



Marine Environment Awareness for Student

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Abstract. Indonesia has a vast sea as a source of life for humans. However, in this reality, the current sea condition is damaged due to human activities, including garbage and ocean pollution. This situation allows human awareness of the sea, which is still poorly formed. Students must be aware of the marine environment, bearing in mind that in the future, students will become leaders who will make policies. Awareness of the marine environment can improve the health of the coastal environment, protect the marine environment, can realize marine environmental sustainability, and manage the marine environment. The study aimed to determine awareness of the marine environment among students at a tertiary institution in Surabaya, Indonesia, as a university that has a maritime vision and mission. The research method used is quantitative with descriptive statistical analysis to describe students' awareness of the marine environment. The number of subjects in the study was 339. Data were collected by filling out the Google form. Measuring tool compiled on the essential characteristics of marine environmental awareness. The results show that students who have an awareness of the marine environment are in the high category 22.1%, medium 66.2%, and low 11.7%. Students know the sources that can damage the marine environment and how sad it is when marine biota is damaged. However, students have not been moved to take part in the atmosphere of the marine environment, reduce materials that can damage the marine environment, and bring their bags when shopping to reduce the use of plastic bags, buy environmentally friendly detergents, recycle plastic waste and are willing to spend money on health campaigns marine environment. Based on these findings, a model is needed to increase marine environment awareness.

Keywords: awareness · marine environment · health · preserving

1 Introduction

Indonesia is the largest archipelagic country in the world, consisting of 17,499 islands with a coastline of 81,000 km and its water area consisting of the territorial sea, archipelagic waters, and inland waters covering an area of 2.7 million km² or 70% of the territory of the Republic of Indonesia (NKRI). As an archipelagic country, Indonesia has tremendous marine and coastal resource potential. Coastal areas and seas have an essential meaning for the Indonesian people because they store potential economic resources for life of the Indonesian people. Therefore, Indonesia is known to have a lot of natural

resource potential, especially in the maritime sector. Indonesia, as a maritime country, has made Indonesia a rich country because of its extraordinary coastal and marine biodiversity. No wonder Indonesia is known as the heart of the world's biodiversity.

This extraordinary marine potential, if properly maintained and utilized, will benefit the community, particularly the people on the coast and, in general, all Indonesians. The sea serves many functions for human life, including providing a home for various food sources such as fish, squid, and shrimp. The sea also stores minerals, water transportation routes, recreation areas, and water reserves.

The condition of the sea is apprehensive due to human activities. Several human activities have damaged marine ecosystems, including fishing using explosives, the sea has been used as a dumping ground for industrial and household waste. Offshore oil drilling activities and beach reclamation for residential and commercial areas make the sea a source of concern.

The problem of garbage in the sea is also a concern. Garbage in the sea comes from those directly disposed of into the sea and garbage originally in the river, which then flows into the sea. The dominant waste is plastic. The Oceanographic Research Center of the Indonesian Institute of Sciences states that around 50% of marine debris in Indonesia is plastic waste, between 300 thousand and 600 thousand tons per year (Prasetyo 2020). The same thing also happened on the coast of Surabaya as much as 23.5 tons of garbage were collected. Most of them are bottles and plastic (Syaikhul 2019).

The above conditions if left unchecked will damage the marine ecosystem. Whereas the sea has the function of helping humans to breathe because it provides oxygen, regulates the climate, as a source of food, a place for biodiversity to live, a source of human livelihood. Given the importance of the role of sea mentioned above, there needs to be aware of marine environment from humans, especially students.

Environmental awareness is a person's ability to do something about their environment (Partanen et al. 1999; Dunlap 2002). Sensitivity to the environment through being aware of the environment, behaving appropriately and taking action to protect environment (Coertjens et al. 2010). The combination of desire to act on environment, knowledge of surrounding environment and ability to act on environmental problems (Kokkinen 2013).

Marine environmental awareness is a person's ability protect marine environment and support a safe and healthy (Umuhire and Fang 2016). Awareness of marine environment can improve health of coastal (McKinley and Fletcher 2011), protection marine (Umuhire and Fang 2016), can realize their sustainability (Chen and Tsai 2015). Influencing environmental policies and management (Holt and Barkemeyer 2012; Jänicke 1997).

Awareness of the marine environment can be seen from understanding environmental problems and caring about and committing to environmental behavior (Chen and Tsai, 2015; Yeung 2006). Individuals care, recognize a comfortable place, can identify sources of damage, understand need to take part and have readiness to act to prevent damage to marine environment (Fien et al. 1997; Umuhire and Fang 2016).

Students need to have awareness of the marine environment to preserve their and improve the health of the coastal. Moreover, awareness is very important because students will later become leaders and policy makers.

Based on this, knowing awareness of the marine environment is important, so it can be mapped to find a solution.

2 Research Methods

This study used a quantitative descriptive method because the purpose of this study was to describe awareness of the marine environment in college students. The research subjects are students at several universities in Surabaya with maritime visions and missions. Determination of subjects with non-random sampling, based on the willingness of subjects to participate in research by filling out a questionnaire in the form of a Google form. The number of research subjects 399. Determination of research respondents based on the opinion of Hair et al. (2013). The data collection technique uses a Likert scale with 5 levels ranging from strongly agree, agree, sometimes agree sometimes not, disagree and strongly disagree.

Awareness of the marine environment is measured based on care, recognizing the marine environment as a place that has social value, the ability to identify sources of damage, understanding the need to take part and being prepared to prevent damage to the marine environment (Canarias 2005; Chen and Tsai 2015; Liere and Dunlap 1980; Linke 1980; Mei et al. 2016; Umuhire and Fang 2016; Yeung 2006).

3 Results

Description subjects' answers to the marine environmental awareness items as follows (Fig. 1):

Students who paid attention to sea pollution were 68.1%, 31.3% sometimes and 0.6% never. It means that students have concern for the marine environment in moderate category.

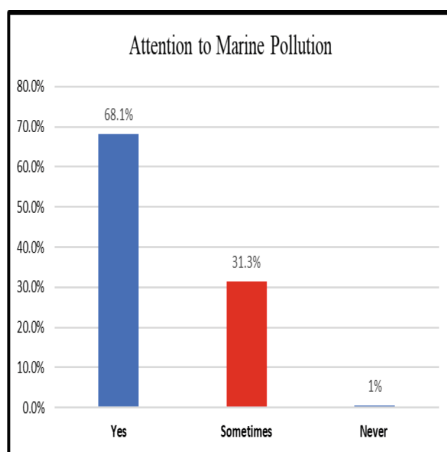


Fig. 1. Attention to marine pollution.

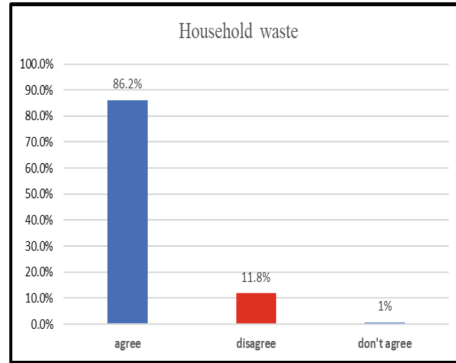


Fig. 2. Household waste

Students agree household waste, for example water used for washing clothes, water for washing inorganic vegetables can contaminate gutter water and will then be carried into rivers and into the sea. Only 12.5% of students disagreed. This means that most students understand that seawater pollution can be caused by household waste Fig. 2.

Students will participate in activities to prevent marine pollution, 24.6%. 61.7% sometimes participate and 13.7% do not participate. Based on these data, most students are still not interested in participating in activities to maintain the health of the marine environment Fig. 3.

Students always reduce the use of plastic materials, 42.2%, 56.9 sometimes and 0.9 never. Based on this, it shows that many students have not been able to reduce the use of plastic materials. Even though the use of plastic bags will damage the marine environment Fig. 4.

Students always buying environmentally green detergent 21.6%, sometimes 50.3% and never 28.1%. This shows that dominant students sometimes Fig. 5.

Students when shopping are used to carrying plastic bags, 34.6%, sometimes 55.1% and never 10.3% Fig. 6.

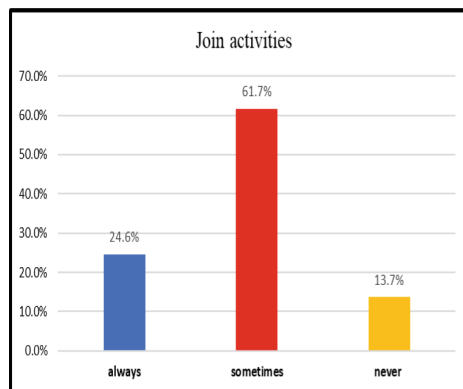


Fig. 3. Join activities

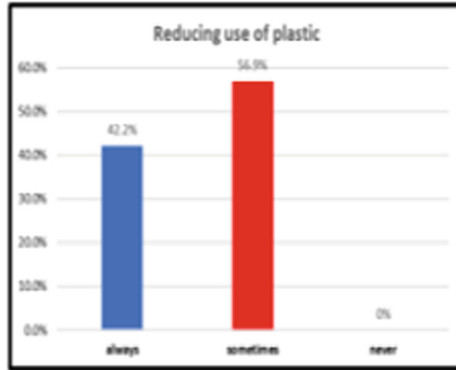


Fig. 4. Reducing use of Plastic

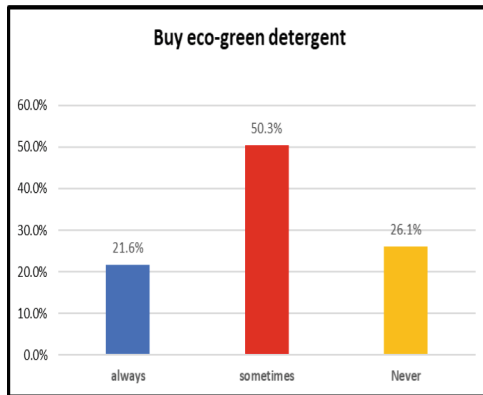


Fig. 5. Buy eco-green detergent

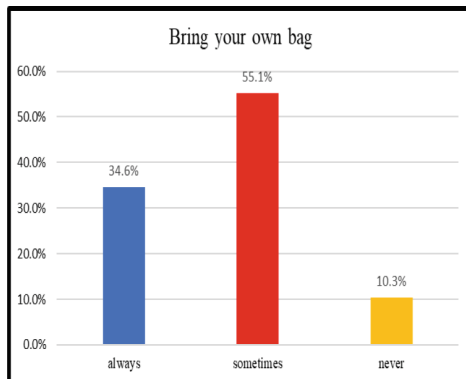


Fig. 6. Carry your own bag

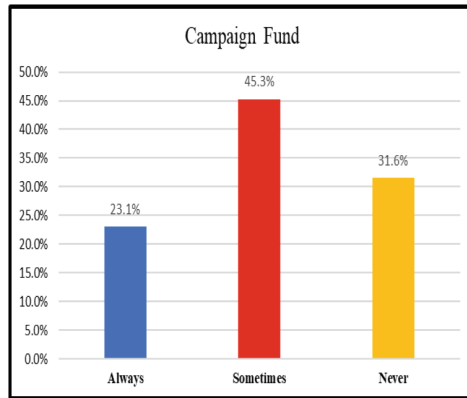


Fig. 7. Campaign Fund

Figure 7 shows that respondents are willing to spend money on campaigns to prevent damage to the marine environment by 23.1%, 45.3% are sometimes willing and 31.6% are not willing. This shows that students are still dominant and unwilling to spend money on campaigns to prevent sea pollution.

Students are also less enthusiastic about spending money on marine environmental health campaigns. This is possible because the status of being a student still does not have income, so if there is a donation, they still cannot participate. Although you can by setting aside pocket money.

Table 1 shows that the ability to identify sources of threats to the marine environment is 21.24%, and recognizing the marine environment as a safe place is 21.13%. By 24.6%, and ready to take part in preventive measures by 20.04%. This means that students have the lowest readiness to take part in preventing damage to the marine environment (Table 2).

Marine environmental awareness is dominant in the moderate category, meaning that they have sufficient attention to the marine environment, recognize the sea as a safe place, are able to identify sources that damage the sea, have the desire to take part in preventing

Table 1. Marine Environment Awareness Distribution Score

Characteristic	Min.	Max.	Mean	Std.Dev
Attention to the marine environment.	14	25	20.67	3.104
Recognize the marine environment as a secure place.	14	25	21.13	2.894
Abilities to identify marine environment-damaging sources.	8	25	21.24	3.329
Desire to take part in preventing damage to the marine environment.	13	25	20.80	3.296
Willing to take part in the prevention of damage to the marine environment.	5	25	20.04	3.633

Note: Research data for 2022

Table 2. Category Marine Environmental Awareness

Category	Total	Percentage
Low	47	11.7
Moderate	264	66.2
Hight	88	22.1
Total	399	100

Note: Data processed by 2022 research results

damage and are ready to do so. This is following research by Umuhire and Fang (2016) that students have the knowledge and desire to participate but still need to improve to participate concretely. Research by Chen and Tsai (2015) also shows that direct student participation in conservation activities is still low compared to understanding marine environmental issues.

4 Conclusion

Considering that Indonesia is a maritime country, marine environmental awareness is important for students. Moreover, students as potential policymakers in the future, it is important to be the pro-marine environment. Marine environmental awareness of students is dominant in the sufficient category, meaning that students have enough attention, can identify sources of damage, want to take part, and are ready to participate in activities to prevent damage to the marine environment. The ability to identify sources of damage is the highest compared to the desire to participate and readiness to participate in activities to prevent damage to the marine environment.

Awareness of the marine environment is an idea not only to care, to understand the sources that damage the marine environment but also to act, hence it is important to know what factors can affect marine environment awareness.

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Author's Contribution. Author as a researcher and writer of marine environmental awareness articles. The promoter and co-promoter play a role in providing direction to the researcher.

This research is important to protect the sea from human damage and pollution. The great hope is for students to have awareness to educate the public to prevent damage. In addition, students, as future leaders, are expected to be in a pro-marine environment.

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