Students’ Perception on Seaweed Resources at Amal Beach North Borneo

Alfi Suciyati1, Ratna Yulinda2

1 Faculty of Teacher Training and Education
Borneo University of Tarakan, North Borneo, Indonesia
2 Faculty of Teacher Training and Education, Lambung Mangkurat University, South Borneo, Indonesia

alphie120115@gmail.com

Abstract. Seaweed was one of the local potencies and commodities in Tarakan. Education was a strategic sector to introduce a certain local potency. This research aimed to analyze whether or not students were responsive to issues related to seaweed, investigate whether students had a solution to problems related to seaweed, and observe their interests to seaweed as a natural resource. The research method used in this research was the survey method. Research location was in SMPN 10 Tarakan, the only one junior high school in Amal Beach Tarakan. All students clarified that seaweed could be mostly found at Amal Beach. 78.19% of the students conveyed that they had no idea regarding issues related to seaweed at Amal Beach. The rests, 21.81% could define issues related to seaweed although they could not describe the issues in details. Among the 21.81% of students, there were no students that were able to give solutions to the problems. 78.19% of students declared that they were uninterested to learn stuff related to seaweed. Generally, this research indicated that students at Amal Beach strongly required acquisition and understanding of their local potencies. There were 47.27% of students interested in creating seaweed-based products; while the rests, 52.73% were uninterested in it.

1. Introduction

Tarakan is a city surrounded by sea. The coastline area in Tarakan reaches ± 70 km² [1]. The area has a relatively large fishery potency, including the seaweed potency. 1,272 of Tarakan people rely their living on seaweed cultivation. Most of the number is located in urban villages of Amal Beach. The number of seaweed production in Tarakan reaches 22,400 tons every year. It proves that seaweed is one of local potencies in Tarakan. Although seaweed becomes a local potency of Tarakan, but the seaweed farmers’ economy are still at a minimum level. Creativity in creating derivative products of seaweed is still limited, so that most seaweed is sold in forms of dried seaweed with unstable price. Those problems can be solved by conducting short and middle term programs; such as seaweed product diversification. However, for the long term, human resources knowing the local potency, understanding issues related to natural local resources, and solving problems of natural resources especially seaweed should be prepared.
Education is one of the strategic ways to prepare human resources that are ready to develop natural, local resources. Seaweed as the natural, local potency of Tarakan has still to be managed in order to be able to improve economy. To develop the local potency, students in Tarakan should know their own local potencies. Furthermore, in addition to know seaweed as a local potency, students should understand relevant issues and be able to give responses or simple solutions. This research aims to investigate: 1) Do students living in the coastline area of Amal Beach know that their area has an excessive seaweed resources?, 2) What is the percentage of students familiar with problems related to seaweed resources in Amal Beach?, 3) Are students able to give solutions for the seaweed problems?, and 4) Are students living near Amal Beach interested in studying and developing seaweed resources in Tarakan?

2. Methods

This research applied the qualitative method. Reference [2] conclude that qualitative research method was a research method based on post-positivism philosophy and used to analyze the condition of scientific object (contradictory to the experimental one), where researcher acted as the key instrument. Data sample was collected purposively. Data analysis was inductive/qualitative. Results of qualitative research emphasized more on interpretation than on generalization. Subjects in this research were students of SMP Negeri 10, the only one junior high school in the area of Amal Beach. Research location was in SMP Negeri 10 Tarakan.

3. Results and Discussion

Students’ perception of local potencies defined their respects in their own local potencies. Aspects analyzed in this research were: 1) students’ knowledge on the existence of seaweed resources in the area of Amal Beach, 2) students’ knowledge on problems related to seaweed in Amal Beach, 3) students’ knowledge in solving seaweed problems, and 4) students’ interests to learn and develop the potency of seaweed. All research subjects clarified that there was much seaweed in the area of Amal Beach. It indicated that students were aware of the existence of seaweed in Amal Beach. Next, students were asked to mention or describe issues related to seaweed resources in Amal Beach that they knew. As seen in Figure 1, it was only 21.81% of students able to mention them, but 78.19% of students conveyed that they did not know. It proved that students were not familiar with and understood issues related to seaweed resources, their own local potency.
Among that 21.81% of students, there was no student able to give solutions to solve problems they mentioned, revealing that they could not provide solutions to seaweed problems they had mentioned.

Figure 1 Chart showing the percentage of students mentioning issues related to seaweed in Amal Beach

Figure 2 Chart showing the percentage of students interested in learning seaweed materials
Figure 3 Chart showing the percentage of students interested in creating seaweed-based products

Figure 2 and 3 display students’ interests in learning and developing seaweed. Figure 2 indicates that students interested in learning everything related to seaweed had the percentage of 21.81%. Furthermore, 78.19% of students declared that they were uninterested. Figure 3 shows that students interested in creating seaweed-based products had the percentage of 47.27%; while 52.73% of students explained that they were not interested. It proposed that generally, students were not interested to learn and develop seaweed resources. In overall, this research finding defined that students living in the coastline of Amal Beach were unaware of and uninterested in their own local potency that was seaweed. It occurred due to many factors, among them was students’ lack of introduction to local potencies that should have been given through formal learning. As the young generation, when students do not have any interest in their own local potencies, innovations to develop those potencies would be difficult to be created. Furthermore, despite its richness of natural resources, our country would keep importing products from abroad whose raw materials were exported from Indonesia.

Local potencies constituted a region’s wealth or resources. It took our great sympathy if the young generation did not know they are own regional, natural resources. They would be responsible for using the local potencies as a development capital. Integration of local potencies in school learning was strongly required as a response to the degradation of respect on both local potencies and cultures by the young generation [3].

Each region must have had their own local potencies that could be used as a science learning material. If used in accordance with relevant topics, the potencies would give various alternative activities to give adequate knowledge for either teachers or students [4]. Each region must have local potential that can be utilized optimally as learning materials of science lesson [5]. Research conducted by Koutsoukos and Mourotidis [6] argued that introduction to natural resources could be done by applying student-centered learning techniques; such as brainstorming, discussions, group works, demonstrations, role plays, and case studies that were supported by out-class (field) learning; such as field visits and field works. In addition to the cognitive and psychomotor development, outdoor ecological exercises combining place-based education and experiential learning can stimulate the affective domain of the learning process [7].

Student environment is one of the most efficient and effective media for learning science. The best teaching and learning resources in science should be learners’ environment [8]. According to this, Kola explained that the environment is very rich for materials needed for science improvisation [9]. In their research, Cheang, So, Zan, and Tsoi [10] clarified the importance of communication among stakeholders to integrate educational with eco-garden activities as a Powerful Learning Environment (PLE) and
cultural integration in the Education for Sustainability (EfS) program. Furthermore, to introduce local potencies of seaweed, communication among related stakeholders and spirit to integrate knowledge of the local potencies of seaweed in learning was required. Through learning, students' knowledge and attitudes will be formed. Concrete behavioral intentions are more likely to lead to behavior change than are general attitudes [11].

The science learning integrated with local potential provided a different experience for students and made learning more contextual and meaningful and provided a deep understanding for students [12]. Science learning is learning that is very possible to gain students' knowledge of the problems related to the local potential of a region. A lesson at school would more possibly provide a clear and relevant picture if the theme of the learning is unearthed from local potentials [13]. Research conducted by Wilujeng showed that teacher can use local potential integrated natural science learning as an innovation in teaching to improve natural science process skills and concepts or even to measure the other variables [14]. Another advantage of developing students' knowledge about seaweed through learning in schools is the emergence of prospective seaweed processing technology innovators. This is very necessary for areas with very long coastlines. There is no doubt that the Indonesian littoral and coastal with a total wide of 5.8 million km is rich with various natural resources. Therefore, the condition of the world with its longest coastline has several comparative advantages [15]. Countries with high marine resources should introduce local marine potential as early as possible in formal education.

4. Conclusion

Based on the research findings and discussion, the conclusions of this research were: 1) Students realized or knew that seaweed was an excessive natural resource in the area of Amal Beach, 2) Students did not understand issues related to seaweed resources around them, 3) In accordance with the second conclusion, students were also unable to give solutions on seaweed problems they had mentioned, and 4) Students were uninterested in learning and developing seaweed resources that were their local potency.

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