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*by* Rahmadi Tambaru

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**Submission date:** 29-Nov-2021 07:36PM (UTC-0500)

**Submission ID:** 1715768746

**File name:** ve\_ecosystem\_introduction\_on\_elementary\_stud\_Rahmadi\_Tambaru.pdf (412.23K)

**Word count:** 1754

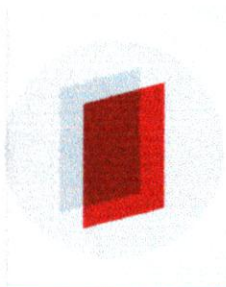
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To cite this article: R Purwanti *et al* 2019 *IOP Conf. Ser.: Earth Environ. Sci.* **235** 012068

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## Mangrove ecosystem introduction on elementary students through nature school in coastal area of Samkai urban village Merauke regency

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**Abstract.** Excessive mangrove forest utilization may harm the environment. The environmental issue is a problem which is faced by every living thing. One of the problems in the coastal area is mangrove forest damage caused by human activities such as illegal logging, land conversion and excessive forest exploitation, particularly in Samkai Urban Village Merauke Regency. Therefore, it needs to increase awareness and concern about the mangrove ecosystem. One of the ways is through youth generation especially elementary students. The introduction of mangrove through natural school is in the form of strengthening awareness and concern about mangrove role, habitat, and its animal. These aims are realized through socialization and mangrove plantation for mangrove ecosystem rehabilitation. The benefits of this activity are to grow awareness and concern in early stage and changes society's understanding about the importance to maintain and preserve mangrove ecosystem. Mangrove introduction on elementary school through nature school the coastal area is one of the environmental knowledge concepts that has an important role in growing sense of caring and responsibility upon mangrove ecosystem continuity.

### 1. Introduction

Mangrove ecosystem often called blackishly or mangrove forest. Mangrove forest is a typical forest along the beach or creek, which is still affected by the tides [1]. Economically, mangrove ecosystem may become an area of preservation, catchment, tourist destination and wood sources for society. Besides, mangrove is one of the unique natural forests that have high ecological and economical value

Merauke Regency with width area in the amount of 46.791,63 Km<sup>2</sup> [2], and its primary mangroves area in the amount of 116,567.73 also secondary mangroves in the amount of 180,210.69, becomes the important resources with high fishery potency. Nevertheless, increases population and life need cause forest mangrove undergoes damage due to illegal sand mining activity. One of the mangrove disturbances is related to inhabitants' low income, limited job alternative, and lack of information and knowledge about mangrove. Mangrove gives many benefits to human. Hence, maintaining mangrove areal with its plant and animal is important for economic and social development [3], excessive



mangrove forest utilization can harm the environment. The environmental issue is a problem which faced by every living thing. Ironically, any forms of current environmental issues are caused more by human behavior. One of the environmental issues around the coastal area is damaged mangrove forest because of human activity such as illegal logging, land conversion and excessive forest exploitation particularly, in Samkai Urban Village Merauke Regency.

The damage effects mostly felt by inhabitants around the mangrove area. It needs an activity to maintain the mangrove area of Samkai Urban Village Merauke Regency to anticipate the effect and rehabilitate damaged mangrove forest also create an appropriate coastal ecosystem for its animal. The activity may through growing children awareness such as natural school activity. Natural school activity is expected to introduce, approach, and strengthen their awareness and sense of caring about the importance of mangrove ecosystem and its animal which have economic value for society

SD YPPK Theresia Buti is an elementary school located in Samkai Urban Village Merauke Regency. This school agreed that youth generation empowers mentis necessary to preserve coastal environment, especially mangrove ecosystem which continuously degraded. Through natural school, the students are expected to know directly the types of mangrove, its animal and consequences arise from damaged mangrove ecosystem. Also, it is expected to give awareness of mangrove importance in elementary students.

Elementary students involved in this activity are due to their realistic, curiosity, and active characteristics which will help them to understand easily especially when they study in nature. These activity purposes are to make elementary students know mangrove types and its animal, also to increase early awareness about mangrove ecosystem importance and then to participate in maintaining coastal area sustainability.

## **2. Material and Method**

Introduction of mangrove ecosystem to the elementary student through nature school in the coastal area was conducted in October – December 2017. The location is YPPK Theresia Buti Elementary School. The participants are a 5th-grade student of YPPK Theresia Buti, Merauke Regency. The used method in this activity involves two steps. The first one is socialization to introduce mangrove. It is conducted in the classroom by giving booklets about mangrove. The second step is in nature school in which students directly see the actual condition and involve in mangrove plantation.

## **3. Results and discussion**

This dedication activity, the introduction of mangrove to elementary students through nature school is conducted in two steps. Firstly, socialization to introduce mangrove by distributing booklet. Secondly, through nature school and mangrove implementation in the coastal area of Samkai Urban Village Merauke Regency. The activity is conducted in YPPK Santa Theresia Buti elementary school especially the fifth grade. Thus, the dedication activities conducted within two stages which are material delivery about mangrove and nature school

### *3.1. Mangrove Introduction*

The first step is the material delivery of mangrove. It is done by giving booklet which contains mangrove knowledge and explains the material on how important mangrove through lecture method in the discussion session. This activity is expected to give information about mangrove importance for the community around the coastal area of Samkai Urban Village, Merauke Regency (figure 1).



**Figure 1.** Material delivery about Mangrove and Booklet

### 3.2. Nature School

The introduction of Mangrove to elementary students is expected to give knowledge about types of mangrove around the coastal area and to grow awareness on the importance of mangrove in our lives. The activity is not only conducted in the classroom, but the students also learn from nature to see directly the mangrove around the coastal area of Samkai Urban Village, Merauke Regency (figure 2). As for dominant mangrove types around the coastal area of Merauke are *Avicennia* and *Rhizophora sp.* It is in line with research by [4], which explain based on the identification on mangrove in Samkai Urban Village, there are four species. It consists of *Rhizophora*, *Avicennia*, *Aegliceras*, and *Sonneratia*. This introduction activity through natural school is a nature-based concept which gives the personal impression for students to see, touch, feel, and follow the activity in nature. Consequently, the learning process will be fun and students will gain more awareness on how important mangrove for our lives and the effect which arises from damaged mangrove around us.



**Figure 2.** Field trip to the Nature

According to [5], learning process through nature school may grow students' awareness that learning is a fun activity. By giving comfortable and quiet conditions also without any coercion, so the learning process will be more fun and interesting. Furthermore, Bussey expressed the same opinion in 2006 that nature school is the future school to run the learning process by correlating the material and reality concept, also a continuous commitment to participate in social life. Nature school concept also gives active commitment to develop learning scheme which focused on environmental issues. The final nature school activity is a mangrove plantation around the coastal area of Samkai Urban Village

Merauke Regency. The activity attended by fifth-grade students of YPPK Buti, teachers, college students and lecture of Musmus Merauke University.



**Figure 3.** Mangrove Plantation

By holding mangrove plantation, the students are expected to grow closer with the environment and aware of the mangrove importance in our lives since the one who will receive the benefit of this activity is the community around, who are also the families of the students. By planting mangrove means we are maintaining beach from abrasion. Nature school concept is expected to be continuously developed in school around the coastal area. Environmental education, especially about mangrove introduction, is needed since it will affect ecosystem mangrove ecologically and economically for social life.

#### **4. Conclusion**

The introduction of the mangrove ecosystem in elementary students through nature school in the coastal area of Samkai Urban Village Merauke Regency is conducted through two steps. It consists of material delivery and the nature school. The introduction of mangrove is started by giving a booklet about mangrove. Afterward, it continued by nature school activity. The introduction of mangrove on elementary students through nature school is a school environment based concept which is so important to grow a sense of caring and responsibility towards the mangrove continuity. Besides, nature school also gives the personal impression for students to see, touch, feel, and follow the action around the coastal area of Samkai Urban Village Merauke Regency.

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