



Supporting Dekatagung Bawean as a Tourism Village Through Water Sports Safety Training for Young People

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Abstract. Indonesia has many small islands that save the beauty of its beaches and underwater life. One of these islands is Bawean Island. Currently, tourism in Bawean is starting to grow. The trend of increasing tourist visits has made people in Bawean begin to develop the tourism potential that exists in their area. One of them is Dekatagung Village which has extraordinary natural tourism potential, especially water tourism. Its position on the coast has several excellent tourism that can be developed. The development of water tourism can help the economy of the surrounding community. The main problem in managing snorkelling tourism in Dekatagung Village is the issue of safety and comfort, especially when tourists do snorkelling activities. To ensure the safety and comfort of tourists, skilled tour guides are needed and master the ins and outs of this activity. Therefore, guides who are young people in Dekatagung Village need to be trained in good and correct snorkelling and handling injuries for tourists. If tourists feel comfortable and are not worried about the risks they face, then this will affect their behaviour in enjoying and participating in tourism activities.

Keywords: tourism village · beaches · water sport · snorkelling · safety

1 Introduction

In Indonesia, many small islands have beautiful beaches and fascinating underwater life. One of these islands is Bawean Island. This island is located next to the Java Sea and about 120km north of Gresik Regency.

For a long time, the Gresik Regency Government has tried to make Bawean Island one of the leading destinations in Gresik. The Gresik Regency Government often encourages the community to be involved in tourism activities in Bawean. Indeed, not many Bawean people are interested in getting into tourism, because culturally they are nomads. Until now, many Bawean people work in Singapore and Malaysia.

But gradually tourism in Bawean begin to grow. One indicator is the emergence of several hotels and inns in Bawean and the number of people from outside Bawean visiting. Based on the research, visitors to Bawean Island tourism object aim to enjoy natural beauty (46%), picnic (17%), fill their spare time (14%), education/research (12%), and

enjoy culture (11%). This research can be the basis of tourism development on Bawean Island.

The trend of tourist visits that continues to increase makes people in Bawean begin to develop the potential that exists in their area. One of them is Dekatagung Village which is located in Sangkapura sub-district. This village is one of the villages that has extraordinary natural tourism potential, especially water tourism. Its position on the coast has several excellent tourism that can be developed. The Dekatagung Village Government believes that the development of water tourism can help the economy of the surrounding community. Morar and Pop state that water-based activities can help socioeconomic growth and determine the mechanism and strategy of developing a region [2].

One of the leading tourist attractions that can be developed in Dekatagung Village is snorkelling activity. Snorkelling is an activity carried out on the surface of the water to see the beauty of coral reefs. Tourists are interested in enjoying the coral reef ecosystem, the unique shape, color, and diversity of biota that live on the sea surface [3]. Several snorkelling points already exist in the waters of Bawean, namely around Gili Noko and Pulau Cina. But around the beach of Dekatagung Village also has a snorkelling point that is worth visiting and developing, moreover Dekatagung Village has a promontory jutting into the sea which adds to its beauty.

The main problem in managing snorkelling tourism in Dekatagung Village is the issue of safety and comfort, especially when tourists do snorkelling activities. To ensure the safety and comfort of tourists, skilled tour guides are needed and master the ins and outs of this activity. The risk of injury is low, but the possibility exists if there is a lack of exercise [4]. Therefore, the guides who are young people in the Dekatagung Village need to be trained on proper and proper snorkelling and the handling of injuries for tourists. If tourists feel comfortable and are not worried about the risks they face, then this will affect their behavior in enjoying and participating in tourism activities [5].

2 Method

The method in this activity is training and mentoring. Youth in Dekatagung Village are trained to carry out snorkelling and safety activities during snorkelling activities. During the training, they were given snorkelling equipment such as masks, snorkel pipes, fins, and life vests. In addition, they were also given a snorkelling guidebook. While mentoring activities are activities that encourage participants to directly guide tourists accompanied by trainers (Table 1).

3 Results and Discussion

3.1 Preparation Phase

In this preparation phase, the team coordinated with the Dekatagung Village government, village youth, and fishermen who were involved in this activity. The village government is an important partner in this activity because it is the village government that understands the area and the tourism development plan in Dekatagung Village. The involvement of

Table 1. Activity Implementation Stage

No.	Stages	Activities and Method	Partner Participation
1.	Preparation	Discussing with partners (village head, youth organization, fishermen)/ Focus Group Discussion	As an informant in finding problems and solutions
2.	Training Stage 1	Snorkelling training/ Practice	As trainee
	Training Stage 2	Security and first aid training/ Discussion and Practice	As trainee
	Assistance	Snorkelling guiding/Practice	As trainee
3	Monitoring and evaluation	Partner evaluation through response questionnaires and group discussion forums	Report implementation results

youth is also very important because they will participate in the management of this water tourism and also as tour guides. Meanwhile, fishermen and boat owners need to be involved because they will take them to the snorkelling spots. Without fishermen or boat owners, snorkelling activities cannot be carried out.

In this phase, the implementing team discussed with partners the tourism potential in Dekatagung Village and also its human resources. Dekatagung Village is suitable to be developed into a tourist village for snorkelling activities because it has beautiful beaches and good underwater nature. Therefore, in this phase, it is necessary to explain 6 attributes that make tourists happy and satisfied with snorkelling activities, namely environmental attributes, coral reef conditions, customer services, interpretation service, operational attributes, and physical attributes. The variables that are part of the environmental attributes are quality of fish, quality of marine life, visibility of water (clean and clear), weather, peaceful island (no unwanted noise), much rubbish and litter in water, no overgrowing algae present at any location, no oil and grease visible pollution, and no heavy metal contaminants occur. Coral reef conditions include many remarkable coral formations, high coral species richness, and a high percentage of live coral cover. Customer Service includes the quality of the equipment, the comfort of the boat, the quality of the entertainment, safety during trips, and several boats at the snorkelling site. Interpretation attributes include knowledgeable staff, quality of the information provided, safety tips during snorkelling trips, and destination of the trip. Operational attributes include interaction with other passengers, the number of people in a group (size of group), and the length of the trip to the reef. Physical attributes include trip length, infrastructures (public toilets), and solid waste management [6].

3.2 Training Stage 1

In this phase, village youth and fishermen are trained to snorkel. First, they were invited to identify the brightness of the waters, the speed of the currents, the depth of the water, and the shape of the corals. This knowledge is very important so that they know when to snorkel.

One of the important factors in being able to snorkel is an understanding of the current speed. The relatively weak current speed is an ideal condition for snorkelling because it is related to the comfort and safety of tourists [4].

The water depth factor also needs to be explained to participants, because there are ideal water depths and water depths that are not ideal for snorkelling. For snorkelling activities, it is very suitable, ranging from a depth of 2–3 m. A depth of fewer than 2 m will damage the coral reef ecosystem because tourists can stand on the reef or touch it.

Knowledge of coral species also needs to be provided to training participants. A snorkelling guide should know the types of coral so that he can increase the knowledge and insight of tourists. Several types of coral need to be known, such as *Acropora* branching, *Acropora* digitate, *Acropora* submassive, *Acropora* tabulate, coral branching, coral encrusting, coral foliose, coral heliopore, massive coral, coral millepora, coral mushroom, coral submassive [7].

After getting an explanation about the brightness of the waters, current speed, water depth, and coral shape, participants were trained to use snorkelling equipment. The snorkelling equipment used is a mask, snorkel pipe, fins, and life vest. Furthermore, participants were trained to do snorkelling activities.

3.3 Training Stage 2

After doing snorkelling activities, participants are trained in snorkelling safety and first handling in case of injury. Unlike other sports, snorkelling is relatively safe. The risk of injury in snorkelling activities is less than in other water tourism activities, such as Jet skiing, water skiing, canoeing, kayaking, kite surfing, rafting, tubing, parasailing, wakeboarding, submarine trips, or banana boating, however, the risk of injury remains. Several water sports have been linked to foot and ankle injuries. Most of these injuries are sprains, strains, bruises, and skin lesions [4]. Other risks that can occur include infectious diseases, drowning, exposure to marine toxins, decompression sickness, and hypothermia [8].

To prevent injury, the first material delivered is stretching. Stretching is an activity of stretching the muscles in each member. Stretching from the neck muscles to the legs will make the body ready for intense motion activities and reduce the risk of injury that can occur [9].

The second material is about first aid and oxygen administration. First aid is given if there is an injury due to a collision with a ship or other hard and sharp objects. In addition, first aid can also be given to snorkelling swimmers who are stung by jellyfish or other species. Some species of jellyfish can cause local as well as systemic reactions. Treatment is aimed at reducing the local effects of the venom, preventing further nematocyst release, and controlling systemic reactions, including shock [10]. This first treatment needs to be given before better medical treatment is carried out at the nearest health facility.

Therefore, every snorkelling activity guide must ensure the presence and completeness of the contents of the first aid box, including oxygen.

During these activities, the participants participated in the training enthusiastically. They listened and did the first handling practice. In addition, they also received an explanation about the types of drugs and equipment in the first aid box.

3.4 Assistance

In this phase, the training participants are invited to the location of snorkelling activities which will be used as one of the snorkelling spots in Dekatagung. Before doing the scouting practice, participants were explained the size of the snorkelling area and when to do snorkelling activities. This simulation is very useful for participants because participants are allowed to guide.

In this phase, the trainer observes the activities of the participants in conducting snorkelling scouting. The trainer records the participants' activities. After that, the trainer conveys the results of their notes and assessments. Next, the trainer provides input to the participants.

This simulation is very useful for participants because participants are allowed to guide. Some participants still do not understand the function of scouting. Therefore, it is important for participants or prospective guides to re-read the manual book that has been given previously.

3.5 Evaluation

In this phase, the team evaluates the activities by comparing the results of the pre-test and post-test of the participants as well as the results of observations in the field. The purpose of this evaluation is to measure the success of snorkelling guide training. In addition, these results can be used to determine post-training activities.

The pre-test and post-test consist of questions that aim to determine the participants' knowledge, insight, experience, and understanding of snorkelling activities. The pre-test is given before the training phase begins, while the post-test is given after all training activities are completed (Table 2).

Based on the results of the pre-test, it can be seen that many trainees do not understand the ins and outs of snorkelling, especially in environmental or marine conditions where snorkelling activities will be carried out. In addition, many participants did not know about the possibility of injury or illness that can be experienced by snorkelling swimmers and first aid equipment. The prettiest average of 27.14% showed that participants' understanding of snorkelling activities and safety was still low.

After undergoing the training and mentoring phase, participants were given a post-test. The post-test results showed an increase in participants' understanding of the visibility of water, water depths, temperature, surface conditions, currents (strength and direction), coral form, snorkelling equipment, any illness or injuries, and rescue equipment and first aid kits. With an average of 71.42%, this training is considered to be able to increase the understanding of prospective guides on the ins and outs of snorkelling. However, training related to the safety and comfort of tourists should be carried out frequently.

Table 2. Pre-test and post-test result

Question	Pretest	Posttest
visibility of water and water depth	20	60
Temperature (°C)	30	70
Surface conditions and currents (strength and direction)	10	70
Type of coral reef and fishes	10	40
Snorkelling equipment	80	100
Any illness or injuries	20	75
Rescue equipment and first aid kit	20	85
Average	27,14	71,42

4 Conclusion

This training for prospective snorkelling guides is very important because it can support the safety and comfort of tourists who will carry out snorkelling activities in the Dekatagung sea area. Tourists who feel safe and comfortable when snorkelling will have a positive impact on the sustainability of tourism in Dekatagung Village.

Based on the test results, it can be seen that the prospective snorkelling guides who have attended the training are eligible to guide tourists. However, they should improve their skills and knowledge through regular training and reading a lot of texts about snorkelling. Rescue and first aid simulations must also be carried out frequently without waiting for cases or injuries.

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References

1. Ramli, Mohammad, E.K.S. Harni Muntasib, Agus Priyono Kartono. 2011. Strategi Pengembangan Wisata di Pulau Bawean Kabupaten Gresik. *Media Konservasi*. 2011. 17 (2) pp. 79-84.
2. Cezar Morar and Anca-Cristina Pop. Water, tourism, and sport. A conceptual approach. *Geo Journal of Tourism and Geosite*. 2016. Vol 18 (2) pp. 249–258.

3. Paradise, Martin Yuda, Okto Supratman, Eva Utami. Kesesuaian dan Daya Dukung Kawasan Wisata Snorkeling di Pelabuhan Dalam Perairan Tuing Kabupaten Bangka Martin. *Akuatik Jurnal Sumberdaya Perairan*. 2019. Vol. 13 (12), pp. 149-151.
4. Mario Herrera-Perez and Anna Oller-Boix. Foot and Ankle Injuries in Water Sports. V. Valderrabano, M. Easley (eds.), *Foot and Ankle Sports Orthopaedics*. 2017. https://doi.org/10.1007/978-3-319-15735-1_71
5. Song, J.; Jung, M.; Park, K.; Yu, H.Y. Water Sport Tourists' Hesitation in Decision-Making during the COVID-19 Pandemic: The Moderating Effect of Destination Image. *Sustainability* 2022, 14, 4414. <https://doi.org/10.3390/su1408441>
6. Salim, Nurbaidura, Anisah Lee Abdullah and Badaruddin Mohamed. Tourist Satisfaction On Snorkeling Activity in Redang Island. 12th Asia-Pacific Forum for Graduate Students' Research in Tourism - Challenging Conventions in Research 26–29 June 2013
7. Karnanda, Febrianti Lestari, Dedy Kurniawan. Analisis Kesesuaian Kawasan Perairan Pulau Bungin Untuk Ekowisata Snorkeling di Kecamatan Tambelan Kabupaten Bintan. *Jurnal Pengelolaan Pengairan*. 2019. Vol. 2 (1) pp. 1–10. <https://journal.unhas.ac.id/index.php/jpp/article/view/5968/pdf>
8. Pakasi, L S. Health Risks Associated with Recreational Water Activities. 3rd Annual Applied Science and Engineering Conference (AASEC 2018). IOP Conf. Series: Materials Science and Engineering 434 .2018. 012329. <https://doi.org/10.1088/1757-899X/434/1/012329>
9. Mu'arifin, Ari Wibowo Kurniawan, Ahmad Abdulla Pelatihan Penanganan Dan Pencegahan Cedera untuk Pelatih Cabang Olahraga KONI Kota Batu.
10. *Jurnal Sport Science*. 2019. Vol. 9 (2) pp.158–162. <https://doi.org/10.17977/um057v9i2p158-162>
11. Cegolon, Luca, William C. Heymann, John H. Lange, and Giuseppe Mastrangelo. Jellyfish Stings and Their Management: A Review. *Marine Drug*, 2013, 11, pp. 523-550. <https://doi.org/10.3390/md11020523>

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