

## Implementation of blue economy in Bangsring underwater for enhancing the quality of environmental, economic, and social aspects of the community

Adil Siswanto

Universitas Islam Negeri Kyai Achmad Siddiq  
Jember INDONESIA  
Email: [adilsiswanto@uinkhas.ac.id](mailto:adilsiswanto@uinkhas.ac.id)

**Abstract** - This study aims to explore the implementation of the blue economy concept and its impact on the environment, economy, and social conditions of the community surrounding a tourist destination. The research employs a qualitative approach, utilizing observation, interviews, and documentation techniques to gather relevant data. These methods provide a comprehensive understanding of how the blue economy principles are applied in the context of sustainable tourism. The data collected was analysed using the Miles and Huberman method, which involves data reduction, data display, and conclusion drawing. This analytical approach allows for an in-depth examination of the alignment between the blue economy principles and their practical application. The findings indicate that while the implementation of the blue economy concept largely aligns with its core principles, there are still areas that require further attention for continued development. Specifically, the research highlights the need for enhanced efforts in certain aspects of sustainability and community involvement. Despite these areas for improvement, the overall impact of the blue economy implementation has been positive, contributing to improved environmental conditions, economic growth, and the social welfare of the surrounding community. These results suggest that the blue economy holds significant potential for fostering sustainable development in tourism, benefiting both the environment and local populations.

**Keywords:** marine tourism, blue economy, sustainability, social science, qualitative research

### 1. Introduction

Tourism is a major contributor to the global economy, accounting for 10.3% of the global Gross Domestic Product (GDP) and providing 330 million jobs worldwide (Hazra, 2022). Furthermore, Hazra (2022) also stated that a significant portion of global tourism is concentrated in marine and coastal environments. This presents a substantial opportunity for Indonesia as a country where the majority of its territory is oceanic (Arianto, 2020). The vast ocean territory of Indonesia holds

potential that can be developed to support national development, particularly in the field of marine tourism. However, in reality, this significant potential faces various challenges that threaten Indonesia's future (Sari, 2019).

According to a study by (Sagita et al, 2022), plastic waste in the ocean affects the income of small-scale fishermen in the coastal areas of Jakarta. Fishermen experience a decrease in income by 38%, from IDR 2,001,500.00 to IDR 1,297,611.00. Another study by Prasetya (2020) found that coral reefs in the Karimunjawa Islands suffer an average annual damage rate of 10% due to marine tourism activities such as diving and snorkeling.

According to Mirsalila (2020), Bangsring Underwater Floating House Beach, as a coral reef conservation-based tourist destination, has a coral reef ecosystem that is categorized as poor according to standard criteria for coral reef damage. This is due to the large number of tourists who engage in snorkeling or diving activities and inadvertently or intentionally step on coral reefs.

Given the above, it is crucial for Indonesia to implement sustainable tourism, particularly in utilizing the potential of marine areas to achieve long-term benefits for the welfare of all Indonesian citizens (Sari, 2019). Sustainable tourism, which considers the economic, social, and environmental impacts of tourism both now and in the future, is essential.

As the importance of sustainable tourism in marine areas grows, the emergence of the blue economy concept is expected to serve as a guideline for implementing sustainable development in Indonesia's marine regions. Gunter Pauli, in his book "The Blue Economy: 10 Years, 100 Innovations, 100 Million Jobs," was the first to introduce the blue economy concept. He explains the impact of the blue economy on environmental protection, resource conservation, and cost reduction in industries by shifting to renewable energy sources (Wibowo et al, 2023).

In Indonesia, the blue economy has been promoted with the enactment of Law No. 32 of 2014 on Marine Affairs, Article 14, paragraph 1, which states that the principles of the blue economy must be applied in utilizing and managing marine resources by the government to achieve public welfare. The blue economy involves sustainable ocean management, conservation of marine and coastal resources, and achieving economic growth through principles such as community involvement, resource efficiency, waste minimization, and multiple revenue streams (Wibowo et al, 2023). The implementation of the blue economy concept can be applied to tourism, one of the potential areas of Indonesia's marine territory.

Using coastal areas as tourist destinations has a double impact. On one hand, it positively impacts the income of the local communities around the tourist destination. On the other hand, it negatively impacts the environment, such as the accumulation of waste on beaches, the damage to coral reef ecosystems due to tourists stepping on them, and the death of ornamental fish.

These phenomena occur at six beach tourist destinations in Banyuwangi Regency, such as at Tabuhan Island Beach, a small island with tourist potential, threatened by the accumulation of inorganic waste found from the coastal area to the middle of the sea (Wardani, 2023). The increasing number of tourists visiting Tabuhan Island Beach has also led to damage to the coral reef ecosystem. The increasing number of tourists has resulted in waste accumulation around the beach, damage to coral reef ecosystems due to tourists stepping on them, and a decline in the population of ornamental fish. At Blimbingsari Beach, Boom Beach, and Santen Island Beach, a lack of waste disposal facilities combined with visitors' low awareness of proper waste disposal has led to significant waste accumulation at these beaches (Ermawati et al, 2018). At Grand Watu Dodol Beach, the coral reef ecosystem is threatened by poorly managed waste from other areas that ends up in the waters of Grand Watu Dodol Beach, eventually sedimenting and covering the coral reef ecosystem (Khoiruman *et al*, 2023).

Given these phenomena, it is important to reassess the application of the blue economy concept. This research focuses more on Bangsring Underwater Floating House Beach because it has unique attractions such as coral reef and shark conservation that are not found at other beach tourist destinations. The research of Hani Mukaromah (2023) is based on the phenomenon of the potential of marine resources in the Kenjeran coastal area, which is very rich but not supported

by environmental sustainability. Therefore, the blue economy is needed to maintain the sustainability of Kenjeran's marine resources. The study aimed to understand the implementation, challenges, and solutions of the blue economy in the Kenjeran coastal area using descriptive qualitative methods. The study found that out of the four principles and indicators of the blue economy in the Kenjeran coastal area, three principles have been implemented, while the first principle is in the process of being developed. This indicates that the blue economy in the Kenjeran coastal area is functioning quite well.

Hartanti *et al*, (2023) conducted research based on the phenomenon that the goal of implementing the blue economy concept is to increase the economic value produced by sectors related to the sea, such as tourism, fisheries, marine transportation, and renewable energy. Additionally, this concept is oriented towards increasing environmental-friendly innovation and technology to reduce negative impacts on marine ecosystems. The research aimed to monitor the implementation of the blue economy by fishing villages along the Karimata Island coast from various aspects, including the use of equipment, goals, attitudes, and the awareness of fishermen towards protected marine life. The research used a descriptive qualitative approach with data collected from surveys, interviews, and reports from village offices.

Aulia Audrey (2022) revealed the utilization of technology to maximize fish farming and trade in the coastal areas of Semarang City and increase the synergy with the government to achieve optimal results in the future. These two aspects are strategies for implementing the blue economy in the coastal areas of Semarang City. Akbar *et al* (2022) focused on the governance aspects related to the development of the blue economy in the Riau Islands. The study aimed to understand the obstacles and challenges in protecting marine ecosystems in the fisheries and marine management areas of the Riau Islands. The research used descriptive qualitative methods, collecting data through interviews, literature reviews, essays, and official websites.

Nuri Hidayati (2022) mentioned to understand the implementation of blue economy policies towards tourism potential in Mandar Village, particularly in fish-based culinary tourism and coastal scenery based on local wisdom. The study used qualitative field studies with data collected from interviews, observations, and documents. The research revealed that local wisdom is part of the blue economy implemented in Mandar Village, especially in its coastal areas.

The implementation of the blue economy in Indonesia can be applied through staggered harvesting activities to control prices, utilizing waste from fisheries industry activities, online marketing of fishery products, providing material and capital assistance programs to small fishermen, purchasing products by the state, and promoting maritime culture to improve the community's economy (Nurfauzi, 2022).

Pamela *et al* (2022) aimed to enhance the skills of coastal communities on Lemukutan Island in cultivating *Eucheuma Cottonii* seaweed as part of the blue economy implementation. Using a descriptive mix-method approach, the research found that the Lemukutan Island community has successfully cultivated seaweed.

Setyawati *et al*, (2021) found that the city of Sabang has implemented the blue economy through conservation efforts that play a crucial role in preserving nature and improving community welfare. Pradana (2021) conducted research based on the phenomenon of the blue economy concept being endorsed for sustainable marine development by APEC member countries. The study revealed that a more integrative, long-term-oriented cooperation among member countries is a strategy for implementing the blue economy in the Asia-Pacific region.

Prayuda (2019) found that sustainable development is enhanced by utilizing technology in fish farming and adding value to fishery products through downstreaming. These two aspects are crucial in implementing the blue economy concept to empower coastal communities in Indonesia. The difference between this research and

previous studies includes the focus and objectives, research objects and locations, and the data sources used

In etymology, implementation can be understood as an activity related to completing a task using resources to achieve results. When the term implementation is associated with public policy, it can be defined as the activity of executing an approved public policy using resources to achieve the policy's goals (Tachjan, 2016).

(Tachjan, 2016) the components of the public policy implementation model consist of: (1) the program being implemented; (2) the target groups, which are the communities expected to benefit from the program; (3) the implementers, whether organizations or individuals responsible for managing, executing, and overseeing the implementation process; and (4) environmental factors such as physical, social, cultural, and political aspects.

George Edwards III states: "In our approach to the study of policy implementation, we begin in the abstract and ask: What are the preconditions for successful policy implementation? What are the primary obstacles to successful policy implementation?" He identifies four crucial factors that influence the process of public policy implementation: communication, resources, dispositions or attitudes, and bureaucratic structure (Tachjan, 2016).

The blue economy emphasizes the optimization of local resources without taking from other places, to provide shared benefits for the local community. This approach can reduce production costs, ultimately driving and boosting the local economy (Nasshabihah, 2023) .

## 2. Method

This research is qualitative and employs purposive sampling. The study was conducted at the Bangsring Underwater Floating House Beach tourist destination in Banyuwangi, Indonesia. Data collection methods included observation, interviews, and documentation. The study used purposive sampling with 14 key informants, including the Head of the Tourism Office, the Secretary of Bangsring Village, managers of the Bangsring Underwater Floating House Beach, local and international tourists, and small and medium-sized enterprise (SME) operators.

Data validity includes: source triangulation and technical triangulation. Research stages include: pre-field work, arranging permits, preparing research equipment. The implementation stage includes: data analysis, preparing a report framework, and compiling reports. Data analysis begins with data collection, data condensation, data display, and conclusion, drawing/verification.

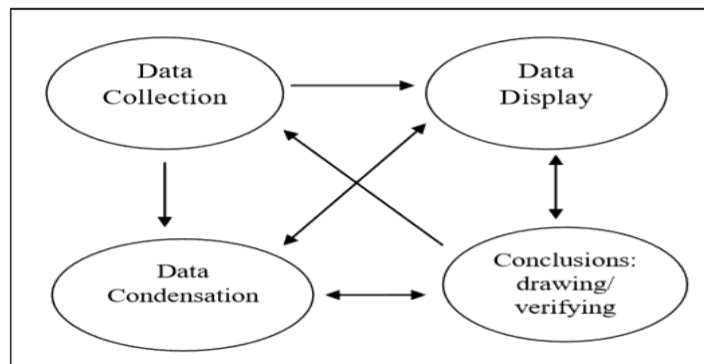


Figure 1 Interactive Model Data Analysis Components  
(Source: Miles, Huberman dan Saldana, 2014)

Data collection techniques included observation, interviews with Mr. Moch. Ainul Fatah (Tourism Staff Banyuwangi Regency), Mr. Mastalianto and Mr. Yusuf (representatives from the management of Bangsring Underwater Floating House Beach), Mr. Saiful Bahri (Secretary of

Bangsring Village), and residents of Bangsring Village (Ela, Amirudin Abdullah, and Samsul Hadi) who run SMEs, as well as tourists (Angga, Fairi, Clara, and Sinta) visitors.

Data analysis was performed using the Miles and Huberman method, which consists of four stages: data collection, data reduction, data presentation, and conclusion drawing. Data validity was ensured through triangulation, which involves cross-checking information from various sources, techniques, and time periods

#### 4. Results and Discussion

Based on the interview with key-informant, data collected and distributed in the Table 1-9 as follow.

Table 1 Efficient Utilization of Natural Resources

Name of Informant	Interview
Mr. Mastalianto	"The conservation process here initially involved beach clean-up activities, such as collecting scattered plastic waste on Bangsring Beach. We also conducted underwater clean-up by diving to remove waste from the seabed, and we planted Casuarina trees to prevent coastal erosion. Additionally, we planted coral reefs at damaged spots, as initially, we were not conservationists but rather those who contributed to the damage to the Bangsring ecosystem."

It is clear that to restore the ecosystem at Bangsring Beach, conservation efforts must start with beach and seabed clean-up, tree planting to prevent erosion, and coral reef planting. Here is now renowned for the beauty of its underwater ecosystem. Coral reef restoration has been carried out through coral transplantation. Coral transplantation involves cutting live coral and planting it in other locations to create new habitats. During observation at the research site, the researcher documented the causes of coral reef damage, the coral transplantation process, and the benefits of coral reefs.

Coral reef damage is caused by climate change and irresponsible human activities, such as using explosives to catch fish. The coral transplantation employs the spider web method, which is claimed to be more cost-effective than other methods. This transplantation aims to improve the coral reef condition, which serves as a fish habitat, a barrier against global warming, and a fish spawning ground.

Table 2 Coral Transplantation

Name of Informant	Interview
Mr. Mastalianto	"We need coral seedlings, and we take them from the transplants we planted earlier. The grown transplants are used as parent stock, and there are naturally good coral parent stocks in the area. We do not take all the parent stock at once but only as needed, cutting about 10 to 20 sticks per parent."

Coral seedlings for transplantation are sourced from earlier transplants or natural parent stocks found in the area. This indicates the implementation of the blue economy principle of natural resource efficiency because the seedlings are obtained without taking them from other locations, utilizing what is available on-site. Additionally, the use of each coral parent stock for transplantation is not overly exploited; only 10 to 20 pieces are cut to ensure the parent stock can regrow and be used for future transplantation.

Table 3. Non-Disruptive to Ecosystems

Name of Informant	Interview
-------------------	-----------



Mr. Mastalianto	"Currently, we no longer perform private coral transplantation because the transplanted corals are still in excellent condition. Now, we focus more on educational activities, such as school comparative studies and other similar events."
-----------------	--

Coral transplantation is not carried out continuously but only initially when the area was designated for conservation. Now, coral transplantation is only done for educational purposes, such as for schoolchildren or when other parties conduct comparative studies.

The coral transplantation process has been highly effective. It is considered effective because the coral transplantation activities have successfully improved the coral reef ecosystem in the area. Initially, Bangsring Underwater Floating House Beach had a damaged coral reef ecosystem, but it has now become a famous tourist spot known for its beautiful underwater ecosystem.

Table 4. Implementation of the Blue Economy Concept on the Zero Waste Principle

Name of Informant	Interview
Mr. Yusuf	"You can get points for depositing Aqua or mineral water bottles into the Reverse Vending Machine (RVM), which can be exchanged for mobile phone credit and other things. All visitors can deposit and collect bottles for points to be exchanged."

The RVM can be used by anyone to exchange small, medium, or large water bottles for points, which can later be converted into e-money for purchasing mobile phone credit and other items. This feature attracts many people to try the RVM, leading to better plastic waste management.

Table 5 Waste Management at Tello Lema

Name of Informant	Interview
Mr. Yusuf	I work here as part of the organic and inorganic waste management team. We process plastic waste into fuel, such as Peralite gasoline or diesel. Five kilograms of plastic can produce 18 liters of fuel. The waste bank, Tello Lema, with about 20 members (mostly women), processes coconut husk into cocopeat briquettes and crafts. Coffee plastic packaging is turned into handicrafts, and coconut shells are turned into charcoal briquettes."
Mr. Saiful Bahri	"As the village government, we always supervise and correct any mistakes, such as establishing the Tello Lema waste bank. Previously, there was no waste bank here. Now, we have established the Tello Lema waste bank, which processes waste generated by visitors. The waste bank has no obstacles in processing waste, including coconut husk into briquettes and plastic waste into fuel like gasoline or diesel. We received CSR support from Pertamina to purchase processing equipment."
Mr. Yusuf	"The products we process can be sold, but we are doing this not for business but to keep the Bangsring Underwater Floating House Beach clean."

The waste generated from tourism activities consists of two types: organic and inorganic. Both types are managed at the Tello Lema Waste Bank. Organic waste, such as coconut shells, is used to make cocopeat, cocoviber, and briquettes, while inorganic waste, such as plastic, is

processed into fuel like Pertalite, gasoline, or diesel. Coffee plastic packaging and similar waste are turned into handicrafts.

The Tello Lema waste bank effectively recycles waste generated from tourism activities in the area, which is a form of implementing the zero waste principle of the blue economy. The waste is not only managed but also used as raw material to create new products that are useful and economically valuable.

All products made from waste, such as fuel, briquettes, cocopeat, and cocofiber, can indeed be sold. However, they are currently used only for personal purposes because the primary goal of establishing the waste bank was simply to serve as a means of maintaining cleanliness.

Table 6 Implementation of the Blue Economy Concept on the Community Involvement Principle

Name of Informant	Interview
Mr. Mastalianto	"To maintain the cleanliness of Bangsring Beach, we start with ourselves by not littering. Every day or every weekend, we ensure beach clean-up activities, even if we cannot do it every day. On Saturdays and Sundays, we make sure to clean up the beach, and on regular days, we clean the conservation areas."
Ms. Ela	"Here, if someone buys coffee, we serve them and remind them not to litter, as we also pay for cleanliness here, and the waste is managed by the cleaning team or recycled, like plastic bottles being recycled."
Mr. Samsul Hadi	"If visitors understand, they will dispose of their waste properly because bins are provided here. If visitors do not understand, they will litter, and we help clean up any scattered waste."
Mr. Angga	"Bangsring Underwater is clean and comfortable, and the facilities are adequate."
Ms. Fairi	"The atmosphere here is still clean and natural, much better compared to other beaches."

Community involvement in preserving the ecosystem, starts with individual actions, such as not littering and participating in regular beach clean-up activities every Saturday and Sunday.

The residents of Bangsring Village who operate businesses also remind customers not to litter. The residents of Bangsring Village who operate businesses strive to maintain cleanliness by picking up litter scattered by irresponsible visitors. Tourists visiting this destination mentioned that the community's involvement in maintaining cleanliness at the beach is effective.

In addition to cleanliness, the presence of SMEs in tourist destinations is an important facility that needs to be supported.

Table 7. Presence of SMEs at Bangsring Underwater

Name of Informant	Interview
Ms. Fairi	"The first impression here is that the tourist spot is well-equipped, especially with the presence of SMEs. SMEs are essential in any tourist destination to improve the local economy."
Mr. Mastalianto	"There are no specific rules here; anyone from Bangsring can do business at this location. We do not impose any rules, as long as they can help maintain conservation efforts, such as not littering and participating in coral planting activities when necessary. We do not have other rules."
Mr. Abdullah	"I have been selling here for about seven years since the Floating House Beach first opened."

Mr. Samsul Hadi	"I have been selling here since the Floating House Beach was first established, around 2014."
Mr. Amirudin	"I have been selling here for about seven years."

SMEs are essential in a tourist destination because they have the potential to improve the local economy. The residents of Bangsring Village who operate businesses are allowed to do so without any specific rules, except for participating in conservation activities. The involvement of the local community in establishing SMEs has been ongoing since the tourist destination was first opened, and many residents of Bangsring Village have become SME operators, bringing positive impacts on visitor satisfaction at the beach.

Table 8. Implementation of the Blue Economy Concept on the Multiple Revenue Principle

Name of Informant	Interview
Mr. Mastalianto	"Currently, we no longer perform private coral transplantation because the corals we transplanted earlier are still in excellent condition. Now, we focus more on educational activities, such as school comparative studies and other similar events."
Mr. Abdullah	"Before selling here, I used to make bricks. Now, I prefer selling here because it is less physically demanding, and the income is better."
Ms. Ela	"I just graduated from high school and tried selling here. It's great because I can earn from tourists. On weekends and public holidays, I can earn up to IDR 400,000 per day."
Mr. Saiful	"Alhamdulillah, before, there were no SMEs like this. Now, as you can see, there are several shops here. Before, there was only one shop behind the mosque. Now, there are many more. This has had a significant impact on the local community."
Mr. Mastalianto	"The community here can enjoy everything. The SMEs are running well. People here used to focus only on agriculture and fishing, but now they can open shops. Those who own vehicles can become drivers, transporting guests. So, the entire community can be involved, even if not everyone."
Mr. Saiful	"I have been in this village for 22 years, and until now, nothing has changed. Instead, it has elevated the status of the village. When people mention Wongsorejo, they often think of Bangsring."

Coral transplantation activities have transformed the area into a tourist destination and an educational site. The presence of SMEs has significantly improved the local economy. During weekends and holidays, Ela can earn up to IDR 400,000 per day. The establishment has created new job opportunities for the local community, such as becoming SME operators or drivers for tourists.

The presence of a tourist destination has had a very positive impact on the local economy. Previously unemployed individuals in the community now have the opportunity to start businesses around the tourist area, improving their economic situation and ultimately increasing their income.

The interview highlighted that the tourist destination has created new job opportunities for the surrounding community. Before the establishment of the tourist destination, the local population primarily worked as farmers and fishermen. However, with the advent of the tourism site, some community members have found employment as small and medium enterprise (SME) operators and drivers for tourists.



The tourist destination has positively impacted Bangsring Village, enhancing the village's recognition both nationally and internationally. This increased visibility attracts visitors from various regions, leading to the creation of new job opportunities in Bangsring Village.

Table 9. Benefits of Implementing the Blue Economy Concept

Name of Informant	Interview
Mr. Mastalianto	"Conservation here is quite effective, because what we have done has yielded very good results. Now, not only the local community supports it, but all levels of government are also very supportive of our work here. Furthermore, business owners are now backing the conservation efforts in the Bangsring area as well."
Mr. Saiful	"Previously, there were no SMEs like this here; now you can see there are small shops around. In the past, there was only one shop behind the mosque, but now there are many more. So, there has been a significant impact on the local residents."
Mr. Mastalianto	"Regarding the impact here, the community can enjoy the benefits. SMEs are thriving, and people who previously focused only on farming and fishing can now open small shops. Those who own cars can become drivers for transporting guests. So, the entire community can be involved, even though not everyone is."

As the manager, Mr. Mastalianto plays a crucial role in overseeing the implementation of blue economy principles at the destination. His responsibilities likely include: (1) Operational Management: Ensuring the smooth operation of the beach and its facilities, and Coordinating various activities and services provided to tourists; (2) Environmental Conservation: Implementing and monitoring coral reef transplantation and other conservation efforts., and Managing waste collection and processing in line with the zero waste principle; (3) Community Engagement: Working with local residents and businesses to promote their involvement in tourism-related activities , and addressing community concerns and fostering positive relationships between the beach management and local stakeholders; (4) Tourist Services: Overseeing the quality of services provided to visitors, including amenities and safety measures, and ensuring that tourism activities do not negatively impact the environment; (5) Educational Outreach: promoting awareness and education about the importance of environmental sustainability and responsible tourism practices among visitors and locals; (6) Problem Solving: Addressing challenges related to waste management, visitor behavior, and community relations.

Mr. Mastalianto's role is essential in ensuring that the blue economy principles are effectively applied and that both the environment and the local community benefit from the tourism activities.

### 3.2 Discussion

The coral reef transplantation activities have been successful in transforming the ecosystem of the area. Originally, the area had a damaged coral reef ecosystem, but the transplantation efforts have eventually turned it into a tourist destination famous for the beauty of its underwater ecosystem.

To preserve the coral reef ecosystem, support is required from all parties, including the government, managers, local communities, and visitors to the area.

The damage to the coral reef ecosystem is caused by two factors: natural factors, such as climate change, and human activities, whether intentional or unintentional. The most common human activities observed are snorkeling and diving, which can potentially damage the coral reef ecosystem if individuals engaging in these activities accidentally or intentionally touch, kick, or step on the coral reefs.

During the researcher's observations, no warnings were found advising tourists engaged in snorkeling and diving to avoid touching, kicking, or stepping on the coral

reefs, which could potentially damage the ecosystem. In interviews with four tourists, three of them were unaware of the actions that should be avoided when snorkeling and diving. Therefore, there is a need for warnings, either through information boards or direct warnings from the management.

The zero waste principle is a key aspect of the blue economy that emphasizes the reduction and processing of waste into economically valuable products. The application of the blue economy on the zero waste principle can be considered effective. This is evident as the area has already provided waste bins and established a waste bank responsible for processing waste into economically valuable products, such as fuel from plastic waste, cocofiber, cocopeat, and briquettes made from coconut waste.

Although the implementation has been successful, there are still areas that require attention from all parties involved in the management, such as the non-compliance of tourists and small and medium enterprises (SMEs) in maintaining cleanliness around the tourist destination.

Community involvement can be observed through several activities at the location, including cooperation in maintaining cleanliness in the tourist environment and collaboration in establishing small and medium enterprises (SMEs) within the tourist destination. Based on an interview with Mr. Saiful, the secretary of Bangsring Village, there are still community members who do not understand the concept of the tourist destination, which leads to their resistance toward its presence. Therefore, massive outreach efforts are necessary to educate the community and encourage active participation in the future development.

According to Mr. Ainul, a tourism officer from the Banyuwangi Regency Department of Culture and Tourism, widespread outreach to the community around the tourist destination is indeed necessary. Even now, there are still community members who do not understand the purpose of the tourist destination, leading to their tendency to resist it.

The multiple revenue principle consists of four indicators: generating multiple outputs from a single raw material, creating creative and innovative industries, increasing income, and creating job opportunities. The principle of multiple revenue or value-added is generally effective. The coral reef ecosystem is not only a tourism product but also an educational product for the community. The presence of the tourist destination has created new job opportunities for the local community, such as SME operators, tour operators, and drivers, ultimately increasing local income.

The implementation of the blue economy concept generally positively impacts the environmental, economic, and social conditions of the area. The blue economy has transformed the coral reef ecosystem from a damaged state to a better condition, making the area now known for its beautiful coral reefs. The blue economy also benefits the local economy, as the presence of the tourist destination has improved the local community's income by creating new job opportunities such as SME operators, tour operators, and drivers.

Benefits of Implementing the Blue Economy Concept are as below: (1) **Environmental Preservation consist of:** a) **Coral Reef Restoration:** Coral reef transplantation activities have restored and enhanced the underwater ecosystem, transforming the area into a renowned tourist destination with a vibrant marine environment; b) **Waste Management:** The zero-waste principle promotes effective waste management and recycling, reducing pollution and conserving resources. Products like fuel from plastic waste, coco-fiber, and cocopeat contribute to a cleaner environment; (2) **Economic Growth consist of :** a) **Local Employment:** The development of the tourist destination has created job opportunities for the local community, including roles in SMEs, tourism services, and transportation, b) **Increased Income:** The influx of tourists has boosted local businesses and provided additional sources of income for residents, contributing to improved economic conditions; (3) **Community Engagement consist of:** a) **Involvement in Tourism:** Local residents are engaged in various activities related to tourism, including business ventures and service provision, which fosters a sense of ownership and participation; b) **Education and Awareness:** Community outreach and education about the benefits of tourism

and environmental conservation help increase local support and involvement; (4) **Sustainable Development consist of:** a) **Resource Efficiency:** Implementing blue economy principles promotes the efficient use of resources and reduces waste, aligning with sustainable development goals; b) **Long-Term Viability:** By focusing on environmental sustainability and economic benefits, the destination supports long-term viability and resilience of both the ecosystem and local economy; and (5) **Enhanced Visibility consist of: National and International Recognition:** The success of Bangsring Underwater Floating House Beach enhances the reputation of Bangsring Village, attracting visitors from various regions and increasing its prominence on a larger scale.

#### 4. Conclusion

The implementation of the blue economy concept based on the principle of natural resource efficiency has been effective, with all indicators successfully achieved. However, future implementation needs some adjustments to maximize the application of the blue economy concept, such as providing facilities that clearly explain the rules for snorkeling and diving activities so that all tourists visiting the area are well-informed about the regulations.

The implementation of the blue economy concept based on the zero waste principle has been effective, with all indicators successfully achieved. The implementation of the blue economy concept based on the zero waste principle has minimized waste and processed waste generated from tourism activities into economically valuable products. However, during the research, some individuals, including tourists and SME operators, were found to be littering, which could harm the aesthetics of the tourist destination. Strict actions are needed from the management to address this issue, such as providing trash bags for tourists and imposing temporary bans on business activities for SME operators caught littering.

The realization of community cooperation programs is an indicator of the community involvement principle in implementing the blue economy concept. Community involvement can be seen in two forms. First, cooperation in maintaining the cleanliness of the tourist area through regular clean-up activities every Saturday and Sunday. Second, community involvement in establishing SMEs as a facility in the tourist area. However, some individuals oppose the existence of the tourist destination and sometimes engage in activities that harm the destination, such as extorting tourists from outside the area, which can damage the image of Bangsring Underwater Floating House Beach. Therefore, more extensive socialization related to the tourist destination is needed, along with strong support from the management for all community members around the tourist area.

The implementation of the blue economy concept based on the multiple revenue principle has been effective, as seen from the four indicators, which include generating multiple outputs from a single raw material, creating creative and innovative industries, increasing income, and creating job opportunities. The indicator of generating multiple outputs from a single raw material has been effectively achieved. The beauty of the underwater ecosystem has become both a tourism and educational product. Tourists can learn about coral transplantation techniques, but this education is not available to all tourists, only to specific groups such as students and comparative study participants. Educational facilities on the marine ecosystem, coral transplantation methods, and activities that can harm the ecosystem should be provided so that education can reach all tourists visiting the tourist area.

The implementation of the blue economy concept tends to positively impact the environmental, economic, and social conditions of the local community around the tourist destination. Positive environmental benefits include the improvement of the coral reef ecosystem, which has transitioned from a damaged state to a better condition,

making the area now known for its beautiful coral reefs. The presence of the tourist destination also benefits the local economy by creating new job opportunities for the local community. Previously, the community was primarily engaged in agriculture and fishing, but now they can work as SME operators, tour operators, and drivers, ultimately increasing local income.

However, this research is limited to the research site in Bangsring Underwater, which is still in the early stages of implementing the blue economy in Banyuwangi, Indonesia. Practical implications should be suggested that this research can increase public knowledge about the environmentally friendly blue economy and its various positive benefits for improving the local community's economy.

The social implication of this research is that it is hoped this research can serve as a reference for developing the Bangsring as a tourist destination in the future, to create sustainable tourism development in the future. The originality of this research lies in its focus on the implementation of the blue economy, which is expected to improve in quality and environmental friendliness in the future. For future research, it is suggested to analyze the factors influencing the success of blue economy development in a tourist destination within a country or region.

## References

- Akbar, Dhani; Ryan Anggria Pratama; Yudhyo, Riama; Lisnawati Sianturi, N. T. (2022). Strategi Pengembangan Blue Economy Wilayah Perbatasan Indonesia: Tata Kelola Ekonomi Maritim Pesisir Kepulauan Riau. *NeoRespublica : Jurnal Ilmu Pemerintahan*, 4(1), 166.
- Arianto, M. F. (2020). Potensi Wilayah Pesisir di Negara Indonesia. *Jurnal Geografi*, 20(20), 1.
- Aulia Audrey, A. F. (2022). Reformasi Implementasi Konsep Blue Economy Sebagai Upaya Proteksi Kesejahteraan Masyarakat Pesisir Kota Semarang. *Jurnal Manajemen Dan Ilmu Administrasi Publik*, 4(3), 168.
- Ermawati, EA. (2018). Analisis Strategi Pengelolaan Sampah di Tiga Lokasi Wisata Kabupaten Banyuwangi. *Journal of Tourism and Creativity*, 2(1), 33.
- Hani Mukaromah, L. R. (2023). Implementasi Blue Economy Di Wilayah Pesisir Kenjeran Surabaya. *OECONOMICUS Journal of Economics*, 7(2), 101.
- Hartanti, Lucky, Warsidah, Syarif Irwan Nurdiansyah, I. S. (2023). Penerapan Konsep Blue Economy Oleh Masyarakat Nelayan Di Pesisir Pulau Karimata Kalimantan Barat. *Kabilah: Journal of Social Community*, 8(1), 281.
- Hazra, Somnath, A. B. (2022). *The Blue Economy An Asian Perspective*. Cham: Springer.
- Khoiruman, Muhamad Alfi, Nina Ruly Istiari, Nadiya Lifa Ningrum, Galih Satriyo, Mulyana Pratiwi, D. H. I. (2023). Kegiatan Clean Up Wisata Di Grand Watudodol Ketapang Banyuwangi. *Journal of Human And Education*, 3(2), 180.
- Mirsalila, R. (2020). Analisis Dampak Kegiatan Ekowisata Terhadap Lingkungan Di Kawasan Konservasi Pantai Bangsring, Kabupaten Banyuwangi, Jawa Timur. UIN Sunan Ampel Surabaya.
- Nasshabihah. (2023). *Ekonomi Biru Untuk Indonesia Biru*. crcs.ugm.ac.id
- Nurfauzi, NRU. M. (2022). Implementasi Konsep Blue Economy Dalam Pembangunan Masyarakat Pesisir Di Masa New Normal. *Seminar Nasional Ekonomi Dan Akuntansi*, 75.
- Nuri Hidayati, A. G. R. (2022). Implementasi Kebijakan Blue Economy Terhadap Kampung Mandar Banuwangi Sebagai Potensi Wisata Berbasis Kearifan Lokal. *Gorontalo Law Review*, 5(2), 412.
- Pamela, Sukal Minsas, Bambang Kurniadi, Warsidah, Mega Sari Juane Sofiana, Ruqiah Ganda Putri Panjaitan, Renny Sari, Uray Ristian, S. I. N. (2022). Implementasi Blue Economy Melalui Kegiatan Budidaya Rumput Laut Eucheuma Cottonii di Wilayah Pesisir Pulau Lemukutan," Lumbung Inovasi. *Jurnal Pengabdian Kepada Masyarakat*, 7(4), 655.
- Prasetya, Johan Danu, Dian Hudawan Santoso, N. F. (2020). Kajian Kondisi Tutupan Karang Terhadap Daya Dukung Wisata Bahari Di Kepulauan Karimunjawa, Jawa Tengah. *Jurnal Mineral, Energi Dan Lingkungan*, 4(2), 72.
- Rendi Prayuda, D. V. S. (2019). Strategi Indonesia Dalam Implementasi Konsep Blue Economy Terhadap Pemberdayaan Masyarakat Pesisir Di Era Masyarakat Ekonomi Asean. *Indonesian Journal of International Relations*, 3(2), 46.
- Sagita, Andi, Muhammad Danny Sianggaputra, C. D. P. (2022). Analisis Dampak Sampah Plastik di Laut terhadap Aktivitas Nelayan Skala Kecil di Jakarta. *Buletin Ilmiah Marina Sosial Ekonomi Kelautan Dan Perikanan*, 8(1), 1–9.

- Sari, D. A. A. (2019). Integrasi Tata Kelola Kebijakan Pembangunan Kelautan Berkelanjutan. *Jurnal Rechtsvinding*, 8(2).
- Setyawati, Lutvia Resta, Hadistian, Dimas Danur Cahya, Marsetio, Ariska Dian Novarianti, B. D. S. (2021). Implementasi konsep Ekonomi Biru Dalam Pembangunan Masyarakat Pesisir di Kota Sabang. *Jurnal Education and Development*, 9(4), 178.
- Tachjan, H. (2016). *Implementasi Kebijakan Publik*. Asosiasi Ilmu Politik Indonesia (AIPi).
- Wardani, R. T. (2023). Menteri Susi Kecewa Pulau Kotor Banyak Sampah Plastik. Okezone.Com. <http://surl.li/Ivamz>
- Wibowo, Ari, Moh. Abdi Suhufan, B. A. (2023). *Rambu-Rambu Kebijakan Ekonomi Biru Di Indonesia*. Transparency International Indonesia.