SMK 1 Adiwerna, Tegal.

#### V. FUTURE SCOPE

Adiwiyata School in the city of Semarang must be continuously and consistently develop and implement Adiwiyata school activities programs, do not stop anything, by drafting a school budget plan that allocates funding the Adiwiyata program. In the implementation and preparation of reports of implementation and documentation of activities of Adiwiyata program in the city of Semarang must be sequential and continuous annually, so the report of the Adiwiyata program is easily communicated to the Inspectorate and Assessment of the KLH.

Adiwiyata School in Semarang should use the model-based program of Adiwiyata school activities in accordance with the Adiwiyata school policy components that have been set by the KLH, or in accordance with the 19 indicators set by the ASEAN Eco Schools, with a systematic and continuous coaching model of stakeholders, especially the head of the Education and Culture office, head of Environmental service, head of Regional development planning agency. The latter is the managerial school of Adiwiyata and the stakeholders must work hard to prepare the Mandiri Adiwiyata School in Semarang in addressing the ASEAN Eco Schools 2022.

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