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Student's interest in PENILIK as sustainable development extracurricular program to support agricultural awareness

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Abstract: This study is a descriptive study that aims to describe the implementation of the PENILIK (Pasukan Petani Cilik) Program and find out students' interest in the program to support the agricultural awareness of students. PENILIK is an extracurricular program in regenerative agriculture in a school environment that focuses on training in farming competencies, which has several stages, such as identification, analysis, implementation, and reflection. This program is an effort to implement the value of education sustainable development to increase students' interest and awareness in the agricultural area. Student's response was taken from a questionnaire given to 26 extracurricular members who are able and committed to accomplish the program at one of the schools which has high potential area for agriculture. Based on the questionnaire results, students have a high interest in the program, and the programs can positively impact students, especially in increasing their awareness of the importance of agriculture. Furthermore, this program brings an opportunity for the school and surround society to explore the agricultural potency adjust with the goals of education sustainable development. Therefore, support from all stakeholder, parents and the community involved in implementing the program's sustainability is needed.

Keywords: extracurricular, student's interest, agricultural awareness, education for sustainable development

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INTRODUCTION

Indonesia's potential to become a food self-sufficient country is very large. However, based on the amount of crop production that has been achieved in Indonesia, this potential has not been maximized. Until 2022, the amount of vegetable imports is still very large. Based on BPS data, until March 2022, at least Indonesia had imported 59 million kilograms of vegetables and only exported 9.6 million kilograms. This has consistently happened in previous years, which shows the total weight of Indonesian vegetable imports was only around 9 million kilograms (Badan Pusat Statistik, 2020, 2021, 2022).

The lack of production of food crops and horticulture in Indonesia is caused by two aspects. First, this is due to the lack of Human Resources (HR) working in this field. In 2021, it is recorded that 26.03% of all workers in Indonesia work in the agricultural sector. There is degradation by around 3.23% compared to 2020. In 2021, it was recorded that there was a decrease in the number of workers in the food crops and horticulture sectors, respectively 8.84% and 0.11%. (Pusat Data dan Sistem Informasi Pertanian, 2020, 2021). Second, farmers' inability to use appropriate technology is another cause of low agricultural productivity in Indonesia (Pusat Data dan Sistem Informasi Pertanian, 2019). The application of technology in agricultural activities is difficult to improve because farmers profession is still dominated by workers aged 25-60 years with a low level of education.

Sustainable development is a global issue that is adapted by all United Nations countries. It is an attempt to meet the needs and welfare of society today without compromising the welfare of society in the future. (Manitoba Education, 2011). There are 17 goals that sustainable development hopes to

achieve, one of which is ending hunger, achieving food security and better nutrition and supporting sustainable agriculture (UNGA, 2020). In order to embody sustainable agriculture, food security, and food sovereignty in Indonesia, it is necessary to regenerate farmers and workers in the fields of food crops and horticulture (Anwarudin et al., 2020). It is hoped that with the regeneration, the conversion of agricultural land to non-agriculture in Indonesia can be suppressed and the future farmers can be more responsive to technological developments. One of the efforts that can be done to maintain and increase the number of farmer regeneration is to increase the awareness and interest of the younger generation towards agriculture.

Awareness can be interpreted as someone who has understood something. When a person does not have awareness, it can be said that the person has a less conception of something (Schipper, 2014). Self-awareness represents the capacity to be the object of one's own attention. In this state, a person actively identifies, processes, and stores information about himself (Morin, 2011). Self-awareness is knowing what one is feeling at a moment in time and using it to guide one's own decision-making (Goleman, 2001). Awareness needs to be trained to students to ensure the goals in the affective domain can be achieved (Fluerentin, 2012). Agricultural awareness by an individual is defined as positive attitudes and interactions towards agriculture. This awareness is manifested by the ability to identify the relationship of agriculture to a particular field of study or to life (Kobloch & Martin, 2000).

Interest is a high self-inclination towards something, passion, or desire (Rufaidah, 2015). Chaplin (2009) stated there are 3 definitions of interest, namely: an ongoing attitude that patterns a person's attention so that he becomes selective about the object of his interest, a feeling that states that an activity or object is valuable or meaningful to the individual, and a state of motivation or a set of motivations that guide behavior, behavior toward a certain direction (target). Interest is a feeling of liking and attraction to something without coercion. The sustainability of farming in an area is very dependent on the interest of the youth around it to continue their parents' profession (Budiati, 2014). According to Ningtyas and Santosa (2020) there are several things that can show the process of increasing interest in agriculture in youth, including: increasing youth involvement in direct agriculture and supporting involvement by paying attention to frequency, duration of farming and land area owned; increasing members of farmer youth groups; improvement of agricultural land; increasing youth innovation in horticultural agriculture.

The results of research by Nugroho, Waluyati and Jamhari (2018) show that many young people are less interested in working in agriculture. This is in line with the results of the identification obtained by the author on the interests and awareness of students in the agricultural sector at SMPN 3 Rongga, SMPN 2 Cimenyan, and SMPN 11 Bandung. The results show in general, the majority of students prefer not to work in agriculture (58 %). Seeing this, it is necessary to make efforts so that student's awareness of agricultural activities can be increased. According to Nugroho, Waluyati and Jamhari (2018), the introduction of agriculture through agriculture-based extracurriculars in public schools can be used as a solution.

Extracurricular is an activity outside the classroom that is written in the curriculum. Extracurricular activities predict students' higher college aspirations, enrollment, and completion. It is believed that extracurricular activities give students career success and help to build important connections with the mentors and people involved (Snellma et al., 2015). There have been several efforts to integrate agricultural activities into extracurricular activities in Indonesia, such as through Adiwiyata extracurriculars (Bahrudin, 2017; Deswari & Supardan, 2016; Hadi & Trihantoyo, 2020; Parwata & Sudiatmika, 2020), hydroponic planting (Suryani et al., 2020), as well as providing agricultural materials and activities to elementary school students (Ayu Rahmawatiningsih, I Made Angga Prayoga, 2010). However, these programs do not provide opportunities for students to interact directly with farm owners and workers belonging to the surrounding community. Whereas according to Ranzez, Anwarudin and Makhmudi (2020), visits to agricultural locations by the younger generation can support agricultural regeneration. In addition, there is still little research that focuses on the use of local communities' agriculture to engage in extracurricular activities at the junior high school level. Whereas community media in the form of local farmers are believed to be able to increase young people's interest in farming and their confidence for agricultural activities Nugroho, Waluyati and Jamhari (2018). Learning directly to the environment is believed allows students to experience firsthand and optimize the potential of the five senses to learn knowledge (Yarid & Ariswan, 2016). Media existence on a project makes students interested and motivated to learn (Susetyarini et al., 2019). For this reason, PENILIK as a program that

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is applied to extracurricular activities has been designed with various agendas aimed at increasing the interest of the younger generation in the agricultural sector. The visit to agricultural locations is one of PENILIK's agenda and is expected to increase regeneration in the agricultural sector. Diverse plants at the agricultural locations will act as contextual media to learn about agriculture, while the involvement of farmers around schools as a community in PENILIK activities is expected to increase interest in farming and increase the confidence of young farmers.

Based on the problems stated above, the PENILIK program innovation in extracurricular activities needs to be investigated on the results of its implementation and its suitability in helping to realize sustainable development. Therefore, this article aims to analyze the suitability between the program and sustainable development goals, to find student's interest towards PENILIK to support student's agricultural awareness, the role of PENILIK program in support student's agricultural awareness, and to elaborate the strengths, weaknesses, opportunities, and threads of the program.

METHOD

This research is descriptive research with a quantitative approach, which aims to describe the analysis result of the program suitability with sustainable development goals, student's interest in the program to support student's agricultural awareness, and the strength and weakness of the program. The sample is selected using purposive sampling technique, which consider the location of the school that has agricultural potential so that it is possible to implement the program. The samples are 26 students (11 male,15 female in grades 7 and 8). They are extracurricular members who are able and committed to accomplish the program at one of the Junior High Schools in West Java.

The PENILIK program was initiated based on the result of student's agricultural awareness and interest towards agricultural activity, which had been conducted by the author. The first step of the research was implementing the program in one of extracurriculars at school. Then, student's response towards the program was taken from a student's interest questionnaire. The suitability between the program and sustainable development goals analized by did a literature study, arranged targets and indicators of PENILIK program, analized in which targets and indicators PENILIK Program can implementing ESD in the environmental, social and economic fields. Data is made in the form of table and described based on the results of the analyzed performed. While, the collected data from the questionnaire is analyzed quantitatively by calculating the positive and negative response for each indicators in percentage. Strengths, weaknesses, opportunities, and threads of the program is analyzed used a SWOT analysis, made in a table form and described based on the results of the analyzed performed.

The students interest questionnaire towards PENILIK program is adopted and modified from previous research by Cahyono (2017) based on four interest indicators, which are attention (interest, participation), enjoyment (happiness, eliminate boredom, proud), usefulness of activity (appropriate activity, positive effect, agricultural awareness), family and environmental support (parental support, build relationship). Statements are constructed to represents each indicators, and the respondens are asked to give their opinion based on 5-likert scale. The details of the interest indicators used in this study can be seen in Table 1. The content validity of the instrument was validated by two experts. The results stated that the questionnaire was proper to use. The questionnaire readibility test also showed that students could understand the contents of questionnare.

Table 1. Student Interest in the PENILIK Program Indicators

No.	Aspect	Indicator	Description
1	Attention	Interest	Student interest to join the program
		Participation	Student desire to participate in the program
2	Enjoyment	Happiness	Student feels happy when doing participate in the program
		Eliminate boredom	Student thinks that the program can eliminate their boredom
		Proud	Student feels proud when they join the program
3	Usefulness of activity	Appropriate activity	Student thinks that the program is an appropriate activity for them
		Positive effect	Student thinks that the program has a positive effect on them

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No.	Aspect	Indicator	Description
		Agricultural awareness	Student thinks that the program can improve their agricultural awareness
4	Family and environmental support	Parental support	Student's parents support them to join the program
		Build relationship	The program builds good relationship between the students

PENILIK is an extracurricular program in the field of regenerative agriculture in a school environment that focuses on training in farming competencies, which has several stages, such as, identification, analysis, implementation, and reflection. The program consists of special area for the communal garden where students can farm once a week in a predetermined extracurricular schedule. Students who participate in planting can get the results of the garden together. The stages of the program are shown in Table 2.

Tabel 2. The Stages of PENILIK

Action	Explanation	
Act 1.	Identification of Agricultural Potentials and Problems	
a.	Visit communal garden	Learn directly from communal gardens to identify agricultural potential in the surrounding environment
b.	Identify farming methods and agricultural problems	Conduct direct interviews with farmers or explore other literature sources to identify local agricultural problems
c.	Compile reports	Compile reports based on the identification of agricultural problems and agricultural potentials related to their findings in the field and design of problem solutions
d.	Presentation of report results	Communicate the results the report in the form of a presentation, a reflection of the program the group has carried out in farming
Act 2.	Farming Implementation	
a.	Determine of the type of plant and preparation	Determine as well as analyze type plants which is potentially to be planted, and determine the tools, materials and procedures.
b.	Planting at School or House Surrounding	Farming process accompanied by extracurricular trainer and farmers directly.
c.	Plant maintenance.	Carry out maintenance and maintenance on a regular basis and make reports of each plant's growth and development.
d.	Marketing and Utilization of Crops.	Determine packaging and target marketing of their crops.

RESULTS AND DISCUSSION

The discussion in this article will be divided into three parts, there are analysis of the program suitability with sustainable development goals; student's interest in the program to support student's agricultural awareness; and the strength and weakness of the program.

Analysis of PENILIK Program Suitability with Sustainable Development Goals

The PENILIK program has the value of implementing ESD in the environmental, social and economic fields. In social field, the program gives opportunity for students to interact with surrounding farmers directly. In economy field, it trains student's competencies in entrepreneurship and marketing their crops. While, in the environment field, it increases the agriculture areas by utilizing land in schools as a form of reforestation in the school. The analysis of the program's suitability with the SDGs goals is shown in Table 3.

Table 3. PENILIK Suitability with Sustainable Development Goals

Sustainable Development Goals	Targets and PENILIK Program Indicators
Goal 1 : No Poverty	Implementation of programs help reducing the number of unemployed and increase employment in agriculture in urban areas, so that the proportion of the poverty line around the region can decrease.

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Sustainable Development Goals	Targets and PENILIK Program Indicators
Goal 2 : Zero Hunger	Implementation of programs help reducing hunger levels, by providing the need for safe and nutritious food throughout the year.
Goal 4 : Quality Education	Implementation of programs help to facilitate students for get better education in sustainable development and provide a safe and inclusive learning environment
Goal 15 : Life on Land	Ecosystem program implementation help to promote sustainable applications Ecosystem progress, especially in agriculture and sustainable management and assisting the global reforestation process.

Based on the analysis of suitability between the PENILIK program with the sustainable development goals in Table 3, the program can help to achieve 4 sustainable goals such as no poverty, zero hunger, quality education and life on land. The lack of production of food and horticulture is due to the lack of human resources working in agricultural fields. In fact, growth in the Indonesian agricultural sector is one of the biggest contributors in reducing the number of poor people (Martauli, 2018). Unfortunately, there was a decrease in the number of workers in the food crops and horticulture sectors, respectively (Pusat Data dan Sistem Informasi Pertanian, 2020, 2021). The farming profession is dominated by workers aged 25-60 years with a low level of education. Therefore, the regeneration of farmers and workers in the field of food crops and horticulture is very important. The regeneration of the farmer, can be more responsive to technological developments and agricultural activities. This regeneration should run continuously in order to realize sustainable agriculture, food, and food prosperity for the Indonesia (Anwarudin et al., 2020). The PENILIK program can help to achieve no poverty goal because the program tries to support students interest dan awareness in agricultural fields, if students have awareness in how important agricultural we hope that they can have interest to working in agricultural fields and because agricultural sector is one of the biggest contributors in reducing the number of poor people it can help to no poverty.

Based on the amount of crop production that has been achieved by agriculture in Indonesia, it indicates that this potential cannot be maximized. Until 2022, the amount of vegetable imports is still very large. Based on BPS data, until March 2022 Indonesia at least has imported 59 million kilograms of vegetables and only exported 9.6 million kilograms. This has consistently happened in previous years, where the total weight of Indonesian vegetable imports was only around 9 million kilograms (Badan Pusat Statistik, 2020, 2021, 2022). The lack of farmers' knowledge in using suitable technology is one of the causes of low agricultural productivity in Indonesia (Pusat Data dan Sistem Informasi Pertanian, 2019). The program can help to decrease hunger issues because in this program students learn how to plant well in a fun way. If students have good planting skills it can increase student's interest and awareness about how important agriculture is, so they have an interest to be good farmers. If there are a lot of people interested and aware of these fields, we can easily have a good farmers regeneration and Indonesia's potential to become a food self-sufficient country can be developed. If it happens, agricultural output can increase so it can help to end hunger.

The program is able to help increase education quality because this program has two main activities, in first activity, students have to identify agricultural potentials and problems. Students learn directly from communal gardens to identify agricultural potential in the surrounding environment, conduct direct interviews with farmers or explore other literature sources to identify local agricultural problems, compile reports based on the identification of agricultural problems and agricultural potentials related to their findings in the field and design of problem solutions and communicate the results the report in the form of a presentation, a reflection of the program the group has carried out in farming. In the second activity, students do farm in school. Farming process accompanied by extracurricular trainers and farmers directly. These two activities can improve a student's learning quality, because students have an experience learning directly from farmers around their environment so that the learning process becomes more fun and meaningful for students.

The program is able to help to achieve sustainable land. In this program, students learn how to plant from the farmers appropriately. Students determine as well as analyze the type of plants which are potentially to be planted, and determine the tools, materials and procedures. Planting activities are carried out in schools by using existing land.

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Student's Interest in the PENILIK Program to Support Student's Agricultural Awareness

PENILIK program is implemented in one of school in East Java. Based on the results of the questionnaire given to students after the program was implemented, it can be concluded that the response of students to the program was very positive. This is indicated by the positive response that was given by students on the questionnaire, values of 7 indicators above 80%, in 9 indicators there are no students who respond negatively. The highest value of the program is that students are happy to be involved in the PENILIK program, they also think that this program can increase their awareness on the importance of agriculture (96%). The lowest value is found in the second indicator, the participation of students (35% gave a positive response, 35% a negative response, and 31% neutral). Students' overall response for each indicators an their interest score distribution can bee seen in Figure 1 and Figure 2 respectively.

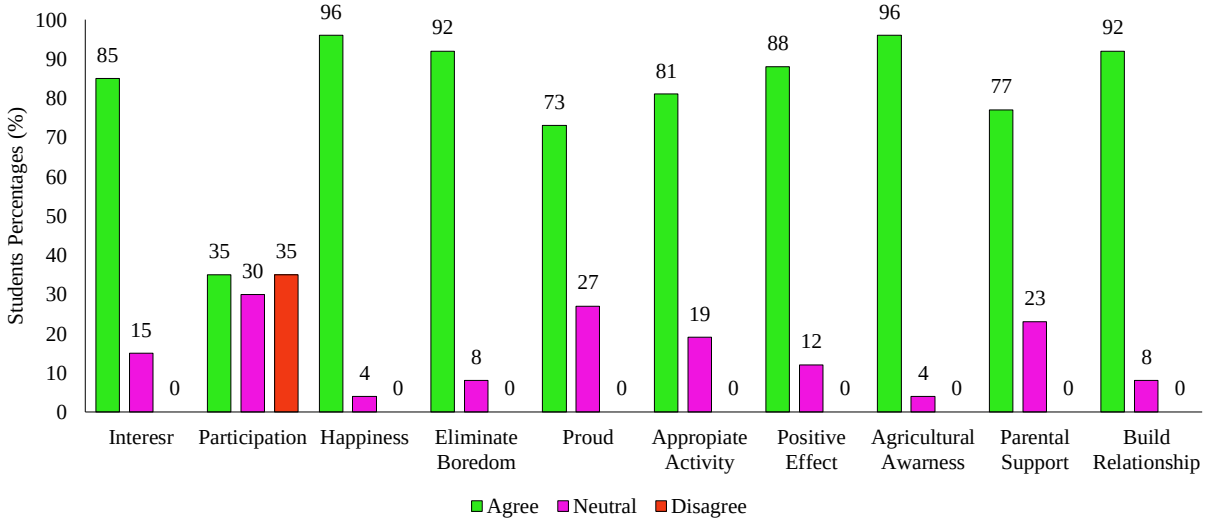

Figure 1. Student Interest in the PENILIK Program

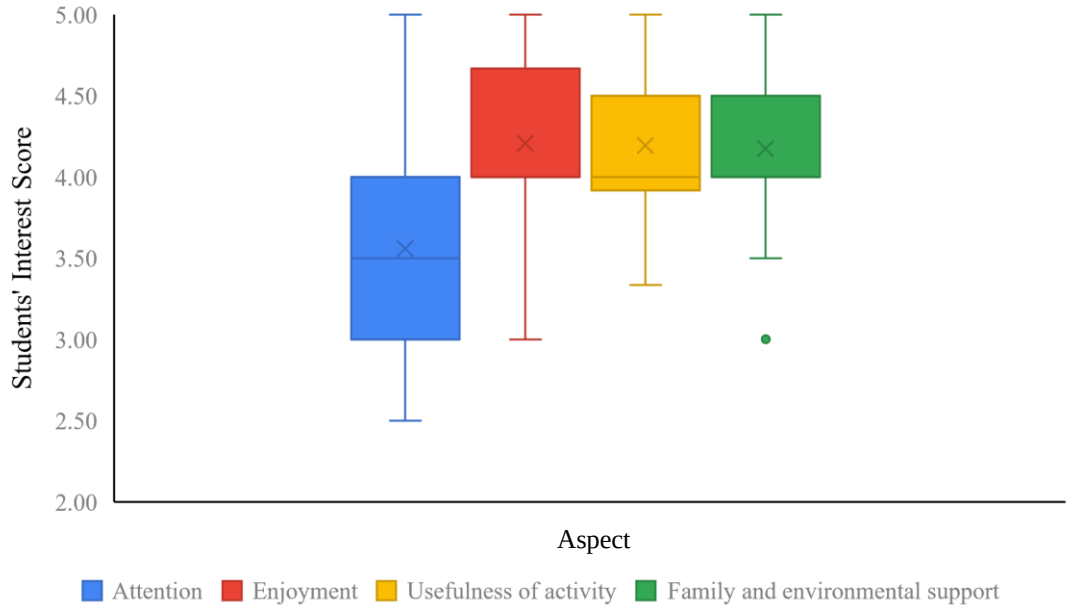

Figure 2. Boxplot of Students' Score for each Interest Aspects

Based on the questionnaire results, students' interest in PENILIK activities are high. One's interest in a particular object or activity is influenced by four factors, namely; (1) encouragement from within the individual, (2) social motives, (3) emotional factors, and (4) economic motives (Budiati, 2014). Students are happy to be able to participate in program activities because it can eliminate their boredom,

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especially during this pandemic. Students are also proud to be able to participate in this program because they can contribute to planting activities at school. Most of the students (81%) thought that this program was the right activity for them to learn how to plant properly and correctly.

The high interest of students in the PENILIK program is also supported by interviewed to the four students that join this program. Based on the results of student interview, one student stated that *"I am very interested in this program because it can increase my knowledge in agriculture"*. He said that through this program, he could asked directly to farmer how to planted correctly. In his opinion, this program can improve his awareness about the important of agriculture fields. They think that this program can improved they planting skills. They feel happy because they can do a useful and happily things with their friends and teacher through planted.

The other student also said that *"This program is easy and fun to do, besides that the program is low cost so my parents very supported me to join this program".* Student said that *"Im very interested to join this program, especially through this program i can fill my sparetime for something useful".* Two other students said that they very insterested with this program because they can get and eat the plants they grow themselves, moreover they can selling the product to others. This program make them feel how farmers feel and they really enjoyed it. They feel more inspired and steamed-up to join more activity in this program. This is also supported by they background parents who work as a farmers so they like the program which give them a chance to learn a lot how to plant correctly. Successfully following this program, they feel more grateful and aware that they live in a fertile environment and should make a good use of this by learning how to plant properly and correctly so good harvest can be obtained and can benefit themselves and local people there.

Student interest in PENILIK as one of agricultural learning program is important because student interest during any kind learning activities is important to attract their attention (Reeve & Tseng, 2011). It triggered students to actively participat to join the program. Students were excited to join the program, because they can escaped from their boredom. Students took some benefits from the program, and directly can take the advantages. When students can feel the advantages from the learning activities, it trigger students, to dig more and increase their curiousity (Reeve & Tseng, 2011). Students are also proud and enjoy to be able to participate in this program, students were the first from their family and environemt to attend the program. Based on the data, The highest benefits of the program is that students are excited and actively participated to be involved in the PENILIK program, Students think that this program can increase their awareness on the importance of agriculture (96%).

The Role of PENILIK Program in Support Student's Agricultural Awareness

Awareness can mean someone has understood something. When a person does not have awareness, it can be said that the person has a less conception of something (Schipper, 2014). Self-awareness represents the capacity to be the object of one's own attention. In this state, a person actively identifies, processes, and stores information about himself (Morin, 2011). Self-awareness is knowing what you are feeling at any given moment and using it to guide your decision making themselves (Goleman, 2001). Agricultural awareness (agricultural awareness) by an individual is defined as positive attitudes and interactions towards agriculture. This program has had a positive impact on students (88%), especially in increasing their awareness of the importance of agriculture (96%). Parents of students will give permission for students to take part in this program because it will provide positive association for students. Awareness needs to be trained to students to ensure goals in the affective domain can be achieved (Fluerentin, 2012). Based on the result of validated questionnaire, PENILIK support students' awareness. The agricultural awareness is line with student's interest. Interest is a high self-inclination towards something, passion, or desire (Rufaidah, 2015). Interest is a feeling of liking and attraction to something without coercion.

Moreover, the analysis of learning achievement correlation in science education, can be seen based on the analysis of Indonesian curriculum 2013 in junior high school. Although, PENILIK is an extracurricular, but it also can support learning achievement. This Program can be related with some topics in science education such as 1) living thing classification, 2) interactions between living things and their environment, 3) the physical and chemical properties of soil, organisms that live in the soil, with the importance of soil for the sustainability of life 4) plant growth and development. Those related materials show abundant potential of the PENILIK program to be implemented to support learning achievement in the classroom. Most of the materials were related to the biology context about the plant,

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living thing and environmental. While there are also some chemistry materials that related to the properties of the substance involved. While for the technical aspect it can be more varied to the educator/researcher that want to apply or integrate to support student's learning achievement.

Table 3. Analysis of the Strength, Weakness, Opportunity, and Threats of PENILIK Program SWOT Analysis of PENILIK Program

Internal Factors / **External Factors**	**S (Strength)** • The program has a good effect and supports student's awareness and interest in agricultural fields • The program can be implemented continuosly • The program provides a new learning experience for students • Students can contribute to planting activities at school accompanied by extracurricular trainers and farmers directly	**W (Weakness)** • The program requires more effort and time from teachers and students • The program takes studiousness from teachers and students
O (Opportunity) • The program more potential to be implemented at rural school • The program has a great opportunity to be implemented at urban school • The program gives chances to support intra-curricular learning based on science curriculum • The program enhances cooperation with related external parties	**SO Strategy** Cooperate with all relevant parties such as teachers, farmers, and communal community to achieve the goals of the program	**WO Strategy** • Give a motivation to student and teacher through doing a socialitation about the importance and the benefit of the program so it can increase the motivation and participation in the program • Give rewards to student who have an outstanding participation in the program
T (Threat) • Environmental climate change • Pest attack • Difficulty to determine farmers as informants who are willing to train and assist students in the planting process • Limited land resources particularly in urban school	**ST Strategy** • Select a planting location that is safe from environmental climate change and pest attack • Have a good cooperation with a farmer around schools • Implement ventriculture method to overcome limited land resources	**WT Strategy** Increase motivation and corporation between student and farmer around the school by having discussion to overcome the threat to the program

The PENILIK program implemented in junior high school students shows that this program has a good effect and supports student's awareness and interest in agricultural fields. This program can be implemented especially in a school that is close to a communal garden and has good agricultural potential. This program provides a new learning experience for student because they learn directly from communal gardens, identify agricultural potential in the surrounding environment and have direct interviews with farmers to identify local agricultural problems with that activity. This program can support the interest and awareness of students in the agricultural sector. This activity is interesting and fun for students because it can contribute to planting activities at school. Students determine the type of plants which are potentially to be planted, determine the tools, materials and procedures, and plant them in school accompanied by extracurricular trainers and farmers directly. Besides its strength, this program requires more effort from teachers and students and also takes studiousness from teachers and students so that the program can run. To resolve this weakness of the program, we can give a motivation to student and teacher through doing a socialization about a importance and the benefit of the program so

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it can increase the motivation and interest of the student to give a participation in the program, give rewards to student who have a good participation in the program, and cooperate with all relevant parties such as teachers, farmers, and communal community to achieve the goals of the program.

Moreover, the program has several opportunities to be implemented by considering several characteristics, such as school location, school policy, surrounding agricultural community, and communal garden availability. Although this program is more potential to be implemented at rural school, it also has a great opportunity to be implemented at urban school by considering the availability of needed planting resources. Student's involvement in planting activity through the program also give chances to support intra-curricular learning based on science curriculum particularly to plants, land, and some other related content material. This program can enhance cooperation with related external parties Besides its opportunities, there are several threats that may affect the program success. These threats come from external factors such as environmental climate change, pest attack, and it is difficult to determine farmers as informants who are willing to train and assist students in the planting process. Altenatif ways that we can do to reduce threats are planting in land that is safe from environmental climate change and pest attack, doing a good cooperation with a farmers around schools and doing a ventricultur is there are limited land especially in schools located in urban areas. We also can increase motivation and corporation between student and farmer around the school through doing activity together such as discussion about the way to reduce a threat of the program so the program goals can be achieved.

CONCLUSION

PENILIK is an extracurricular program designed in the field of regenerative agriculture in a school environment that focuses on training in farming competencies, which has several stages, such as, identification, analysis, implementation, and reflection. This program is an effort to implement the value of education sustainable development that aims to increase student's interest and awareness in the agricultural area. The purpose of this program is to increase the interest and awareness of students in the agricultural area and to improve the competencies of students in farming, as a form of implementing the values of sustainable development education.

Based on the analysis this program correspond with education sustainable development goals published by UNESCO number, 1 (No Poverty), 2 (Zero hunger), 4 (Quality Education), 15 (Life on Land). Based on the results of the questionnaires given to students, the student's response to the program was very positive. This is indicated by the positive response that given by student on questionnaire, value of 7 indicators above 80%, in 9 indicators there are no students who respond negatively. The highest percentage of the program is that students are interested to be involved in the PENILIK program, they also think that this program can increase their agriculture awareness (96%). Although, PENILIK is an extracurricular, but it also can support learning achievement since it can be related with some topics in science education such as 1) living thing classification, 2) interactions between living things and their environment, 3) the physical and chemical properties of soil, organisms that live in the soil, with the importance of soil for the sustainability of life 4) plant growth and development.

The implementation of this program has a positive impact on students. Furthermore, this program brings opportunity for the school and surround society to explore the agricultural potency adjust with the goals of education sustainable development. This program is more potential to be implemented at rural and urban school by considering the availability of needed planting resources. Threats come from external factors such as environmental climate change and pest attack are must be considered to maximize the achievement of the success of this program.

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