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2023 SEAMEO-Japan ESD Award

Theme: Promoting Environmental Education through Utilizing Renewable Energy

SUBMISSION FORM

The submission deadline is 15 August 2023
Full Information: https://link.seameo.org/2023SEAMEOJapanESDAward

- To participate in the 2023 SEAMEO-Japan ESD Award, please submit the information of your school's programme on "Promoting Environmental Education through Utilizing Renewable Energy" by using this template of Submission Form on or before 15 August 2023.
- The **digital format of this Submission Form** can be downloaded from the SEAMEO website: https://link.seameo.org/2023SEAMEOJapanESDAward or request through email: seameojapan.award@seameo.org
- The **guidelines for submission** and the **judging criteria** are detailed in page 8-10 of this document.
- **How to Submit the Entry**: Please send the completed submission form of 2023 SEAMEO-Japan ESD Award and a link of 3-minute video clip together with supporting documents to the following google form:

https://link.seameo.org/2023SEAMEOJapanESDAward/submission

- Important Note: to align with the ESD practices and to save the environment and energy, the Committee **WILL NOT** accept the entry in hard/printed copies.
- More information, please visit: https://link.seameo.org/2023SEAMEOJapanESDAward or contact the SEAMEO Secretariat's email: seameojapan.award@seameo.org or Tel. +66-2391-0144.

PART I: DETAILS OF YOUR SCHOOL

1. Name of your school AL-YA'LU SUPERIOR ELEMENTARY SCHOOL
2. Full address Jl Teluk Mandar 55, Arjosari, Malang, Indonesia
3. Postcode 651264. Country Indonesia
5. School's telephone number (country code+city code+telephone number) +62 341-409798
6. School's Email Address alyaklu.unggul@gmail.com
7. School website (if available) www.alyaklu.sch.id
8. Approximate number of teachers participated in this programme 18 teachers

9. Approximate number of students participated in this programme 292 students

PART II: INFORMATION ABOUT THE SCHOOL'S PROGRAMME

The information of part II from no.1 to 14 should not be over five (5) pages long of A4 in total. The information should be written in **Times New Roman/Calibri font, font size 11**.

1. Title of the school's programme

ADIWIYATA IN AL-YA'LU SUPERIOR ELEMENTARY SCHOOL
ENVIRONMENTALLY FRIENDLY BEHAVIORAL INNOVATION
SEAMEO-Japan ESD Award 2023

2. Summary of the programme (maximum of 300 words)

The vision of AL-YA'LU Superior Elementary School is to shape school members to have an environmental culture. AL-YA'LU Superior Elementary School in 2022 has been named an Adiwiyata Mandiri school. Adiwiyata Mandiri School implements the Caring and Cultured Environment Movement in Schools (GPBLHS) which includes 6 movements, namely 1) Cleanliness, Sanitation and Drainage; 2) Waste Management; 3) Maintenance of Plant Trees; 4) Water Conservation; 5) Energy Conservation; 6) Innovation related to Environmentally Friendly Behavior. Adiwiyata activities are carried out in intra-curricular, extra-curricular, habituation learning, and through school programs such as Student of Profession Programs. The GPBLHS program includes planning, implementation, monitoring and evaluation which is carried out every year. The monitoring and evaluation process is carried out 3 times a year.

Implementation of Adiwiyata at AL-YA'LU involves all students, teachers, parents, and cooperates with various agencies. Several agencies include the Health Center, the National Narcotics Agency (BNN), the Center for Artificial Insemination Seeds (BBIB), the Faculty of Medicine of Universitas Brawijaya, the Supit Urang Final Disposal Site (TPA), Organic Vegetable Gardens, and others.

The GPBLHS program includes planning, implementation, monitoring and evaluation. As for implementation in schools through intracurricular, extracurricular, and habituation learning. In the 2022/2023 school year, PRLH's energy conservation and innovation program raised the theme of renewable energy which introduced several alternative energies including solar panels, biogas, micro-hydro for duck egg incubators, and bamboo pellets to replace LPG.

The implementation of the Adiwiyata Program at AL-YA'LU has produced many achievements in this field. Programs related to energy conservation and innovation related to environmentally friendly behavior in schools, AL-YA'LU Superior Elementary School have succeeded in inspiring students to make pellets from bamboo tree waste and make tools for chopping organic waste. The AL-YA'LU Superior Elementary School has a bamboo forest which functions as an antidote to air and noise pollution where the AL-YA'LU Superior Elementary School is located in Malang's Arjosari Terminal. Every day produce waste of dry bamboo leaves. AL-YA'LU Superior Elementary School is also a full day school, lunch for all students is served by school *catering* . The logistics team provides daily lunch and cake break services. So there is a need for innovation in waste management and energy saving. The school program that has been carried out is the manufacture of pellets and the manufacture of multipurpose chopping machines.

One of the parents at our school owns a Kebun Agung Sugar Factory business which also produces quite a lot of sugarcane waste. Then, a creative idea emerged from AL-YA'LU students to overcome this problem by processing bamboo waste and sugarcane waste into pellets called PECI MALANG (Selangit Benefits Little Pellets), which function as a gas fuel that is environmentally friendly and very economical. .

So far, AL-YA'LU Superior Elementary School has implemented a *full day school system* which requires its students to return home after lunch time. Therefore, AL-YA'LU's kitchen must provide catering services for lunch and morning breaks so that the quality of the food consumed is guaranteed. Previously, AL-YA'LU's kitchens always used LPG (Liquefied Petroleum Gas), which was not environmentally friendly and not economical. With the use of PECI MALANG, school kitchens have succeeded in replacing the use of LPG and switching to energy that is more sustainable and environmentally friendly.

On the other hand, AL-YA'LU's kitchen also produces quite a large amount of organic waste, which is around 20 kg per day. If this waste is left alone, it will produce pollution in the form of ammonia gas which can harm the surrounding environment. To solve this problem, AL-YA'LU students are innovating again by making a chopping machine called SINCAH SERU (Multipurpose Chopping Machine) which functions to chop organic waste to make it easier to process.

The innovative work of bamboo pellets won the 2023 quark science Olympic gold medal and the innovation of the multipurpose chopper (SINCAH SERU) won the Kihajar STEM 2021 overall champion award. Various national-level awards were also received in the fields of science and the environment.

3. Objectives/goals of the school's programme

a. The Adiwiyata Program at AL-YA'LU Superior Elementary School aims to create a culture of environmentally friendly behavior for the school community.
b. Educating the school community to preserve environmental functions.
c. The movement of school residents and the community to protect the environment.
d. Prevention of pollution and environmental damage
e. The creation of innovations regarding environmentally friendly behavior by students and teachers.

4. Period of the time when the programme has been started

The Adiwiyata program began in 2016. AL-YA'LU Superior Elementary School has been named an Adiwiyata school in Malang City. AL-YA'LU Superior Elementary School won an award as 2nd Place in Green School 2017 Mayor of Malang and was named a Provincial Adiwiyata school. In 2018, he received an award as the best environmental learning school. In 2019 AL-YA'LU Superior Elementary School received the National Adiwiyata. And the peak will be in 2022 AL-YA'LU Superior Elementary School will become an Adiwiyata Mandiri school. Various innovations related to environmentally friendly behavior are 1) Solar Stove (1st National Champion 2016); 2) Sate/Ki-Pesat Roasting Fan (1st National Champion 2017); 3) Super Fast Honey Squeezing Machine (National Champion 1 2018); 4) 2020 Level 1 and 2 Quark Gold Medals; 5) Exciting Sincah/Multipurpose Counting Machine (National General Champion 2021); 6) Making Pellets from Bamboo Waste (National Gold Medal 2022).

Implementation of the program every academic year. In the 2022/2023 academic year, program implementation will begin planning in July 2022. Monitoring and evaluation will be carried out 3 times, namely in October 2022, February 2023 and June 2023.

5. Activities (strategies/activities of implementation, and brief information of each activity)

In the 2022/2023 school year, one of the activities related to environmentally friendly behavior innovation is the manufacture of pellets from bamboo leaf waste. Whereas in 2021 one of the innovations that will be carried out is processing organic waste by making a multi-purpose chopper.

Name Of Activity	Description	Persons Involves
Processing of Bamboo Waste and Sugar Cane Waste into PECI MALANG	AL-YA'LU students and their parents work together to collect bamboo and sugarcane waste. The waste is then processed into PECI MALANG pellets as an environmentally friendly and economical gas fuel in school kitchens.	1. School team (students, teachers, and staff) 2. Kebun Agung Sugar Factory
Switching from using LPG to PECI MALANG	The school team socialized the use of PECI MALANG as a substitute for LPG to the kitchen staff, who then transitioned gradually. This helps schools reduce greenhouse gas emissions, save costs, and contribute positively to the environment . In addition, the use of PECI MALANG is also effective in reducing school spending on LPG purchases.	1. School team (students, teachers, and staff) 2. Kitchen staff
Kitchen Organic Waste Processing	The school team socialized kitchen organic waste collection to kitchen staff to reduce the negative impact of waste. The school team teaches separate sorting of leftovers, vegetables and fruit peels which will be processed into duck feed.	1. School team (students, teachers, and staff) 2. Kitchen Staff

Operation of the SINCAH SERU Organic Waste Counter Machine	After the organic waste was collected, the school team used the SINCAH SERU machine to chop the organic waste to make it easier to process. AL-YA'LU students are empowered to operate machinery with supervision.	School team (students, teachers, and staff)
Provision of chopped results to duck breeders	AL-YA'LU and the parents of duck breeders cooperate by using chopped SINCAH SERU as duck feed. Students feed under the supervision of breeders. This collaboration turns waste into a source of nutrition, creating a sustainable system.	1. School team (students, teachers, and staff) 2. Duck farmer
Zero Waste Principle Implementation	The school educates students and staff on the principle of zero waste. The school is committed to managing resources and reducing waste by minimizing disposal to landfill.	School team (students, teachers, and staff)

6. Teaching and learning approaches/strategies that the school has integrated into the programme

a. Thematic Approach in Learning Natural Sciences:

In the thematic Natural Sciences subject for class 4 semester 2, students will study the topic of energy conservation. Through a thematic approach, students will understand the relationship between energy conservation and the concept of renewable energy. Learning will include an understanding of sustainable energy sources and exploring the concept of organic waste management.

b. Adiwiyata Activities at School:

Adiwiyata activities in schools include school policies, an environmentally integrated curriculum, partnerships with related institutions, and community participation. Related to environmental education through the utilization of renewable energy, these activities are covered in aspects of energy conservation and environmentally friendly behavior innovations.

1) Energy Conservation

Energy conservation is carried out in schools starting from the use of energy-saving lamps, the use of waste as an alternative energy source, the classrooms have sufficient lighting, the classrooms have adequate air circulation so they do not need air conditioning, and replace the energy used with renewable and more efficient energy.

2) Innovation related to Environmentally Friendly Behavior

Various innovations related to the environment were developed to inspire students, teachers and school members to cultivate environmentally friendly behavior. This innovation is grown from the learning process, extracurricular, co-curricular, professional studies, habituation, and Adiwiyata activities. Various innovation achievements from students include

- Ki Pesat, student innovation to speed up satay roasting
- Super Fast Honey Squeezer Machine, modification of used washing machine to solve the problems of honey breeders
- Sincah Seru, a machine for chopping organic waste used for duck feed and compost
- Biogas, making biogas by utilizing organic vegetable waste.
- Bamboo leaf waste pellets, converting LPG into bamboo leaf waste pellet stoves and sugarcane bagasse.
- Micro Hydro, utilizes river flow to turn a generator that is used for egg incubators.

The teacher's achievements are 1st place in the 2021 national quirky science learning. Meanwhile, the school's achievements are as an independent adiwiyata school 2022, 2nd place in the 2017 green school festival, 1st place in 2018 environmental learning, and various other awards.

7. Engagement with the community and sharing of school practices to the community

a. **Outreach and provide duck feed to breeders.** This activity takes place and develops the quality of the feed that produces quality eggs. At first the school made duck feed from organic waste from the school canteen. Then several studies were carried out which made a mixture of feed so that the quality and quantity of eggs increased.
b. **Provide Education and Training to tofu factories that are subscribed to schools.** Students and schools make liquid fertilizer from tofu waste to deal with the waste that is disposed of.
c. **Educational Visit** . The school's flagship program is making visits to industry and related agencies every semester. This program is called Profession Acquaintance Study (SKP)
d. **Collaboration or Partnership** . Cooperation carried out by the school is with related agencies (Brawijaya University, NU Jepara University, BBIB, Kebun Agung Sugar Factory, and so on).
e. **Guest Teacher.** Inviting guardians who have various professions to provide motivation to students.
f. **Social Media and School Blogs:** The School Team creates content about environmental contributions and various sustainable programs that have been implemented in schools. Then share it through social media and school blogs so that information becomes more accessible.

8. Monitoring and evaluation mechanisms

a. Weekly Monitoring:
   - The school team will carry out daily monitoring of kitchen operations using PECI MALANG and the use of SINCAH SERU to chop organic waste.
   - Record the number of pellets produced and the energy efficiency achieved from PECI MALANG.
   - Monitor the performance of SINCAH SERU in chopping organic waste effectively.
b. Routine Reporting:
   - Establish a regular reporting schedule for each program to the school's authorities.
   - Discuss developments, constraints, and achievements that have been achieved in routine meetings every 4 months or every 3 times a year.
c. Energy Use Analysis:
   - Conduct periodic analysis of energy use before and after switching to PECI MALANG.
   - Monitor energy efficiency, cost savings, and positive impact on the environment.
d. Waste Progress Monitoring:
   - Observe developments in the amount and type of waste generated from the kitchen and school area.
   - Conduct analysis to ensure that SINCAH SERU functions properly in processing organic waste.
e. Annual Program Evaluation:
   - Conduct a thorough evaluation of the entire program at the end of each school year.
   - Analyze achievements, obstacles, and improvements needed for program development in the following years.

9. Measurable achievement of the school’s programme to students, teachers, parents, and wider community

a. Student:
   - Active Participation in the Program: The level of student participation in ongoing programs that have been implemented at school.
   - Understanding of the Environment: Increasing students' understanding of environmental issues, renewable energy, and sustainable practices through learning and hands-on experience.
   - Environmental Practice Skills: Development of sustainable practice skills such as waste management, utilization of renewable energy, and contribution to the environment through active participation.

b. Teacher:
   - Implementation in Learning: Integrating sustainable concepts into learning, seen from the Lesson Plan (RPP) and the use of Natural Science materials related to energy and the environment.
   - Awareness Raising: Raising teachers' awareness of sustainable practices and their ability to integrate them into learning.
   - Engagement in Environmental Management: Participate in monitoring and reporting regarding school environmental management and sustainable practices.

c. Parent:
   - Participation in School Activities: The level of parental participation in program-related activities, such as outreach events, training, guest teachers, or visits related to environment and energy.
   - Understanding of School Practices: Parents' understanding of school initiatives in terms of environmental management, utilization of renewable energy, and their impact on their children's education.

d. Society in General:
   - Introduction to Sustainable Practices: The level of awareness and knowledge of the general public regarding sustainable practices carried out by schools through various activities such as visits, training, and social campaigns.
   - Support and Collaboration: The level of support and potential for community collaboration in the development of sustainable programs, which can be reflected in participation in school events and implementation in the community.

10. Plan for future

a. Utilization of Organic Waste as Biogas to Introduce Entrepreneurship to Students:
   - In the future, AL-YA'LU Superior School plans to optimize organic waste processing by producing biogas.
   - The results of this biogas production will be used for school kitchen needs or even sold as student entrepreneurship products.
   - By utilizing organic waste as raw material for biogas, schools want to provide entrepreneurial experience to students and create additional sources of income to support environmental programs.

b. PECI MALANG Raw Material Diversification

   - The school also plans to conduct further research on other types of dry waste that can be used as fuel for PECI MALANG.
   - Through this research, it is hoped that schools can find alternative raw materials for PECI MALANG which are more diverse and varied, thereby reducing dependence on only bamboo and sugarcane waste.
   - By utilizing other dry waste that has not been used optimally, schools will reduce the impact of dry waste that is not properly processed and optimize the use of existing resources.

11. Interrelationship of the school's programme with other Sustainable Development Goals (SDGs) (Please refer to page 2 in the Information Note or https://sustainabledevelopment.un.org/sdgs)

a. Goal #4 (Quality Education): Programs also provide beneficial learning experiences to students.
b. Goal #7 (Clean Energy): In processing bamboo and sugar cane waste into PECI MALANG, schools contribute to Goal #7 by utilizing waste as a sustainable energy source.
c. Goal #12 (Responsible Consumption): Transition to economical PECI MALANG with efficient and sustainable resource management through sustainable fuels. In addition, SINCAH SERU also optimizes waste management and creates a closed system of sustainable waste management.
d. Goal #13 (Climate Management): School programs help reduce greenhouse gas emissions through the use of environmentally friendly PECI MALANG and reduce the impact of burning waste containing toxic gases.

e. Goal #15 (Land Ecosystem): our program contributes to reducing the negative impact of waste and organic waste on the environment so as to create a good land ecosystem

12. Link(s) to the information of school's programme in social media platforms such as facebook, website, youtube

Facebook	: Alyalu Kotamalang
Website	: www.alyaklu.sch.id
Youtube	: Sekolah Unggulan AL-YA'LU Malang https://www.youtube.com/@alyaklu

13. Photos related to the activity/programme (Maximum of five (5) photos with captions in English)

Photo1

The Process of Making Bamboo Leaf Pellets and Sugarcane Bagasse

Organic Vegetable Waste Cutting Machine

Micro Hydro which is used as an energy source for duck egg incubator lamps

Biogas Production Process from Livestock Manure and Organic Vegetable Waste

Awarding of Adiwiyata Mandiri AL-YA'LU Superior Elementary School by the Ministry of Education, Research and Technology and the Ministry of Environment and Forestry