# The Trap of the Blue Economy: Evidence from Lombok Island, Indonesia

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Publication Information: Received 17 February 2023, Accepted 9 November 2023, Available online 30 December 2023 DOI: 10.21463/jmic.2023.12.3.15

### Abstract

Besides being known for its natural tourist destinations and beautiful beaches, Lombok Island in Indonesia is also known for its abundant marine and fishery potential, which can be used as development vehicles for the island's people. However, its richness in marine resources does not contribute significantly to its people's living standards and economic development. This research aims to investigate the practice of the Blue Economy in a marine wealth region. While many disciplines touch upon the concept of a Blue Economy, little research has examined the ocean-poverty connection in Lombok Island. This article argues that the potential of Lombok's Blue Economy has not alleviated poverty since the local condition does not support a tendency against romanticizing the notion of Blue Economy as a global developmental platform. The substantial marine potential of the island cannot provide maximum benefit for the people's welfare due to multiple factors, including financial, human resources, infrastructure, and the government's goodwill. The



significance of this research presents empirical evidence of a missing link in the ocean-poverty nexus. This research examines five drivers of the Blue Economy on the island: pearl, seaweed, fisheries, mangrove, and marine tourism. We maintain a paradox of plenty on the island since the potential from these drivers is immense to address the poverty in Lombok, yet the progress seems idle.

### Keywords

Blue Economy, Lombok Island, marine resource, poverty reduction

# Introduction

This article examines the implementation of the Blue Economy, a global platform implemented at the local level, namely Lombok Island. It is based on intriguing research because there is a gap between the ideals of the Blue Economy and the condition of the people on Lombok Island who are still poor. The article began with the researcher's interest in the government's commitment to maximizing the use of Indonesia's abundant marine resources for the welfare of the people. However, this expectation can become a trap due to financial factors, human resources, infrastructure, and politics.

This study is significant based on several factors. First, it aims to find out why Lombok Island's marine wealth does not help improve the economic status of its people. This island is one of Indonesia's poverty bags, mainly among coastal communities and fishermen. Since it became a pilot project between the Indonesian Government and FAO in 2015, there has been no evaluation of the project. This fact is also not in accordance with President Joko Widodo's policy, which prioritizes improving Indonesia's maritime sector and building from the periphery by strengthening the village/countryside. Indonesia has been determined to develop the maritime industry seriously and become economically independent by prioritizing the economic pillar (ADB, 2014). Second, there are various Blue Economy-themed projects in tourism activities in Lombok. The island is one of Indonesia's tourism developments labeled "Ten New Balis." The government utilizes the beauty of Lombok's sea as a tourist attraction. It is expected to bring in foreign exchange for the country, one of them being the Mandalika Special Economic Zone (SEZ), located in Central Lombok Regency (Putri, 2019). The Mandalika SEZ is one of the Blue Economy projects and is proposed to be the implementation of the Indian Ocean Rim Association/IORA blue economy project (Antono, 2017).

As an archipelagic nation and the world's largest fishing nation, Indonesia is second to China. Indonesia's ocean is also a large part of the Coral Triangle area, where 76 percent of the world's coral species and 37 percent of the world's coral reef fish live (bkpm.go.id, 2017). With this rich marine resource, Indonesia has an incredible opportunity to tap into the Blue Economy, understood as the sustainable use of ocean resources for economic growth, improved livelihoods, and jobs while preserving the health of marine and coastal ecosystems (worldbank.org, 2017). Lombok Island is selected to be the subject of the research because this island has continued to become one of Indonesia's 'poverty bags.' This article reveals the relationship between natural and human factors that cause poverty to continue. As Pungetti (2012) once suggested, the interaction of both factors is essential for laboratories to understand the uniqueness of an island. This article, therefore, examines the nexus of the ocean-poverty and investigates the challenges to implementing the Blue Economy on Lombok Island.

The total area of Lombok Island is about 4,738.65 square kilometers (1,829.60 square miles), including smaller offshore islands. This Island is suitable for the Blue Economy implementation zone. Since May 2013, the Food and Agricultural



Organization (FAO) of the United Nations has partnered with the Government of Indonesia (through the Ministry of Marine Affairs), the World Bank, and the Government of the Netherlands and signed a Memorandum of Understanding (MoU) in Jakarta. The two parties provide information, advice, capacity building, and expertise for managing the project's agriculture-related activities (Poseidon, 2014; Antara, 2014). Following the MoU in 2015, Lombok Island was designated to become one of Indonesia's Blue Economy projects, where the districts of Central Lombok and East Lombok have become pilot areas for implementing the concept of "blue growth." Lombok Island's smallness causes its people's lives to depend on the availability of natural resources. The sea provides vast opportunities for people's economic activities; therefore, marine conservation is critical for continuing economic activity on the island. As Hong (2019) suggests, sustainable use and conservation are necessary within the limited island space, and the community of residents has maintained this management system.

This article is structured as follows. Following the introduction, we present the relevant literature on the Blue Economy and its related concepts that contribute to the problems of poverty in the context of Lombok Island. The next section explains the research design and follows with Results and Discussion, while the last part is the conclusion.

# Literature Review

The Blue Economy is a broad concept that emerged as countries worldwide grappled with two trends: accelerating growth in the ocean economy and change in the underlying ecosystems (Patil et al., 2018). Its working definition is a sustainable ocean economy. It "emerges when economic activity is in balance with the long-term capacity of ocean ecosystems to support this activity and remain resilient and healthy" (Smith-Godfrey, 2017: 2). In his book, *The Blue Economy: 10 Years, 100 Innovations, 100 Million Jobs* (2010), Gunter Pauli introduced the Blue Economy where Pauli highlights the Blue Economy as "the regeneration of ecosystems in a logic of abundance and autonomy." It is a new social and economic model used "to meet the basic needs of the planet and all its inhabitants with what the earth produces" (Pauli, 2011: 3). The concept gained global popularity in 2012 during the Rio +20 United Nations Conference on Sustainable Development (UNCSD). Throughout the Rio +20 process, there was an awareness that the oceans required more profound attention and globally coordinated action. It is important to note, however, that the Blue Economy differs from the green economy, although the two are related (Dornan et al., 2018; Golden et al., 2017; Smith-Godfrey, 2017; Striani, 2020; Wenhai et al., 2019; Sarwar, 2022; Wijayanti & Ramlah, 2022 ).

The Blue Economy provides both opportunities and challenges. Several studies show that adopting the Blue Economy has provided benefits. Many countries have adopted it as their platform for sustainable development agenda (Bennet et al., 2019; Cisneros-Montemayor et al., 2021; Lee et al., 2020; Roy, 2019; Voyer et al., 2020;), and it is related to SDGs 14–17, and SDG 3 Good Health & Well-Being and SDG 8 Decent Work & Economic (Lee et al, 2020; Obura, 2020). Besides providing opportunities, the Blue Economy is challenging to implement. A report published for the Indian Ocean Rim Association (IORA) shows that there are problems related to the gender gap in many IORA member countries, such as lack of knowledge about the Blue Economy, lack of skills, low entrepreneurship, and the lack of integration of women's participation in the Blue Economy. This evidence can be found in countries with low to medium economies in Asia and Africa (Kotze, 2019).

Furthermore, from a human rights perspective, the Blue Economy can fulfill economic, social, and cultural rights, especially those closely related to the use of biological resources in the sea, namely the right to food (Maeyangsari, 2023) and as a development solution in archipelagic areas, such as what happened on Anambas Island (Saksono, 2013). The Blue Economy has a vital role in supporting the community's lives during the pandemic outbreak. The Blue Economy,



combined with agricultural products, thus, is an alternative solution for income sources for the community when turmoil occurs in the tourism sector in Bali. This concept has not been popular in Bali despite many people losing their livelihood when the tourism sector was disrupted during the COVID-19 outbreak. Furthermore, the Blue Economy can offer a sustainable solution, creating multiple effects resulting from the negative domino effect of the COVID-19 pandemic. In Indonesia's case, its potential can provide an alternative source of income in coastal areas like Bali, Sumatra, Maluku, and East Nusa Tenggara (Adiprayoga & Samiaji, 2021; Mahardianingtyas et al., 2018; Prayuda & Sary, 2019; Putra & Larasdiputra, 2020; Zamroni et al., 2018). Moreover, Blue Economy can also be a trap. Several studies have revealed that the implementation of the Blue Economy in several regions in Indonesia has experienced many obstacles, such as in Maluku, which showed a low level of public understanding about creating a business without damaging marine sustainability (Latupapua, et al., 2022).

As previous researchers show, we seek to look at how the Blue Economy has not yet acquired sufficient attention to become a source of wealth in many parts of Indonesia. The cases brought by different Indonesian researchers from western to eastern parts of Indonesia have presented a bleak picture that could be a trap. For instance, Prayuda and Sary (2019) explain that coastal communities live and carry out socioeconomic activities related to coastal and ocean resources. They depend on coastal resources since most work as fishermen, miners, fish cultivators, and sea transportation. The natural resources in coastal areas are potentially extensive, which should be able to prosper their lives. However, the people's lives in coastal areas are identical to poverty. Therefore, to remove this negative impression, the Blue Economy is expected to be the primary basis for increasing food security and economic growth to support selfreliance in the community. Equally, Adiprayoga and Samiaji (2021) assert that ten provinces located in Sumatra have marine coastal areas with abundant fishery potential. However, that potential has not been fully utilized. Therefore, it is necessary to realize that issues related to the development of the maritime sector end up as a concept without any actual implementation. Sumatra is famous for its maximum utilization of the land sector through oil palm plantations and other agricultural commodities. In fact, with optimal utilization of its marine resources, Sumatra will undoubtedly become a pillar of national economic development. However, the current condition shows that the public's interest in working in the fishery sector is minimal due to community stereotypes that the lives of coastal communities are considered low economic (Putra & Larasdiputra, 2020). It is also the case in other areas that the ocean economic sector has not become the leading sector. As can be seen in Maluku, the high poverty rate in this province indicates that ocean economic sectors do not experience significant development. These facts require an endogenous policy approach reflecting the province as an archipelagic province driven through ocean economic sectors to achieve sustainable economic growth (Renur et al., 2020).

The case of East Nusa Tenggara, moreover, is another sad fact. Despite its abundant natural resources, this province is doomed to lag behind others. Supported by extensive waters, coastal areas, and strategic geographical conditions, the East Nusa Tenggara marine sector should be the dominant sector that sustains its economy. The development of the Blue Economy can turn the maritime sector into a basis for economic development and the preservation of nature. However, as Mahardianingtyas et al. (2018) explain, these opportunities have not been considered vital in developing the Blue Economy. Land grabbing is another factor contributing to the gloomy picture of the Blue Economy. Benjaminsen and Bryceson (2012) and Taebenu (2020) claim that the notion of blue-grabbing refers to "the combination of dispossession of previous users and capital accumulation by some powerful actors." Evidence suggests that land grabbing is standard in some areas across Indonesia, such as Jakarta, Bali, Manado, Banten, Madura, and Ternate, to justify the Blue-Economy projects, for instance, in the form of reclamation projects.



To make the Blue Economy work for the people, it needs collaboration with international communities to mainstream and develop the platform (Dinarto, 2017; Juneja, 2021). For Indonesia, the Blue Economy is relatively new and, hence, a new field of research. Consequently, we found only scant research in this field, mainly conducted by Indonesians. Earlier published research showcased that, despite having abundant marine resources, several regions lack integrated policies on how they should be implemented to empower local society and improve local economic well-being. As previous researchers show, we examine how the Blue Economy has not yet acquired sufficient attention to become a source of wealth in many parts of Indonesia. The cases brought by different Indonesian researchers from western to eastern parts of Indonesia have presented a gloomy picture.

# Methods

This research employed mixed methods, qualitative and quantitative. Mixed methods are recognized as a 'third major research approach' to methods, in addition to qualitative and quantitative (Lamont, 2015). Mixed methods help us gain a complete picture than a standalone quantitative or qualitative study, as it integrates the benefits of both methods.

Based on the use of mixed methods, the data collection is carried out by a combination of several techniques, including:

- Big data analytics. These processes use familiar statistical analysis techniques. Big data in this research is employed to investigate the potential on Lombok Island related to the Blue Economy. For this research, big data is not the primary tool, so its role is marginal in data analysis. The results of data mining are used to get (a) the volume, value, and percentage of pearl exports from West Nusa Tenggara (NTB) Province in 2018-2021; (b) the number of tourists visiting Lombok Island in 2014-2021; (c) value and production of marine fish caught on Lombok Island in 2018-2021.
- 2. Interview. The interview is conducted with relevant informants to gain factual data and to elicit opinions or perspectives from local informants about the practice and implementation of the Blue Economy in Lombok Island. The interview format is semi-structured to give the interviewers and interviewees flexibility. We interviewed eight informants from different backgrounds, including academia, NGOs, and government officials. We anonymized their real identities to protect privacy. The interview was conducted between August and September 2022.
- 3. Internet-based. Data collection involves materials from scholarly journal articles and books available on the internet. Considering the veracity of the sources from different journals or books, we must select the most relevant sources.

# Results and Discussion

This part is divided into three parts: (1) promises of the Blue Economy, (2) significant sectors of the Blue Economy in Lombok Island, and (3) challenges and potential traps.

### Promises of the Blue Economy for Lombok

Indonesia's President Susilo Bambang Yudhoyono introduced Indonesia's Blue Economy platform in 2012 when he delivered a speech entitled "Moving towards Sustainability: Together We Must Create the Future We Want." (antaranews, 2012). The implementation of the Blue Economy is stated in Law Number 11 of 2020 concerning Job Creation and the implementation of a sustainable Blue Economy, which is then revealed in Government Regulation Number 21 of 2021



concerning the Implementation of Marine Spatial Planning and Regulation Number 27 of 2021 concerning Implementation of the Marine and Fisheries Sector. In addition, the government has also created Regulation Number 41 of 2021 on the Implementation of Free Trade Areas and Free Ports and Regulation 43 of 2021 concerning the Settlement of Spatial Planning, Forest Areas, Permits, and Land Rights. Furthermore, there are regulations related to the development for managing marine space, namely Presidential Regulation Number 18 of 2020 concerning the 2020-2024 National Medium-Term Development Plan. Furthermore, the Minister of Maritime Affairs and Fisheries issued Regulation Number 28 of 2021 on the Implementation of Marine Spatial Planning in which the state protects the interests of local communities, traditional communities, and coastal communities and provides legal certainty, space certainty, and investment certainty for sea-space users (Kementrian Kelautan & Perikanan, 2021).

In conjunction with the agenda at the national level, the Regional Secretary of West Nusa Tenggara Province, Rosiadi Husaen Sayuti, revealed that implementing the Blue Economy in the province is a breakthrough in sustainable development. Following the work program in the 2013-2018 Regional Medium-Term Development Plan (RJPMD) for the Province of West Nusa Tenggara, the concept began to be implemented in 2015 with a focus on the development of the seaweed commodity, which is the mainstay commodity in the province. Expert Staff to the Minister of Maritime Affairs and Fisheries for Economic and Socio-Cultural Affairs, Eko Djalmo Asmadi, added that implementing the Blue Economy must be carried out seriously, for example, by the inclusion of a Blue Economy zoning study into the Zoning Plan for Coastal Areas and Small Islands (RZWP-3K) for the province of West Nusa Tenggara. This plan is a synergy of Law No. 23 of 2014 concerning Regional Government, where RZWP-3K becomes the authority of the Provincial Government. Since 2015, the Government of Indonesia has worked with the FAO to participate in this pilot project. As a result, the Ministry of Marine and Fisheries and FAO conducted an in-depth study, including a detailed study of zoning, carrying capacity, value chain, and integrated economic zone development business plan (Ambari, 2017).

As stated, Lombok was designated as the Blue Economy pilot project in 2015 and lasted until 2018. There are many reasons why Lombok became the national Blue Economy Pilot Project. First, Indonesia has enormous marine potential as an archipelagic state surrounded by oceans. The potential of Lombok Island is not limited in terms of fishery resources but also has the potential to become a source of clean and renewable energy because the sea is rich in sunlight and wind. More than 70 percent of the sunlight received by the earth is under the sea, and nearly 90 percent of the world's wind energy is in the sea (Uly, 2021). The benefits of developing a Blue Economy are the preservation of marine biodiversity and marine and coastal ecosystems, and sustainable livelihoods, especially for coastal communities. The Blue Economy is also a space for innovation and creativity to drive inclusive welfare improvement. Indonesia's transition to a Blue Economy is also expected to become a model for developing a sustainable marine-based industry that reduces the economy's dependence on the extractive sector. Preparing the Blue Economy Development Framework applies an integrated and comprehensive approach, considering that the Blue Economy covers various sectors and actors (bappenas.go.id, 2021). Therefore, developing a Blue Economy in Lombok requires synergies between actors and sectors to address several opportunities and challenges in balancing conservation and using marine and coastal resources to create more sustainable and inclusive welfare.

Second, Lombok has five drivers of the Blue Economy: fisheries, mangrove, pearl, seaweed, and marine tourism, which can potentially be utilized as the means to poverty reduction in the island, which support the Blue Economy Development Framework as global initiatives toward the achievement of the 2030 Agenda on Sustainability Development Goals. The targeted goals include Goal 7: Access to Affordable, Sustainable, and Modern Energy for All; Goal 8: Sustainable and Inclusive Economic Growth, Productive and Comprehensive Employment Opportunities, and Decent Work for All; Goal 9: Infrastructure, Inclusive and Sustainable Industries; and Innovation; Goal 14: Conserve and Sustainably Use Marine and



Oceanic Resources for Sustainable Development and Support; and Goal 17: Global Partnership for Sustainable Development.

Third, in the context of economic recovery and transformation after the COVID-19 pandemic, Lombok Island needs to have a new approach and look for new sources of economic growth that are more inclusive and sustainable. The Blue Economy is one answer. During the pandemic, Lombok Island was severely hit by the Coronavirus. Over 1,500 people were affected by the virus in the West Nusa Tenggara Province, and Lombok Island was impacted worse than Sumbawa Island, another island in the province (Gerakan Masyarakat Hidup Sehat, 2023). By developing a Blue Economy, Lombok Island has excellent potential for a better recovery in the post-COVID-19 pandemic (Blue Recovery).

### The significant activities of the Blue Economy in Lombok Island

This section describes significant activities of the Blue Economy on the island. We divided into several sectors: pearls, seaweed, seawater and freshwater fisheries, and marine tourism and mangrove ecosystems.

Pearls. Pearls and the Blue Economy on Lombok Island are interrelated. Lombok Island, a producer of quality sea pearls, also applies the blue economy concept in its development. In general, pearl cultivation on Lombok Island has good prospects for improving the local economy and supporting sustainable economic development if managed well. Pearl production in Lombok can become an integral part of the blue economy if managed in a sustainable and environmentally friendly manner. The pearl cultivation areas in West Nusa Tenggara cover 19,056 hectares, producing 1.4 to 1.8 tons annually (antaranews.com, 2014). Pearl cultivation on Lombok Island contributes to the local economy, including (a) Increasing people's per capita income as pearls become jewelry; (b) Pearl cultivation can support technological development; (c) Pearl cultivation creates new jobs for local people; (d) Opening export opportunities. However, the pearl cultivation process takes a long time, is complex, capital intensive, and requires high technology. Therefore, few pearl industry players in Lombok survive except entrepreneurs with marketing networks abroad.

Seaweed. The Blue Economy in Lombok focuses on developing seaweed commodities, the main commodity in NTB. It is hoped that cultivators will not only export raw seaweed materials but also use them more for industrial needs, especially at the national level. Seaweed waste can be used for fertilizer, fish, or animal feed. Applying the Blue Economy in Lombok is one of the breakthroughs in sustainable development. In line with the work program in the 2013-2018 Regional Medium-Term Development Plan (RJPMD) of NTB Province, which prioritizes seaweed commodities, the government continues to push for the immediate issuance of regulations on the seaweed industry to strengthen investment in the seaweed industry from upstream to downstream. Concerning the fast cycle of the cultivation process, due to few capital requirements and extensive market demand, seaweed is sold as dried goods. Local communities can also carry the process into dried seaweed because the infrastructure does not require significant capital. However, the facilities and infrastructure used by seaweed cultivators are considered inadequate. Even though there is support for infrastructure from the government and the private sector, cultivators generally still choose to dry out on the beach without using racks. Ideally, seaweed drying uses racks to comply with export standards.

Seawater and Freshwater Fisheries. Apart from pearls and seaweed, Lombok also has abundant fishery products that can improve the welfare of the people of Lombok. The fisheries sector has provided sufficient food supplies for millions of people worldwide and can become part of food sovereignty and a source of life and livelihood for fishermen. The fisheries sector on Lombok Island has a vital role in the local economy and is an integral part of the blue economy concept. Apart from increasing income and providing employment opportunities, this sector supports technological



developments, especially regarding fisheries product management. Apart from that, the fisheries sector helps the local economy; fish products are exported to various countries, such as China, Japan, the ASEAN countries, the United States, and the European Union (Indonesia.go.id, 2022). The biggest challenge for the fisheries sector is the conflict that arises due to the management of conservation areas.

Marine Tourism and Mangrove Ecosystems. The last sector that contributes to the welfare of the people in Lombok within the framework of the Blue Economy is marine tourism and mangrove cultivation. Lombok Island has enormous marine tourism potential. Lombok Island's marine tourism destinations include Kuta Beach, Seger Beach, Sereting Beach, Tanjung Aan Beach, and Gerupuk Beach. Domestic and international tourists who visit beaches in Lombok contribute to improving the welfare of the local population. The main contribution of the marine tourism sector to local communities in Lombok is that this sector employs service providers, ranging from tour guides to culinary, transportation, diving, and snorkeling training.

Mangroves are one of the essential blue economic sectors on Lombok Island. Mangrove management on Lombok Island is an effort to protect coastal ecosystems and implement the blue economy concept. Apart from functioning to maintain environmental balance and reduce the impact of climate change, mangroves can prevent erosion, flooding, seawater intrusion, and pollution. Mangrove plants are also attractive to tourists, such as those in East Lombok. This makes this area ecotourism that offers natural beauty and biodiversity, even though its management is not optimal (Idrus, Syukur, & Zulkifli, 2019).

### The Challenge and Potential Traps

This section discusses the research results by analyzing the data collected through in-depth interviews with informants observing the pearl, seaweed, fishery, and marine tourism sectors. Analysis and discussion of the Blue Economy practices in four sectors revealed obstacles and could become traps. This research found factors that can become obstacles, namely (a) human resources, (b) financial, (c) infrastructure, and (d) politics.

#### a. Human resources

Talented human resources are essential in realizing the Blue economy. However, the potential for the Blue Economy development can be a trap because of human resources factors, including the mindset of an 'easy life' lifestyle, underqualified human resources, lack of knowledge about the Blue Economy, and low literacy and low engagement. These problems do not support the development of the Blue Economy. For example, in pearl cultivation, the low involvement of the Lombok community was caused by the community not having skills in the sector and the technology transfer process not working. The majority of the people of Lombok are only involved in manual labor. Even though companies want to provide training to improve the quality of local human resources, community participation or interest in training programs remains low. In addition, the pearl cultivation process involves unique technology and skills so that not all parties can do it, especially if there is no technology transfer process to the local community (interview with INF02, INF05, INF07).

In contrast to the pearl farming sector, the seaweed cultivation sector significantly improves the welfare of the people on Lombok Island. The local people can practice seaweed cultivation independently because the cultivation process is fast and does not require large amounts of capital. The local people are directly involved in the process, from cultivation to selling seaweed products. However, this sector still faces challenges, primarily related to the local people's lack of skill and know-how to increase the seaweed products to export value that contributes to their welfare. Seaweed cultivation is



a flagship program in the marine and fisheries sector in West Nusa Tenggara Province due to the combination of factors such as the suitability of water quality in the province, simple technology, relatively low investment, and fast harvest time (Interview with INF05). In other words, the seaweed sector can develop well in Lombok due to inexpensive technology, labor intensive, and low skill; local communities can be directly involved in and practice seaweed cultivation independently. Although the seaweed sector can contribute to the welfare of local communities, there is potential that this sector has not been fully utilized in its processing and sales due to low skill (interview with INF02). Developing human resource skills is one of the keys to adding to the sale value of seaweed. Lack of education causes the potential of marine resources not to be utilized optimally.

The low literacy of the Blue Economy can harm the ocean ecosystem. Researchers found several challenges from natural and non-natural conditions for the potential in this sector. Non-natural challenges come from the behavior of fishing communities, which still use destructive fishing methods, such as using potassium or bombs (interview with INF05). These methods are unique in Lombok and other parts of Indonesia, such as in Kotania Bay and Seram Island, as Hutubessy et al. (2014) have suggested. This practice can potentially damage fish habitat, making fish unable to breed in that area. The limited technology fishermen use is also a challenge because most Lombok fishermen use small boats. The limited ability of local people in fish processing is a disadvantage compared to large companies with a higher selling value.

The mindset factor is crucial. Mindset is related to the habit of thinking and how to deal with problems. The local people generally are not used to thinking in an integrative way. The Blue Economy requires transforming thinking from a compartmentalized to an integral way of thinking. The practice of a sedentary life is a tradition passed down for generations in Lombok Island. Some groups of fishermen in an area will pass this work on to their children without wanting to move up socially. However, if they receive a significant income from the sale, they use it for fun (interview with INF01). The problem of human resources is still complicated in Lombok. Blue Economy development not followed by increased human resource skills will eliminate the opportunity for the Blue Economy to become a vehicle for increasing welfare. Awareness needs to be instilled early so that the Blue Economy is not a government-induced project without being followed by the literacy of this concept in society.

#### b. Financial support

Apart from human resources, financial support is one of the biggest challenges in implementing the blue economy in Lombok. Blue economy funding schemes in Indonesia are minimal. As a result, investment in maritime remains low compared to land investment (Interview with INF08). This is in line with Sustainable Development Goal (SDG) 14, Life Underwater, which receives the most minor investment compared to other goals in the SDG.

In the pearl cultivation sector, this sector could improve people's welfare in Lombok. However, the reality shows the opposite. Significant findings related to the pearl farming sector in Lombok found from big data indicate that the sector is dominated by foreign investors, starting from the cultivation process to the export of pearls. While the involvement of the local community is relatively low, the pearl farming sector contributes a little to improving the welfare of the people in Lombok.

The dominant roles of foreign investors in the pearl cultivation sector. Based on big data analytics, it is found that external parties dominate pearl cultivation in Lombok Island or foreign investors through subsidiaries or Limited Liability Companies established and operating in Indonesia. For example, PT Autore Pearl Culture, a subsidiary of Autore Pearls Pty Ltd, is an Australian-based major player in the pearl business on the island. According to big data analytics, twenty-



nine (29) exporters in the pearl business in Lombok are dominated by foreign businesses. Based on this fact, pearl cultivation hanya bisa dilakukan oleh pihak bermodal besar. An observer we interviewed stated that, in the pearl farming sector, the main reason behind the dominance of foreign investors in this sector is related to capital. Pearl cultivation requires high operational and production costs (Interview with INF07). In addition, the cultivation process takes three to five years, from injecting the seeds to harvesting. The process of injecting seeds requires special skills and must bring in experts from overseas, such as Japan and China. Furthermore, during the cultivation process, pearl cultivators must have sufficient capital to build facilities and infrastructure, such as cages, and operational costs for maintenance or cleaning of shell houses, which involve divers and are carried out routinely (Interview with INF02). In addition, pearl cultivation requires extensive capital and operational costs, while the production process takes between three and five years, it is understandable why foreign investors still dominate pearl cultivation. It can be seen that the nature of the pearl farming sector, which requires significant capital and specific technology, allows foreign investors to dominate, leaving little room for the people of Lombok to receive benefits from this sector to improve their welfare.

Blue financing is urgent because the State Revenue and Expenditure Budget can only meet around 20 to 25 percent of the financing needs for blue economy development. The shortfall will be funded by sovereign blue bonds and blue loans, which are innovations that allocate funds exclusively for environmentally friendly projects and protecting clean water resources (interview with INF06). The Indonesian government issued the first sovereign blue bond in May 2023 as an alternative to financing the blue economy. The first sovereign blue bonds offered to the public are equivalent to 20.7 billion Yen (Indonesia.go.id, 2023). This funding will target many development programs in coastal and marine areas. Blue funding instruments will be loans, trust funds (grant /trust funds), or mixed funding (blended finance) involving the public and private sectors.

#### c. Infrastructure

The blue economy is a new concept in Indonesia and still has many challenges, including inadequate infrastructure; hence, the marine sector is not developing well. Poor infrastructure means that marine resources do not directly have a significant impact on the people of Lombok. Some evidence showed, for example, in marine fishery products, has informed several fishery and marine products are exported: tuna, snapper, grouper, octopus, sea cucumbers, pearls, lobsters, and shrimp. Some commodities, such as lobsters, are exported to China and Vietnam, and tuna to Japan and the United States. However, they were not shipped directly from Lombok; instead, they were sent via Bali (interview with INF05). A supplier of tuna and octopus also explained the involvement of third parties outside Lombok. Instead of being sent from Lombok's ports, the products are sent via Surabaya (in East Java) due to the inability of processing or packaging facilities for marine products and the absence of fish and marine product exporters in Lombok (interview with INF06).

Another example is marine tourism. This sector grows organically and is still poorly managed, although there are specific destinations for tourists to go to diving, snorkeling, and surfing. Marine tourism in Lombok develops according to what it is and has not been professionally managed in a planned manner. The private sector has not been involved in developing the infrastructure of marine tourism, except in the recent development of the luxurious but alienated Mandalika project in central Lombok (interview with INF04). In addition, in the mangrove sector, the mangrove ecosystem in Lombok is also used as a tourist destination. For example, there is a mangrove area in Seruni Mumbul, East Lombok, Gili Meno, and West Lombok. However, developing tourism-based mangrove ecosystems still requires government assistance, especially in procuring infrastructure that is not possible for coastal communities to develop themselves. The creative economic



utilization of the mangrove ecosystem has not been maximized. For example, the community has not learned how to process mangrove fruit and leaves into various products, such as mangrove fruit, which can be processed into food, while the leaves can be processed into body cleaning products (interview with INF05).

Several infrastructure developments to support the blue economy have recently created new problems for local communities, as seen in the Mandalika SEZ, developed with the blue economy premium tourism concept. The Mandalika SEZ infrastructure development has resulted in violations of human rights, caused environmental damage, marginalized the customary rights of local communities, and land grabbing, all of which are contrary to the principles of the Blue Economy.

#### d. Politics

Since 1989, Indonesia has promoted private ownership rights in the fisheries management approach, known as the Rights Based Fisheries/RBF. However, the fisheries rights approach has also been subject to adjustments using various means by stakeholders. Individual property rights in the fisheries sector in various forms can be transferred or traded in a market mechanism and are free from state interference. However, the fulfillment of human rights became violated when the government implemented a proprietary rights-based fisheries approach in the form of transferable individual quotas (interview with INF08). Stakeholders strive to keep all small-scale fisheries actors trapped in private ties. This fact can be seen from setting quotas for the number of fish catches that are the rights of individuals or the private sector and can be transferred.

The rights-based fisheries management also influences the regulation of coastal areas and small islands as stipulated in Law No.27/2007 and passed down through regional regulations regarding zoning plans for coastal areas and small islands (RZWP3K). This arrangement divides the sea utilization area into capture fisheries, tourism, and sea transportation. In addition, the sea area is divided for other activities that have great potential, such as offshore marine energy, aquaculture, underwater mining and marine biotechnology, and exploration of natural medicinal products. However, all these activities marginalize the fishing community because fishermen are forced to compete in using the sea. The marginalization of fishermen results from the framework of the Blue Economy beneficiary model being echoed by the label of a sustainable Blue Economy. However, the label is nothing more than a form of modification in utilizing marine resources with claims of concern for saving and conserving the marine environment. This fact ignores the fishing community's essential role in maintaining marine ecosystems' sustainability (Interview with INF03). The statement of the Executive Chairman of the Central Executive Board of the Indonesian Traditional Fishermen Association, Marthin Hadiwinata, confirms this. He asserts that all forms of cooperation and commitment to drafting laws in Indonesia are carried out without involving elements of civil society. Indonesia's fisheries and marine sectors are mainly driven by small-scale fishing activities, including pre-production, during production, post-production in processing, and marketing (Ambari, 2018).

# Conclusion

Despite having abundant marine resources, many countries lack integrated policies on how they should be implemented to empower local society and improve the local economic well-being. Five years after the end of the Blue Economy pilot project, Lombok Island has not moved toward the common goal, namely creating prosperity for the people of Lombok. Five years may be too short to evaluate the project's success, but there has been no significant change in the results of implementing the project. Almost all informants indicated the difficulty of implementing the Blue Economy in Lombok.



Therefore, the potential of Lombok's Blue Economy has not been utilized to alleviate poverty on the island. The enormous marine potential of this island cannot be used as capital and provide maximum benefit for the welfare of its people. This fact contrasts with the various efforts that the national government and local governments have made to make Lombok Island a Blue Economy pilot area.

In general, it can be seen that the implementation of the Blue Economy in Lombok has experienced many obstacles because the ocean in Indonesia is a space for open competition (*mare liberum*). The *mare liberum* doctrine encourages the over-exploitation of marine resources. This doctrine is the basis of the concept of the sea as open access, where the sea is positioned as a space for competition between society and large-scale industry. Hence, anyone with power can exploit the resources. Based on this fact, the blue economy encourages industrial growth that prioritizes private investment. There are difficulties in implementing the blue economy, especially in developing countries with various limitations, such as Indonesia. Furthermore, since the concept of the blue economy originates from the global north, the adaptation becomes complicated. Adopting the blue economy in Indonesia's National Long Term Development Plan (RPJPN) 2025-2045 is a big challenge for the government. The government's ambitions in implementing the blue economy can be counterproductive and, in the long run, can result in ocean grabbing.

The stagnation in implementing the Blue Economy in Lombok is part of the unsustainable poor marine governance since the independence of Indonesia. This fact reflects the difficulty of transforming the broad national-wide mindset from a land-based to a marine/ocean-based mindset. Land-based extraction has benefited a few people for decades but has harmed many, including the environment and marginalized communities. Meanwhile, the maritime sector has contributed to Indonesia's food security, but generally, it has not been able to provide welfare to them, especially those living on small islands. Most people on small islands live in poverty despite the abundant marine resources surrounding them. The people who work in the maritime sector are primarily traditional fishermen with various limitations, such as small capital, small boats, low-skilled, and lack of awareness of the importance of self-development.

Implementing the Blue Economy in Indonesia, in general, and in Lombok, in particular, faces several challenges, so the potential expected from the sea cannot be fully utilized. Although improvements and collaboration between ministries and agencies are needed, as well as the involvement of various civil society, the Blue Economy target can damage Indonesia's marine resources. The problem of the Blue Economy in Lombok has left a lot of 'homework' for the maritime sector in Indonesia. Many regulations related to the Blue Economy do not support the welfare of the local people, which is contrary to the spirit of the Blue Economy. For example, the Regional Regulation) Zoning Plan for Coastal Areas and Small Islands (RZWP3K) is a legal affirmative for spatial control of the coast, sea, and small islands for the benefit of capital and a form of legal marginalization of local communities through regulations. In addition, the change in ocean ownership from public ownership to closed ownership leaves no space for local people to implement the Blue Economy. Moreover, the involvement of large corporations that do not involve local people makes the Blue Economy counterproductive for poverty reduction efforts. Policies under the umbrella of the Blue Economy are very profitable for corporations, namely scalable fishing. This policy is a derivative of the 2020 Job Creation Law, which provides a golden opportunity for large corporations to exploit marine and fishery resources. This fact shows that the Blue Economy is a top-down, government-induced policy and elitist.

The limitation of the research is the unavailability of the informants. Although we have interviewed eight informants, the information we have gathered is far from enough to comprehensively understand the real problems in the field. Another limitation is the time constraint since the researchers lacked time to visit many targeted areas. We suggest that future research can overcome these obstacles, as issues in this research must be more broadly developed. The island's drivers



of the Blue Economy provide extensive opportunities for other researchers. The Blue Economy project needs integrative measures involving different stakeholders. This concerted action is dubbed 'Quintuple Helix.'

# References

Asia Development Bank (2014). State of The Coral Triangle: Indonesia. https://www.adb.org/sites/default/files/publication/42409/state-coral-triangle-indonesia.pdf

Alba, K. & Kontogiorgos, V. (2018). Seaweed Polysaccharides (Agar et al.). *Reference Module in Food Science*. DOI: 10.1016/B978-0-08-100596-5.21587-4. https://www.researchgate.net/publication/323844190\_Seaweed\_Polysaccharides\_Agar\_Alginate\_Carrageenan

Ambari, M. (2017). Pulau Lombok Jadi Kawasan Percontohan Penerapan Ekonomi Biru, Seperti Apa Itu? [Lombok Island Becomes a Pilot Area for the Implementation of the Blue Economy, What Is It Like] https://www.mongabay.co.id/2017/09/21/pulau-lombok-jadi-kawasan-percontohan-penerapan-ekonomi-biru-seperti-apa-itu/

Antara (2014). Lombok Timur dan Tengah percontohan "ekonomi biru". [East and Central Lombok, a pilot of the "Blue Economy"]. https://bengkulu.antaranews.com/berita/26698/lombok-timur-dan-tengah-percontohan-ekonomi-biru

antaranews.com. (2014, February 19). Minister inaugurates "house of Indonesian pearls" on Lombok Island. Retrieved October 2023, 17, from https://en.antaranews.com/news/92756/minister-inaugurates-house-of-indonesian-pearls-on-lombok-island#:~:text=West%20Nusa%20Tenggaras%20pearl%20cultivation,countries%20by%2038%20pearl%20businessmen.

Antaranews (2012). Yudhoyono optimistic world able to create sustainable future. https://en.antaranews.com/news/82989/yudhoyono-optimistic-world-able-to-create-sustainable-future

Antono, T. (2017, March 07). Mandalika Siap Implementasikan Konsep Ekonomi Biru IORA. [Mandalika is Ready to Implement the IORA Blue Economy Concept] Retrieved October 17, 2023, from https://infopublik.id/read/191879/index.html

bappenas.go.id. Bappenas Luncurkan Blue Economy Development Framework For Indonesia's Economic Transformation [Bappenas Launches Blue Economy Development Framework For Indonesia's Economic Transformation] (2021). https://www.bappenas.go.id/id/berita/bappenas-luncurkan-blue-economy-development-framework-for-indonesias-economic-transformation-NNTgJ

Benjaminsen, T. A. and Bryceson, I. (2012). Conservation, green/blue grabbing and accumulation by dispossession in Tanzania. *The Journal of Peasant Studies*, 39 (2): 335-355

Brears, R. C. (2021). Developing the Blue Economy. Palgrave MacMillan.

Bennett, N.J., Cisneros-Montemayor, A.M., Blythe, J. et al. (2019). Towards a sustainable and equitable Blue Economy. *Nat Sustain* 2, 991–993. https://doi.org/10.1038/s41893-019-0404-1

BKPM. (2017). Blue Economy holds the key to Indonesia's sustainable prosperity. 2017. https://www.bkpm.go.id/en/publication/detail/news/blue-economy-holds-the-key-to-indonesias-sustainable-prosperity

Cisneros-Montemayor, A.M., Moreno-Báez, M., Reygondeau, G. et al. (2021). Enabling conditions for an equitable and sustainable Blue Economy. *Nature* 591, 396–401. https://doi.org/10.1038/s41586-021-03327-3

Dinarto, D. (2017). Indonesia's Blue Economy Initiative: Rethinking Maritime Security Challenges. Singapore: RSIS

Ditjen Agro Industri, (2020) Berorientasi Ekspor, Industri Olahan Rumput Laut Sumbang Devisa 96 juta USD. [Export Oriented, Seaweed Processing Industry Contributes USD 96 million in Foreign Exchange]. Export Oriented, Seaweed Processing Industry Contributes USD 96 million in Foreign Exchange].

Dornan, M., Morgan, W., Cain, T.N, Tarte, S. (2018). What's in a term? "Green growth" and the "blue-green economy" in the Pacific islands. *Asia Pac Policy Stud.* 5, 408–425.



Idrus, A., Syukur, A., & Zulkifli, L. (2019). The livelihoods of local communities: Evidence success of mangrove conservation on the coastal of East Lombok Indonesia. *Proceedings of the 2nd International Conference on Bioscience, Biotechnology, and Biometrics 2019* (pp. 1-7). AIP Conference Proceeding 2199. https://doi.org/10.1063/1.5141308

Indonesia.go.id. (2022, February22). Hasil Laut Indonesia Masih Primadona Pasar Dunia. [Indonesian Sea Products Are Still the Favorite of the World Market]. Retrieved October 20, 2023, from https://indonesia.go.id/kategori/editorial/4226/hasil-laut-indonesia-masih-primadona-pasardunia?lang=1

Indonesia.go.id. (2023, October 05). AIS Forum Dorong Negara Pulau dan Kepulauan Terbitkan Sovereign Blue Bond Lewat Pedoman Strategis Pembiayaan Biru. [AIS Forum Encourages Island and Island Countries to Issue Sovereign Blue Bonds Through Blue Financing Strategic Guidelines]. Retrieved October 23, 2023, from https://www.indonesia.go.id/kategori/siaran-pers-ais-forum-2023/7594/siaran-pers-ais-forumdorong-negara-pulau-dan-kepulauan-terbitkan-sovereign-blue-bond-lewat-pedoman-strategis-pembiayaan-biru?

Juneja, M, De Souza, C. Giriyan, A.L, and Ganeshan, S. (2021). Contextualising Blue Economy in Asia-Pacific Region Exploring Pathways for a Regional Cooperation Framework. The Energy and Resources Institute (TERI), India.

Kementrian Kelautan dan Perikanan (2021). Peraturan Menteri Kelautan dan Perikanan Republik Indonesia Nomor 28 Tahun 2021 Tentang Penyelenggaraan Penataan Ruang Laut. [Regulation of the Minister of Maritime Affairs and Fisheries of the Republic of Indonesia Number 28 of 2021 concerning Implementation of Marine Spatial Planning]. https://jdih.kkp.go.id/peraturan/b3a7c-permen-kp-28-tahun-2021.pdf

Kotze, J. (2019). A Blue Economy for Women's Economic Empowerement. Report, United Kingdom Foreign and Commonwealth Office.

Lamont, C. (2015). Research Methods in International Relations. London: SAGE.

Latupapua, C., Hiariey, H., Atamimi, R., Latuihamallo, J., & Latuconsina, Z. (2022). Edukasi Masyarakat Negeri Sawai; Optimalisasi Potensi Usaha di Desa Wisata Berbasis Ekonomi Biru. *Jurnal Pendidikan Tambusai*, 6(2), 13-19.

Lee, Ki-Hoon, Noh, J, Khim, J.S, (2020). The Blue Economy and the United Nations' sustainable development goals: Challenges and opportunities. *Environment International*, Volume 137, 1-6. https://doi.org/10.1016/j.envint.2020.105528.

Maeyangsari, D. (2023). Ekonomi Biru sebagai Upaya Pembangunan Berkelanjutan dan Pemenuhan Hak Asasi Manusia. [Blue Economy as an Effort for Sustainable Development and Fulfillment of Human Rights]. *Perspektif Hukum*, 23(1), 106-126. https://doi.org/10.30649/ph.v23i1.172

Mahardianingtyas, S.; Safitra, D.A; Agustio, A. (2018). A Blue Economy for Better Economic Development: A Case Study of East Nusa Tenggara, Indonesia. Advances in Economics, Business and Management Research. 89, pp. 165-173. Atlantis.

Obura, D. (2020). Getting to 2030 - Scaling effort to ambition through a narrative model of the SDGs. *Marine Policy*, 117, 1-12. https://doi.org/10.1016/j.marpol.2020.103973

Pauli, G. (2010). The Blue Economy: 10 Years, 100 Innovations, 100 Million Jobs. Brookline, Mass.: Paradigm Publications.

Poseidon. (2014). Implementation of the Blue Economy Concept in Lombok Island Indonesia. https://consultposeidon.com/asp/publicproject.asp?topic=1&valueid=1336

Pungetti, G. (2012). Islands, culture, landscape and seascape. *Journal of Marine and Island Cultures* 1 (2): 51-54. DOI: 10.21463/jmic.2012.01.2.01

Putri, C. (2019, October 08). Kembangkan Mandalika, Ini Saran Mantan Menko Maritim Pertama. [Develop Mandalika, This is the First Former Coordinating Minister for Maritime Affairs' Advice]. Retrieved October 17, 2023, from https://www.cnbcindonesia.com/news/20191008205441-4-105428/kembangkan-mandalika-ini-saran-mantan-menko-maritim-pertama

Golden, J., Virdin, J., Nowacek, D. et al. (2017). Making sure the Blue Economy is green. *Nat Ecol Evol* 1, 0017. https://doi.org/10.1038/s41559-016-0017

Hong, Sun-Kee (2019). The Role of Ecological Diversity and Identity for Sustainable Development of Island. *Journal of Marine and Island Cultures* 8 (1): 36-47. DOI: 10.21463/jmic.2019.08.1.04



Hutubessy, B.G.; Mosse, J.W; van Zwieten, P.A.M; Hayward, P. (2014). Towards an ecosystem approach to small island fisheries: A preliminary study of a balanced fishery in Kotania Bay (Seram Island, Indonesia). *Journal of Marine and Island Cultures* 3 (2): 98-105. DOI: 10.1016/j.imic.2014.09.001

Idrus, A., Syukur, A., & Zulkifli, L. (2019). The livelihoods of local communities: Evidence success of mangrove conservation on the coastal of East Lombok Indonesia. *Proceedings of the 2nd International Conference on Bioscience, Biotechnology, and Biometrics 2019* (pp. 1-7). AIP Conference Proceeding 2199. https://doi.org/10.1063/1.5141308

Patil, P.G.; Virdin, J.; Colgan, C.S.; Hussain, M.G.; Failler, P.; Vegh, T. (2018). *Toward a Blue Economy : A Pathway for Bangladesh's Sustainable Growth*. World Bank, Washington, DC. © World Bank. https://openknowledge.worldbank.org/handle/10986/30014 License: CC BY 3.0 IGO.

Pranita, E. (2021). 10 Biota Laut dengan Nilai Ekonomis Tinggi di Lombok, dari Sotong Buluh hingga Teripang. [10 Marine Biota with High Economic Value in Lombok, from Cuttlefish to Sea Cucumbers]. *Kompas*. https://www.kompas.com/sains/read/2021/08/26/120300723/10-biota-laut-dengan-nilai-ekonomis-tinggi-di-lombok-dari-sotong-buluh?page=all.

Prayuda, R. & Sary, D.V. (2019). Strategi Indonesia dalam Implementasi Konsep Blue Economy. [Indonesia's Strategy in Implementing the Blue Economy Concept]. *Indonesian Journal of International Relations*, 3(2), 46-64.

Putra I G.B.N.P. & Larasdiputra G.D. (2020). The Blue Economy: A Solution to The Downfall of Bali Tourism. RJOAS, 11(107), 33-41.

Rani, F. & Wulandari, C. (2015). Motivasi Indonesia Dalam Menerapkan Model Kebijakan Blue Economy Masa Pemerintahan Joko Widodo. [Indonesia's Motivation in Implementing the Blue Economy Policy Model in Joko Widodo Era]. *Jurnal Transnasional*, VII(1), 1914-1928.

Renur, A. N.; Retraubun, A.S.W.; Fahrudin, A.; Solihin, D.; Kusumastanto, T. (2020). *Blue economic in Maluku Province, Indonesia: where do we start*? IOP Conf. Series: Earth and Environmental Science, (pp. 1-6).

Roy, A. (2019). Blue Economy in the Indian Ocean: Governance Perspectives for Sustainable Development in the Region. ORF Occasional Paper No. 181, Observer Research Foundation.

Sarwar S, Waheed R, Aziz G, Apostu SA. (2022). The Nexus of Energy, Green Economy, Blue Economy, and Carbon Neutrality Targets. *Energies* 15(18):6767. https://doi.org/10.3390/en15186767

Smith-Godfrey, S. (2016). Defining the Blue Economy. *Maritime Affairs: Journal of the National Maritime Foundation of India*, 12:1, 58-64, DOI: 10.1080/09733159.2016.1175131

S N Adiprayoga & Joko Samiaji. (2021). Opportunities and Strategies for the Blue Economy Through the Empowerment of Sumatera Coastal Communities in Supporting the Realization of the National Food Security. IOP Conference Series: Earth and Environmental Science.

Striani, F. (2020). Green and Blue Economy. International Journal of Environmental Sustainability and Green Technologies, 11(2), 16–33. DOI: 10.4018/IJESGT.2020070102

Suarantb.com (2021). Meningkat Jumlah Penduduk Miskin di Lotim. [The Number of Poor People in Lotim Increased]. https://www.suarantb.com/meningkat-jumlah-penduduk-miskin-di-lotim/, 2021

Taebenu, M.M. (2020). Blue Grabbing Amidst the Application of Blue Economy: the Case of Indonesia. Jurnal Ilmu Pemerintahan Suara Khatulistiwa, 5(2), 48-71. https://doi.org/10.33701/jipsk.v5i2.1380

Uly, Y. A (2021). Indonesia Perlu "Blue Economy", Apa Itu? [Indonesia Needs the Blue Economy. What Is This?] https://money.kompas.com/read/2021/08/16/121100426/indonesia-perlu-blue-economy-apa-itu-?page=all.

Voyer, M; Farmery, A.K; Kajlich, L; Vachette, A; Quirk,G. (2020). Assessing policy coherence and coordination in the sustainable development of a Blue Economy. A case study from Timor Leste. *Ocean & Coastal Management*, Volume 192, 2020, https://doi.org/10.1016/j.ocecoaman.2020.105187.

Wenhai L, Cusack C, Baker M, Tao W, Mingbao C, Paige K, Xiaofan Z, Levin L, Escobar E,

Amon D, Yue Y, Reitz A, Neves AAS, O'Rourke E, Mannarini G, Pearlman J, Tinker J, Horsburgh KJ, Lehodey P, Pouliquen S, Dale T, Peng Z and Yufeng Y (2019). Successful Blue Economy Examples With an Emphasis on International Perspectives. *Front. Mar. Sci.* 6:261. DOI:



#### 10.3389/fmars.2019.00261

Wijayanti, A., & Ramlah, R. (2022). Pengaruh Concept Blue Economy Dan Green Economy Terhadap Perekonomian Masyarakat Kepulauan Seribu. [The Influence of the Blue Economy and Green Economy Concepts on the Thousand Islands Community's Economy]. *Owner: Riset Dan Jurnal Akuntansi*, 6(3), 2875-2886. https://doi.org/10.33395/owner.v6i3.906

The World Bank. (2017). What is the Blue Economy? https://www.worldbank.org/en/search?q=blue+economy

The World Bank (2021). Conserving Oceans in the Eastern Seas of an Indonesian Archipelago. https://www.worldbank.org/en/news/feature/2021/06/07/conserving-oceans-in-the-eastern-seas-of-an-indonesian-archipelago

Zamroni. A.; Nurlaili; Witomo, C.M (2018). Peluang Penerapan Konsep Blue Economy pada Usaha Perikanan di Kabupaten Lombok Timur [Opportunities for Applying the Blue Economy Concept to Fisheries Businesses in East Lombok Regency]. Buletin Ilmiah "MARINA" Sosial Ekonomi Kelautan dan Perikanan 4 (2): 39-44.

