Development of Environmental Education through the Adiwiyata Program (Study at: SDN Tlogosari Kulon 03 Semarang, Indonesia)

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Abstract. This study was designed to describe the implementation of environmental education through the Adiwiyata program at SDN Tlogosari Kulon 03 Semarang. This type of research is descriptive research with qualitative and quantitative. The method used to develop a development strategy by taking into account internal and external factors using a SWOT analysis. SDN Tlogosari Kulon 03 Semarang has received 80.25% of the Adiwiyata component. The results of the IFAS and EFAS matrix can be seen that the IFAS score is -0.13 and the EFAS score is 0.05. Both matrix results show negative and positive values so plotting in the Grand Strategy matrix will depend on quadrant III. The strategy in quadrant III (W-O) is a priority that must be given the attention needed for a breakthrough to take advantage of existing opportunities to optimize weaknesses in the internal. Schools need to be considered about various parties, the community around the school and published at home so there is harmony between the value invested in the school, which is done at home and in the community. Teachers need to develop alternative learning strategies for environmental education that are applied through practice in everyday life so that it becomes habituation and civilization.

Keywords: Development; Environmental Education; Adiwiyata.

1 Introduction

According to Sumarlin [1] 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 the success of environmental management and is also a very important means of producing human resources. It's about who can implement the principle of sustainable development.

The acceleration of the development of environmental education especially in the field of formal education at the level of primary and secondary education continues to be carried out by the government, through the Ministry of Environment. On the 21st of February 2006, the Adiwiyata Program was launched as a follow up to the joint agreement on 3 June 2005 between the State Minister of Environment and the Minister of National Education. In 2006 the Adiwiyata program was carried out and specifically for Java Island because the Ministry of Environment is still looking for models and criteria, but since 2007 this program has been carried out thoroughly in every province in Indonesia [2].

The Adiwiyata program is one of the programs of the Ministry of Environment in order to encourage the creation of knowledge and awareness of school residents in environmental conservation efforts. The Adiwiyata program aims to create good conditions for the school to become a place of learning and awareness of the school community so that school residents can be responsible for efforts to save the environment and sustainable development [2]. The main activity of the Adiwiyata program is to create a caring and cultured school institution for primary and secondary schools in Indonesia.

According to State Minister of Environment [3] the program objectives to be achieved are outlined in four main components, namely: (1) aspects of school policies that are environmentally sound; (2) aspects of the environment-based school curriculum; (3) aspects of participatory school activities; and (4) aspects of the management of supporting facilities and infrastructure for schools that are environmentally friendly. Components 1 and 2 are the authority and policies of the Ministry of Education and Culture while components 3 and 4 are the authority and policies of the Ministry of Environment. The four components of the achievement of Adiwiyata program development,

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each year evaluated in the form of assessments of schools that have participated in the Adiwiyata program and who have been able to carry out 80% of the standard 4 achievement components, namely a minimum of 72 out of 80 standard values, are entitled to Adiwiyata School awards National. Until now, the Adiwiyata program in Indonesia is an incentive and a form of appreciation from the government schools that show commitment and are willing to work hard to be able to fulfill the four components specified. It is hoped that with this Adiwiyata program, it will be able to spur and inspire other schools to take an active role in realizing caring and cultured schools.

Research conducted by Rahmawati and Suwanda [4] shows that Adiwiyata cannot be carried out effectively due to student turnover every new school year, students' socio-economic conditions, and educator care. This then has an impact on the difficulty of forming students' caring behavior.

Research on how to develop environmental education in SD N Tlogosari Kulon 03 Semarang, is expected to be used as input in determining strategies to optimize the role of school residents in the development of the Adiwiyata program in Semarang City.

2 Research Method

This research took place at the Adiwiyata program implementing school, SD N Tlogosari Kulon 03, Semarang city. This is because the school has the potential and achievements in the field of the environment and is supported by an adequate school environment to educate students to care for the environment. The study was conducted from October 2017 for preliminary observations and at the beginning of January 2018, a research data collection process was conducted. This type of research is a descriptive study with qualitative and quantitative approaches. Data obtained through questionnaires, observation, documentation, and interviews. Before being analyzed using descriptive analysis, the quantification of data from the questionnaire was carried out. Data from interviews, observations and documentation were analyzed by qualitative analysis. The method used for the preparation of the development strategy takes into account internal and external factors using a SWOT analysis (Strength, Weakness, Opportunities, and Threats). Data sources or informants in this study were selected purposively, namely the data source (key informant) is considered to be most knowledgeable about the object or social situation under study. The informants in question are: (1) Principal (2) Deputy head of the curriculum in the field (3) Deputy head of the infrastructure and facilities (4) Chairperson of the Adiwiyata Team (5) Student Representatives of SD N Tlogosari Kulon 03 Semarang city.

In preparing the strategy for developing environmental education carried out with a SWOT analysis. The first step in the SWOT analysis is to analyze internal and external factors SD N Tlogosari

Kulon 03 Semarang. Based on the identification of internal and external factors, the IFE (Internal Factor Evaluation) matrix and the EFE matrix (External Factor Evaluation) are then compiled. Weighting and rating are done by respondents from the school. Before the SWOT analysis was carried out, a study of the implementation of the Adiwiyata program at SD N Tlogosari Kulon 03 Semarang was carried out with components including:

- 1 Environmental Insight Policy
- 2 Implementation of Environmental Based Curriculum
- 3 Participatory Based Environmental Activities
- 4 Management of Environmentally Friendly Supporting Facilities

3 Results and Discussion

3.1 Analysis of Development of Environmentally Friendly School Policies

The analysis of the development of environmentally sound school policies in SD N Tlogosari Kulon 03 Kota Semarang if juxtaposed with the opinion of Indratno [5] which said the KTSP (Education Unit Level Curriculum) in 2006 was launched by the government to provide wider space for school managers and students in the process learn how to teach. The curriculum is a set of plans and regulations regarding the purpose of the content and material of the lesson as well as the methods used as guidelines for the implementation of learning activities to achieve certain educational goals [6]. While the Education Unit Level Curriculum (KTSP) is an operational curriculum compiled and implemented by each education unit [7]. The Education Unit Level Curriculum has the characteristics of decentralization, accommodating, and openness can be intellectual, because the teachers, students, and school managers are given the opportunity to fall and wake up in compiling and developing their own curriculum in accordance with the contents, mission, and goals of their school. Development of environmentally sound school policies in SD N Tlogosari Kulon 03 Kota Semarang in the school effort to improve the quality of education by instilling an attitude of togetherness, openness, honesty, fairness, and preservation of environmental and natural resource functions through the Adiwiyata program with the refinement of the 2017/2018 school year curriculum.

As stated by the principal of SD N Tlogosari Kulon 03 Semarang as the person in charge of implementing the Adiwiyata program, the school's vision is "Creating independent students in a safe, comfortable and religious environment". Through the Principal's Decree Number: 422.1/56/VII/2017 concerning the establishment of the School Curriculum Development Team, the foundation for the preparation of the KTSP. In SD N Tlogosari Kulon 03 there are two curriculums used, namely K-13 for classes 1, 2, 4, and 5 while classes 3 and 6 use KTSP 2006. Environmental

education in KTSP has been compiled, integrated with the eyes of science for class 1, 2, and 3 while for grades 4, 5 and 6 environmental education is integrated with science and KPDL lessons. After being inserted in the RPP in its implementation, it is supported by strengthening character education conducted every morning as well as practical lessons that are directly related to the environment. To protect the environment in addition to existing regulations, it is planned that there is zoning of the dining area in the hope of localizing the place affected by canteen waste. In addition, an environmental ambassador will be formed who will take turns overseeing the cleanliness of the school environment, especially at rest.

Based on data obtained by school policy in environmental-based implementation at SD N Tlogosari Kulon 03 has implemented 75% of the components of environmentally sound school policies.

3.2 Analysis of the Development of Environmental Based Curriculum

Teachers are expected to have competence in developing methods of environmental learning that are actively carried out can be by means and methods of demonstrations, group discussions, simulations, field experiences, brainstorming or debating among students. The results of demonstrations or environmental work of students and teachers can be published at a minimum in school wall magazines, websites, newspapers, school bulletins, or radio and television talk shows. Meanwhile, students can also be creative by making poems, short films, songs, pictures, simple research, and related recycling products and themes concerning protection and management of the environment.

Learning about environmental education at SD N Tlogosari Kulon 03 Semarang is carried out in an integrated manner on subjects, but has not been based on environmental themes. This can be seen by the compilation of curriculum and syllabus documents on environmental education that are integrated into subjects according to the subjects taught. Excavation of material development and environmental issues in the surrounding community. The identification of environmental issues and environmental management in science subjects is given in grades 1-3. Whereas for grades 4-6 integrated with KPDL and IPA contained in the syllabus and the Learning Program Plan.

Integrated Learning in Elementary School N Tlogosari Kulon 03 which was integrated was seen when grade 2 students learned repetitive addition material by taking fallen leaves and then counting. Besides that, in sports lessons, students win a quick race to relay taking leaves that have fallen from the tree. In addition, students are also drilled using used items to make mats, trap traps, make curtains, make toy planes from plastic wrap drinks, and use the rest of the pencil sharpener for flower decoration.

SD Tlogosari Kulon 03 class 4, 5, and 6 as science and KPDL lessons. These materials are included in the

syllabus and Learning Program Plan. The existence of syllabus and lesson plan documents found in the subjects is evidence of the teaching and learning process in accordance with the opinion that the greater the teachers' involvement in the materials faster knowledge about the environment will spread to students [8]. The integration approach guides teachers to increase their knowledge of environmental materials to be taught [8].

Based on the data obtained by school policy in environmental-based implementation at SD N Tlogosari Kulon 03 has implemented 86,67% of the components of the development of an environment-based curriculum.

3.3 Analysis of Development of Participatory Based Environmental Activities

SDN Tlogosari Kulon 03 Semarang creates several activities in the field of participatory based environment in schools. These activities include (1) devotional work involving teachers, employees, and students, parents of students and residents around the school environment (2) Aloe vera cultivation and processing, in this activity aloe vera seeds are obtained from the participation of parents. Students and teachers are given the task of caring for. When it reaches a certain height, Aloe vera leaves are harvested to be processed into pudding, ice nature, and sweets. In this activity, the school involves parents of students who have the skills in processing aloe vera to transmit their knowledge to students and other parents. Aloe vera cultivation and processing are excellent programs at SD N Tlogosari Kulon 03 which can be a means of interaction between school components. The thing that needs attention is the process of selecting seeds and their care so they can grow optimally. This activity can work with outside parties such as the competent Agriculture Service or higher education institutions. While for processing, it can invite competent parties to be able to meet the standards of processed food and beverages and more attractive packaging. For publications, it can be through online media and social media, so that it can be recognized by the public. Every Friday an activity called ants is held, it is ten minutes picking up trash with an area of the entire school environment. The collected waste is placed in a garbage collection facility to be processed into compost through composting activities. Other participatory activities are joint planting activities where parents and other outsiders, such as from the village office, carry certain crops and plant them in school with the school community. Specifically for making school parks supported by school committees.

When compared to the analysis of the development of participatory-based environmental activities with the opinion of [9] which underlines the participation of the community in environmentally sound environmental management cannot be separated from the influence of the principle of transparency and the importance of their participation in sustainable development as stated

in Bureau of Law and Organization [10]. "Everyone has equal rights to a good and healthy environment" The development of environmental activities at SD N Tlogosari Kulon 03 in Semarang City has involved the participation of students who are members of various activities [9]. The school also builds partnerships with institutions that care about the environment for the development of environmental activities involving the community.

Based on data obtained by school policy in environmental-based implementation in SD N Tlogosari Kulon 03 has implemented 77,5% of the components of the development of participatory based activities.

3.4 Analysis of Development and management of environmentally friendly school supporting facilities

The development of school supporting facilities as an environmental learning media at SD N Tlogosari Kulon 03 was carried out like repeated summation lessons in grade 2, students practiced directly by taking dried leaves that fell and then counting them. Similar activities are applied in sports learning, namely by running a race to find students who can collect the most falling leaves. The main activity is the cultivation of aloe vera at SD N Tlogosari Kulon 03 Semarang. The availability and maintenance of environmentally friendly school facilities and infrastructure include lighting, natural air ventilation in SD N Tlogosari Kulon 03 maintenance and regulation of shade trees or greening, monitoring infiltration wells, maintenance of sanitation and biopori. Significant evidence has not yet been found regarding implementation in the field relating to saving natural resources. Data on saving natural resources is only at the stage of appeals through posters and writings about environmental concerns related to water, electricity, stationery and other materials.

Canteens in locations that meet hygiene requirements, but have not fulfilled environmentally friendly requirements because they are found in food packaging which is contrary to environmental concerns. The development of the waste management system is carried out through the practice of sorting waste carried out by the school hygiene team. Based on data and observations illustrate the lack of change in behavior of school residents in treating waste, especially students who are targeted by policy. Analysis of management and management of school supporting facilities that are environmentally friendly when juxtaposed with Bakshi and Naveh [11] say that environmental education is a new philosophy of teaching. Environmental Education can be summarized into an overview of the state of knowledge and attitudes of students to appreciate and understand the concept of the word ecosystem [11].

Based on the data obtained by the school policy in the environmental-based implementation of SD N Tlogosari Kulon 03 has implemented 75% of the

components of management of environmentally friendly supporting facilities.

Table 1. Level of Fulfillment of Requirements for Adiwiyata Schools by SD N Tlogosari Kulon 03 Semarang

Component	Grade (%)	Weighting Factor	Weighted Score
Environmental policy	75	40	30
Environmental based curriculum	86,67	30	26
Participatory Activities	77,5	20	15,5
Management of environmentally friendly Supporting Facilities	75	10	7,5

3.5 Strategy for developing environmental education in SDN Tlogosari Kulon 03 Semarang

3.5.1 Identification of internal and external factors

A policy that is implemented of course by taking into account the steps that must be taken, one of which is to develop a strategy to achieve the policy objectives taken. In SD N Tlogosari Kulon 03 Semarang, which implements environmental education through the Adiwiyata program, it will be better to know the strategies that must be done to achieve the programmed goals. Strategy is a tool to achieve goals. Strategy is the long-term goal of a company, as well as the utilization and allocation of all important resources to achieve that goal [12]. So that a good understanding of the concept of strategy and other related concepts, greatly determines the success of the strategy that has been prepared. In an effort to achieve the goals to be achieved in environmental education policy through the Adiwiyata program, of course, SD N Tlogosari Kulon 03 Semarang will formulate a strategy that will be carried out so that implementation is more effective and directed. Before analyzing the strategy for implementing environmental education policy through this Adiwiyata program, first identify the internal and external factors of SD N Tlogosari Kulon 03 Semarang. Based on the results of field observations, interviews with key informants, and documentation studies, internal factors (strength/strength-S, weakness/weakness-W) and external formulas (opportunity opportunity-O, threat/ threat/threat-T) can be formulated, that is:

- a. **Strength (Strength-S)**
In its implementation, SD N Tlogosari Kulon 03 Semarang sincerely implemented the environmental education policy through this Adiwiyata program. One of them is the establishment of the Adiwiyata team which involves all school members so that it will be easier to carry out any planned environmental education activities in the working group. To support the implementation of the environmental education policy, SD N Tlogosari Kulon 03 Semarang always maintains and develops facilities and infrastructure that support the learning of the school environment so that the implementation is more effective. In addition, with the school budget allocated specifically to develop environmental education in SD N Tlogosari Kulon 03 Semarang, it also affects the implementation of environmental activities by all school members. The habit that has been created in the SD N Tlogosari Kulon 03 Semarang, namely maintaining the environment so that it is clean and healthy, strongly supports the Adiwiyata program. The accuracy in determining aloe vera cultivation as a superior program in the field of environment can be a means of interaction between school residents and parents of students. Besides that, many learning experiences can be obtained from the cultivation of aloe vera and its processing.
- b. **Weakness (W)**
Environmental education through the Adiwiyata program implemented by SD N Tlogosari Kulon 03 Semarang has added knowledge about environmental protection and management to all school members, but in the midst of its implementation, several weaknesses can be identified (weakness) which are still owned by SD N Tlogosari Kulon 03 Semarang.
The facilities and infrastructure owned by SD N Tlogosari Kulon 03 Semarang will be useful if it can be used by all schools, especially in learning the school environment, thus the infrastructure will be maintained and not only certain infrastructure facilities such as biodiversity parks. Through this Adiwiyata program, it is expected that all school members will be involved in the protection and management activities of the school environment so that an attitude that cares for the school environment will be formed. But there are still school residents who still have not implemented environmental education properly. The limited area of the school is an obstacle in the implementation of the Adiwiyata program. In addition, the limited number of human resources is also an obstacle to the implementation of Adiwiyata. In order to support the implementation of environmental education, SD N Tlogosari Kulon 03 Semarang has established partnerships with parties outside the school such as BLH, Semarang, the sub-district and sub-district. However, there are still not many partnerships with other private parties such as companies, media, which can be useful in supporting the development of the implementation of environmental education through the Adiwiyata program. With the expanding network, it will greatly help the Adiwiyata program, especially because of limited funds.
- c. **Opportunity (opportunity-O)**
Partnerships with parties outside the school are very open to develop the implementation of environmental education through the Adiwiyata program at SD N Tlogosari Kulon 03 Semarang. The established partnership will be very useful in the development of school facilities and infrastructure that can be used as a medium for environmental learning in schools. SD N Tlogosari Kulon 03 Semarang, which has won the title of champion of the Adiwiyata School at Semarang City level in 2015, continues to strive to maintain that status and even increase its title to be provincial and national Adiwiyata schools. Therefore the effort of the work of the community continues to be carried out by all school members to instill caring and cultured characters.
Environmental development agencies in the area and at the center often hold school competitions with environmental themes, of course this is one of the opportunities for SD N Tlogosari Kulon 03 Semarang to participate in the competition which is useful as an event to promote and disseminate information about environmental protection and management in schools. With the cooperation established with other schools, it provides an opportunity for SD N Tlogosari Kulon 03 Semarang to transfer knowledge to the school, especially regarding environmental protection and management efforts. These schools are expected to participate in the development of environmental education through the Adiwiyata program which will impact on the character of the school people who are more caring and cultured.
- d. **Threat (T)**
The transfer of teacher assignments, especially the principal to schools and other institutions is a separate threat to the implementation of environmental education through the Adiwiyata program. As experienced by SD N Tlogosari Kulon 03 Semarang, namely the existence of a plan of mutation of the Principal to the school will have an impact on the continuity of the implementation of the Adiwiyata program that has been jointly proclaimed. Support from the Trustees is highly expected for the continuity of the development of SD N Tlogosari Kulon 03 Semarang's environmental education, but related institutions such as BLH and the Education Office have not routinely given special attention and guidance to environmental protection and management activities, only on certain events such as commemorating environmental days, green school competitions, etc.
The results of the identification of internal and external factors in the implementation of

environmental education policies through the Adiwiyata program at SD N Tlogosari Kulon 03 Semarang as presented in Table 2.

Table 2. Results Identification of internal and external factors SD N Tlogosari Kulon 03 Semarang

Internal factors	Description
Strenght (S)	The school already has a vision, mission and school goals that are environmentally sound
	The school has a policy of integrating environmental protection and management development subjects
	The school developed innovative works from the flagship program of aloe vera cultivation
	The school has familiarized the school community to maintain a clean and healthy environment
Weakness (W)	School land for the development of protection and environmental management is still limited.
	The number of teachers and employees at the elementary level is limited unlike other levels
	Enforcement of regulations regarding the environment still needs to be improved.
	he supporting budget for the Adiwiyata program is still minimal
Faktor Eksternal	Description
Opportunity	Opportunity to increase the competence of educators protection and management of the environment
	The opportunity to establish cooperation with other parties who pay attention to the environment.
	The opportunity to get infrastructure assistance from other parties for the implementation of the Adiwiyata program
	Opportunities can increase status as an Adiwiyata school to a higher level
Threats	The policy of transferring school principals or teachers to other places is a threat to the development of education and environmental management
	Guidance carried out by agencies related to the implementation of the Adiwiyata program carried out on weekdays.
	Free school policy.
	The policy of the relevant institutions, does not require schools to implement the free Adiwiyata school program.

3.5.2 Analysis of internal and external factors

Strategic decision making is always related to the development of mission, goals, strategic, and company policies [12]. But in this case SD N Tlogosari Kulon 03 Semarang needs to formulate a strategy to develop environmental education through Adiwiyata programs based on internal and external factors that have been formulated. In determining the strategy to be taken it is determined in advance based on the weighting results of internal and external factors using the I Factor Analysis Summary (IFAS) and the External Factor Analysis Summary (EFAS) matrix IFAS matrix as presented in Table 3, while the EFAS matrix is presented in Table 4. Provision of weight values and ratings based on the results of interviews with key informants, field observations, and documentation studies.

Table 3. Matrix of IFAS SD N Tlogosari Kulon 03 Semarang

No	Strength Indicator	Recap Results		
		Weight	Rating	Rating Score
1	The school already has a vision, mission and school goals that are environmentally sound	0,1	4	0,4
2	The school has a policy of integrating environmental protection and management development subjects	0,1	3	0,3
3	The school developed innovative works from the flagship program of aloe vera cultivation	0,13	4	0,52
4	Sekolah sudah membiasakan warga sekolah untuk menjaga lingkungan bersih dan sehat	0,12	3	0,36
	Sub Total			1,58
No	Indicator of Weakness	Recap Result		
		Weight	Rating	Score
1	School land for development School land for environmental protection and management is still limited	0,19	4	0,76
2	The number of teachers and	0,17	4	0,68

No	Strength Indicator	Recap Results		
		Weight	Rating	Rating Score
	employees at the elementary level is limited unlike other levels			
3	Enforcement of regulations regarding the environment still needs to be improved	0,09	1	0,09
4	The supporting budget for the Adiwiyata program is still minimal	0,09	2	0,18
	Sub Total			1,71
	Total Score (S-W)			-0,13

Table 4. The EFAS SD N Tlogosari Kulon 03 Semarang matrix

N o	Opportunity Indicators	Recap Result		
		Weight	Rating	Score
1	Opportunity to increase the competence of educators in protection and management of the environment	0,09	4	0,36
2	The opportunity to establish cooperation with other parties who pay attention to the environment.	0,15	3	0,45
3	The opportunity to get infrastructure assistance from other parties for the implementation of the Adiwiyata program	0,12	3	0,36
4	Opportunities can increase status as an Adiwiyata school to a higher level	0,11	4	0,44
				1,61
N o	Threat Indicator	Recap Result		
		Weight	Rating	Score
1	The policy of transferring school principals or teachers to other places is a threat to the development of education and environmental	0,13	3	0,39

	management			
2	Coaching on weekdays by agencies related to the implementation of the Adiwiyata program	0,11	3	0,33
3	Free school policy	0,14	3	0,42
4	The policies of the relevant agencies have not required schools to implement the Adiwiyata program	0,14	3	0,42
	Sub Total			1,56
	Total Score (O-T)			0,05

Based on the results of the IFAS and EFAS matrix, it can be seen that the IFAS score is -0.13 while the EFAS score is 0.05. Both matrix results show negative and positive values so that if plotted in the Grand Strategy matrix will be in quadrant III as seen in Figure 1. Strategy in this quadrant is a strategy that supports the turn around strategy [12].

Fig. 1. The Grand Strategy Matrix of SD Tlogosari Kulon 03 Semarang [12]

The next step in conducting a SWOT analysis is to move internal (IFAS) and external (EFAS) strategic factors into cells that are in accordance with the SWOT matrix as presented in Table 13 [12]. Internal and external factors possessed by SD N Tlogosari Kulon 03 Semarang will then be integrated so that based on this approach can make various possible alternative strategies (SO, ST, WO, WT).

After formulating into several alternative strategies, a strategy can be seen in each quadrant. As seen in the SWOT analysis matrix, strategies are designed to minimize weaknesses and threats by maximizing strengths and opportunities.

From the calculation of the weight and rating of internal and external factors that have been plotted in

the Grand Strategy matrix, it can be seen that the W-O strategy can be taken, namely the strategy by utilizing the opportunities that exist. The situation in quadrant III (W-O) is a situation that must get attention, namely a breakthrough is needed to utilize the opportunities that exist optimally to overcome weaknesses in the internal [12]. The strategy that must be applied in this situation is to improve the strategy by taking advantage of opportunities intensively. In other words, the implementation of environmental education policies through the Adiwiyata program at SD N Tlogosari Kulon 03 Semarang can continue to be carried out and even has opportunities in its development by improving the strategy. One of the opportunities that need to be taken seriously is the flagship program of aloe vera plants. This superior program, if managed more modernly, will have its charm from the public relations side. In terms of processing into processed materials, there needs to be diversification and standardization of processed food products. To publish the results of processed foods from aloe vera can use online media and social media.

The threat to the implementation of environmental education at SD N Tlogosari Kulon 03 Semarang is the policy of transferring assignments to principals and teachers who have enthusiasm in developing environmental education through the Adiwiyata program. With the replacement of the Principal and the teacher will be able to disrupt the communication that has been running so far in order to develop environmental education in SD N Tlogosari Kulon 03 Semarang. However, to overcome threats that could potentially reduce the enthusiasm and enthusiasm for implementing environmental education through the Adiwiyata program at SD N Tlogosari Kulon 03 Semarang is to conduct environmental activities in accordance with established policies and guidelines.

By building partnerships with various parties outside the school who have the same concern for environmental protection and management efforts through environmental education, it will be very helpful both in getting school infrastructure facilities that can later be used as learning media such as tree seeds, plant fertilizers, fish seeds, places garbage, composting and so on. In addition, the established partnership will also support each other in the dissemination of information and various experiences in environmental management that are included in environmental education through the Adiwiyata program in schools. For analysis using the SWOT, analysis matrix can be seen in Table 5.

Table 5. SD Tlogosari Kulon 03 SWOT Analysis Matrix Semarang

INTERNAL	Strength	Weakness
	1. The school already has a vision, mission and school goals that are environmentally	1. School land for the development of environmental protection and management is still limited.

E K S T R E N	sound 2. The school has a policy of integrating protection and environmental management subjects 3. The school develops innovative work from the flagship program of aloe vera cultivation 4. The school has familiarized the school community to maintain a clean and healthy environment	2. The number of teachers and employees at the elementary level is limited unlike other levels 3. Enforcement of regulations regarding the environment still needs to be improved 4. Supporting budget for the Adiwiyata program still limited
	Opportunities 1. Opportunities to improve the competency of educator protection and environmental management 2. The opportunity to establish cooperation with other parties who are concerned about the environment. 3. The opportunity to get infrastructure assistance from other parties for the implementation of the Adiwiyata program 4. Opportunities can increase status as an Adiwiyata school to a higher level	SO STRATEGY 1. Optimizing the established Adiwiyata team to develop environmental education through planned activities. 2. Building partnership relationships with parties outside the school who have the same goals in environmental management. 3. Conduct visits to other schools for comparative studies and transfer of knowledge about school environment education to enrich the creative power in developing the implementation of environmental education in the future.
	Threat	ST STRATEGY 1. To optimize work groups in implementing environmental education through the adiwiyata program. 2. With budget support from schools independently
	1. The policy of transferring the principal or teacher to another place poses a threat to the development of education and environmental management	WT STRATEGY 1. Communication to school residents in implementing environmental education through the adiwiyata program. 2. Carry out seriously the policies established by the

2. Guidance carried out by agencies related to the implementation of the Adiwiyata program	conducting comparative studies to other schools that are better at developing environmental education through the adiwiyata program.	school towards protection and management activities in the school environment.
3. Free school policy		
4. Policies from related institutions, do not require schools to implement the Adiwiyata program		

The following is a strategy formulated after considering internal and external factors, namely:

1. Strategy by relying on strength to take advantage of existing opportunities (S-O strategy)
 - a. Optimizing the established Adiwiyata team to develop environmental education through planned activities.
 - b. Building partnership relationships with parties outside the school who have the same goals in environmental management.
 - c. Hold visits to other schools for comparative studies and transfer of knowledge about school environment education to enrich the creative power in developing the implementation of future environmental education.
1. Strategy in seizing opportunities to overcome weakness (W-O strategy)
 - a. Optimizing the superior program of aloe vera cultivation with more modern management supported by adequate publications.
 - b. Inviting other schools that have the capacity for FGD on environmental education at SDN Tlogosari Kulon 03 Semarang by using facilities and infrastructure as learning media.
 - c. Optimizing efforts to become the first champion of the provincial level Adiwiyata School to invite all school members to participate in supporting environmental activities in the school.
3. Strategy using the power owned to overcome threats (S-T Strategy)
 - a. Optimizing the Adiwiyata team in implementing environmental education through the Adiwiyata program.
 - b. With budget support from schools independently conducting comparative studies to other schools that have been better at developing environmental education through the Adiwiyata program.
4. Strategies to overcome threats and to minimize weakness (W-T Strategy)

- a. Communication to school residents in implementing environmental education through the Adiwiyata program.
- b. Carry out seriously the policies established by the school towards protection and management activities in the school environment.

4 Conclusion

Based on the data obtained SDN Tlogosari Kulon 03 Semarang has received 80.25% of the Adiwiyata component. The results of the IFAS and EFAS matrix can be seen that the IFAS score is -0.13 while the EFAS score is 0.05. Both matrix results show negative and positive values so plotting in the Grand Strategy matrix will depend on quadrant III. The strategy in quadrant III (W-O) is a priority that must be given the attention needed for a breakthrough to take advantage of existing opportunities to optimize weaknesses in the internal. Schools need to be considered about various parties, the community around the school and published at home so there is harmony between the value invested in the school, which is done at home and in the community. Teachers need to develop alternative learning strategies for environmental education that are applied through practice in everyday life so that later it becomes habituation and civilization.

Suggestions for schools include the need for continuous communication to all school members to be committed to implementing environmental education through the Adiwiyata program, the use of school facilities and infrastructure as a medium for learning for environmental education in schools, increasing partnerships with parties outside the school in the framework of collaborative implementation of environmental education development, and requires the involvement of all school members in carrying out environmental education through the Adiwiyata program so that responsibility is not only left to the Adiwiyata school team coordinator.

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