

## The Ideal Concept of Integrated-Based Ngrenehan Coastal Management for Community Welfare (*Integrated Coastal Zone Management Approach*)

Berliant Pratiwi<sup>1</sup>✉, Sunarno<sup>2</sup>, Izzy Al Kautsar<sup>3</sup>

<sup>1,2,3</sup> Magister Hukum, Universitas Muhammadiyah Yogyakarta, Indonesia

E-mail Korespondensi: Berliant.p.psc19@mail.umy.ac.id

---

### Article Process Abstract

**Submitted:**  
11-2-2022

**Reviewed:**  
18-4-2022

**Revised:**  
15-8-2022

**Accepted:**  
20-8-2022

**Published:**  
29-9-2022

*This study examines the ideal concept of integrated-based coastal area management for community welfare. This study aims to analyze the management of coastal areas at Ngrenehan Beach and describe the ideal concept of managing coastal areas at Ngrenehan Beach with an ICZM approach in the future. This study uses a legal, social research method with a conceptual approach. The results of this study are (1) the Kanigoro village government provides solutions in the form of public policies that reflect the integrated management of coastal areas based on the tourism economy, community empowerment, and a sustainable environment; (2) elements of human resources, village infrastructure, and stakeholder communication are still problems that need solutions related to optimizing their implementation. These three elements are the principal basis of an integrated-based management pyramid. If these elements have not been implemented optimally, it is feared that the process of village development and development to become an empowered and civilized village will be hampered.*

**Keywords:** first keyword, second keyword, third keyword

### Abstrak

Penelitian ini mengkaji tentang konsep ideal pengelolaan kawasan pesisir berbasis terpadu untuk kesejahteraan masyarakat di pesisir Ngrenehan Desa Kanigoro, Gunungkidul. Tujuan dari penelitian ini adalah untuk menganalisa pengelolaan kawasan pesisir di Pantai Ngrenehan serta mendeskripsikan konsep ideal pengelolaan kawasan pesisir di Pantai Ngrenehan dengan pendekatan ICZM di masa depan. Penelitian ini menggunakan metode penelitian sosial legal dengan pendekatan konsep. Hasil dari penelitian ini adalah (1) pemerintah desa Kanigoro memberikan solusi berupa kebijakan publik yang mencerminkan intergalisasi pengelolaan kawasan pesisir yang berbasis ekonomi wisata, pemberdayaan masyarakat dan lingkungan yang berkelanjutan; (2) unsur sumber daya manusia, infrastruktur desa, dan komunikasi stakeholder masih menjadi masalah yang perlu diberikan solusi terkait optimalisasi pelaksanaannya. 3 unsur ini, menjadi dasar utama piramida manajemen yang berbasis terpadu, jika unsur-unsur ini belum dilaksanakan secara optimal, ditakutkan proses perkembangan dan pengembangan desa untuk menjadi desa yang berdaya dan madani akan terhambat.

**Kata kunci:** kata kunci pertama, kata kunci kedua, kata kunci ketiga

---

## I. Introduction

Indonesia is an archipelagic country consisting of about 1750 islands with a coastline of about 81,000 km. Along this coast, there is a relatively narrow coastal area but the potential for biological and non-biological natural resources. Artificial resources and environmental services are essential for human life.<sup>1</sup> These capabilities must be managed in an integrated manner for sustainable use. According to Suprihayono, the meaning of a coastal area is a meeting area between land and sea towards the land. The coastal area includes parts of the land, both dry and

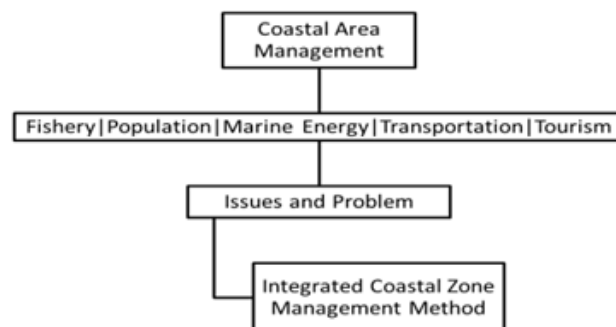
---

<sup>1</sup> Evi Safira, "Pengembangan Sumberdaya Pesisir Yang Berkelanjutan Di Ulele Kota Madya Banda Aceh," *Serambi Konstruktivis* 2, No. 2 (2020): 84-91.

submerged in water, which is still influenced by the characteristics of the sea, such as tides, sea breezes, and saltwater. The coastal area includes the part of the sea that is still influenced by natural processes occurring on lands such as sedimentation and freshwater flow and those caused by human activities on land such as deforestation and pollution.<sup>2</sup>

In the eyes of the world, Indonesia gets one of the most famous nicknames; the nickname is "The country of Mega Biodiversity."<sup>3</sup> This means that Indonesia is the largest archipelagic country in the world, with more than 65% of the sea area,<sup>4</sup> Indonesia has enormous economic development potential. The potential is in natural resources such as coral reefs, mangrove forests, sandy beaches, or artificial resources such as ponds, tourism areas, industrial areas, and transportation.<sup>5</sup> However, the contribution of the marine sector is still relatively small for the national economy.<sup>6</sup> Coastal and oceanic areas in Indonesia have abundant natural resources, which at the same time contain various problems that need to be handled in an integrated manner.<sup>7</sup> According to Clark, coastal areas have one of its meanings because coastal areas are part of the interface between land and sea ecosystems and have the vibrant potential for natural resources and environmental services.<sup>8</sup>

Looking back at the background of the state of Indonesia as a state of law, precisely in one of the articles in the 1945 Constitution, precisely in Article 33, the regulation regarding the utilization and management of natural resource wealth, especially in the coastal areas, is the use and management of it. Must be solely based on the realization of social welfare.<sup>9</sup> Another meaning described in Article 33 of the 1945 Constitution also explains that every utilization and management of natural resources must always create benefits for the surrounding community and, of course, not result in the emergence of losses that can be felt in the present the future.



**Figure 1.** Scope of Problem Areas in Coastal Zone Management

The existence of Article 33 in the 1945 Constitution means that all kinds of natural resource wealth in the State of Indonesia / owned by the State of Indonesia should be utilized and

<sup>2</sup> Supriharyono, *Konservasi Ekosistem Sumber Daya Hayati Di Wilayah Pesisir Dan Laut Tropis* (Yogyakarta: Pustaka Pelajar, 2007).

<sup>3</sup> I Wayan Yuliarta And Hayatul Khairul Rahmat, "Peningkatan Kesejahteraan Melalui Pemberdayaan Masyarakat Pesisir Berbasis Teknologi Sebagai Upaya Memperkuat Keamanan Maritim Di Indonesia," *Jurnal Dinamika Sosial Budaya* 23, No. 1 (2021): 180-89.

<sup>4</sup> Sadarianto, Syaiful Anwar, And Purwanto, "Pengaruh Pemberdayaan Wilayah Maritim Dan Pelatihan Nelayan Terhadap Kesejahteraan Masyarakat Pesisir Dalam Rangka Mengoptimalkan Strategi Pertahanan Di Desa Gisik Cemandi," *Strategi Perang Semesta* 4, No. 3 (2018): 1-18.

<sup>5</sup> Mukhamad Fredy Arianto, "Potensi Wilayah Pesisir Di Negara Indonesia," *Jurnal Geografi* 10, No. 1 (2020): 204-15.

<sup>6</sup> Dody Yuli Putra, "Peran Sektor Perikanan Dalam Perikonomian Dan Penyerapan Tenaga Kerja Di Indonesia: Analisis Input-Output," *Jurnal Maritime Economy* (2011).

<sup>7</sup> Putri Intan Kinasih And Hartuti Purnaweni, "Pemanfaatan Mangrove Untuk Pemberdayaan Masyarakat Pesisir," In *Collaborative Governance Dalam Pengembangan Pariwisata Di Indonesia* (Semarang: Universitas Diponegoro, 2019).

<sup>8</sup> John R Clark, *Coastal Zone Management Handbook* (New York: Lewis Publisher, 1996).

<sup>9</sup> Mohammad Mahrus Ali, Zaka Firma Aditya, And Abdol Based Fuadi, "Coastal Communities Protection Of Constitutional Rights: The Urgency Of Harmonization Of Integrated Coastal Zone Management," *Jurnal Konstitusi* 17, No. 4 (2020): 799-827.

managed to meet all kinds of community needs and in order to create prosperity. in life but on the other hand, still, pay attention to environmental sustainability. The wealth in the form of natural resources can be enjoyed in the present and the future.<sup>10</sup> This also gives an idea that the existence of the wealth of natural resources has two functions in human life, the two functions are:

- a. Resource-Based Economy;
- b. Life Support System.

Marine products are the primary source of livelihood for coastal communities who live from marine products, or it can even be said that the economic base of coastal communities is in the fishery sector. The high element of uncertainty in fishing, especially for coastal communities, has become a growing general perception regarding fishers' families' needs and generally coastal communities. The history of poverty in families who depend on what the sea provides them often illustrates the pressure situation in this sector. Presented by Fadel Muhammad,<sup>11</sup> Currently, many fishers live below the poverty line, and it is pursued by the existence of regulations regarding fishers hoping to improve welfare even better than before. This statement follows the conditions of fishers on the coast, who are still struggling with poverty. The income earned by fishers and small fishermen is insufficient for their daily needs. In addition to the consumptive culture, low income has caused them to be trapped in a cycle of debt. Their most significant expenses are used to pay off debts, shop for daily necessities and pay school fees. The income from fishing is immediately depleted, so they are in debt again, and it is difficult to get out of poverty. If that is the case, the women's group is responsible for providing for their family's needs by selling, seeking debt, and mortgaging their belongings.

The community in the coastal area of Ngrenahan Beach, Kanigoro Village, Saptosari District, Gunung Kidul Regency has a dependence on the economic base on the marine sector. However, the high element of uncertainty is going to sea, especially for coastal communities, which has become a growing general perception regarding fishers' families' needs and generally coastal communities. The Kanigoro community's dependence on this marine component is in the form of sea waters to sail for fish, coastal areas to be used as fishing boats to dock or serve as tourist objects, or at least used by the community for trade.

The pressure conditions of coastal communities mentioned above allow them to use all means to exploit marine resources, including methods that are not environmentally friendly.<sup>12</sup> This statement is not just a problem but is a fact that occurs and develops in almost all places on the coast of Indonesia every year. One of the factors that cause coastal communities to have a relatively low economic level is the presence of the west season, which causes residents around coastal areas who make a living from the sea as fishers cannot go to sea.<sup>13</sup> It is necessary to develop alternative livelihoods as one way that must be prioritized.

---

<sup>10</sup> Ananda Prima Yurista, "Implikasi Penafsiran Kembali Hak Menguasai Negara Terhadap Pengelolaan Wilayah Pesisir Dan Pulau-Pulau Kecil," *Jurnal Rechts Vinding* 5, No. 3 (2012): 339-58.

<sup>11</sup> Muhammad Fadel, *Reinventing Local Government: Pengalaman Dari Daerah* (Jakarta: Gramedia, n.d.).

<sup>12</sup> Mariana Kristiyanti, "Pemberdayaan Masyarakat Pesisir Pantai Melalui Pendekatan Iczm ( Integrated Coastal Zone Management )," In *Kajian Multi Disiplin Ilmu Dalam Pengembangan Ipteks Untuk Mewujudkan Pembangunan Nasional Semesta Berencana (Pnsb) Sebagai Upaya Meningkatkan Daya Saing Global*, 2016, 752-60.

<sup>13</sup> Putra, "Peran Sektor Perikanan Dalam Perikeonomian Dan Penyerapan Tenaga Kerja Di Indonesia: Analisis Input-Output."

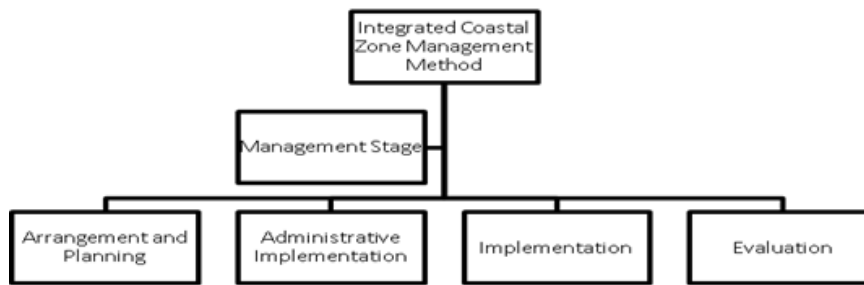


Figure 2. Pillars of the ICZM approach

Communities can improve their living standards by developing new models to optimize the empowerment of coastal communities. The utilization of coastal and marine resources that do not meet the principles of sustainable development significantly affects the ecosystem. Utilizing coastal resources for national development goals will be successful if managed in an integrated manner through an Integrated Coastal Zone Management (ICZM) approach. The ICZM (Integrated Coastal Zone Management) approach is used in optimizing the empowerment of coastal communities. It is hoped that the existence of the ICZM approach will not only increase community economic growth but also ensure that coastal communities enjoy it somewhat and commensurately.

## II. Problems

1. Has the management of coastal areas at Ngrenehan already used the ICZM approach?
2. What is the ideal concept of managing coastal areas in Ngrenehan with the ICZM approach in the future?

## III. Research Methods

Determining the type of research before going into the field is very significant because the type of research is the primary basis for conducting research. Therefore, the type of research is based on the right choice because it will have implications for the whole research. In the research process, researchers use empirical research because the object under study is in the field and function rather than empirical research to analyze the law, which is seen as patterned community behavior in people's lives who constantly interact and relate in social aspects. Therefore, this research is referred to as Sociological Legal Research (socio-legal research).

This study aims to describe the reality that corresponds to the phenomenon thoroughly and collect data from a natural setting by utilizing the researcher himself as a critical instrument as a peeler of the problems to be studied. The researcher uses a qualitative approach as a research process that produces descriptive data in written or spoken words from people or observed behavior.

Given that descriptive data is a method in examining the status of human groups, an object, a condition, a system of thought, or a class of events in the present. Based on this description, it can be stated that this qualitative approach seeks to describe the object of research based on facts and data and events try to connect events or research objects and present them descriptively as well as analyze them based on concepts that have been developed previously, making it easier for researchers to solve problems.

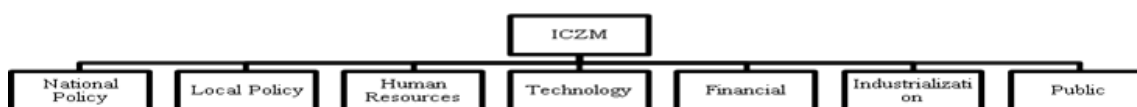
In this study, researchers describe implementing the Integrated Coastal Zone Management concept approach on the Ngrenehan coast, Kanigoro Village, Gunungkidul.

## IV. Results and Discussion

### 1. Coastal Area Management in Ngrenehan

In terms of empowering coastal communities, several factors must be considered, such as the local community's social, economic, environmental, and cultural conditions. The alternative is community empowerment with an integrated and integrated community-based management framework (Integrated Community-Based Management). Community empowerment can be realized if government programs are right on target and optimal; the fact is that the actual implementation of village activities has not shown the results as planned; this is because community participation in the village development process is not maximized. Village development, which should involve community participation, consists of planning, implementing, monitoring, and evaluating. So with the collaboration of community involvement and village development, village development should be through a *bottom-up approach*. In community empowerment, this bottom-up approach is the starting point. The community is involved from an early age, starting from planning, implementing, monitoring, and evaluating the program.

The village development process must be based on integrated processes and programs based on its supporting aspects. These aspects include national, regional, human resources, technology, finance, industry, and society. Each element has its influence on the village management process. For example, national policies are the basis for village policies, village policies themselves are obtained through the evaluation process of local community social problems, human resources will determine the direction of the sustainability of village programs, technology becomes an add-on for villages to be able to follow community social developments, finance becomes capital. Government and community to implement village programs.

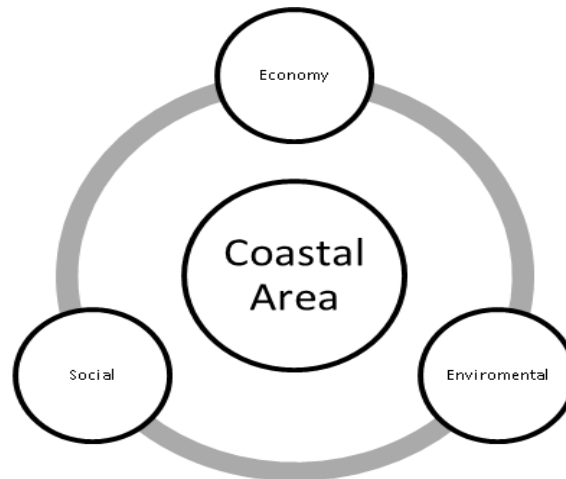


**Figure 3.** The factor of the coastal area management model based on Integrated Coastal Zone Management

The application of the ICZM concept is a form of comprehensive strategic planning in establishing regional regulations to facilitate various stakeholders in making decisions.<sup>14</sup> The following figure describes the process of implementing the ICZM concept. ICZM plays a vital role in efforts to build regulatory and policy frameworks combined with programs and projects to realize initiatives efficiently; here are some of the basics of ICZM, defined by Barragán et al. (2008) as a dynamic continuous, and interactive process designed to promote sustainable development in coastal areas through sectoral policies, strategies and plans in space and time, taking into account the marine and land components of the coastal area.<sup>15</sup> ICZM collects all management and planning processes in a coastal area, procuring the benefits of all the interacting agents in that area their impact on the environment.

<sup>14</sup> Adha Susanto, "Integrated Coastal Zone Management Strategies In Kuala Jelai, Sukamara Regency," *Jurnal Ilmiah Samudra Akuatika* 3, No. 2 (2019): 21-30.

<sup>15</sup> Wei Yuan And Yen Chiang Chang, "Land And Sea Coordination: Revisiting Integrated Coastal Zone Management In The Context Of Community Interest," *Sustainability* 13, No. 15 (2021): 8183.

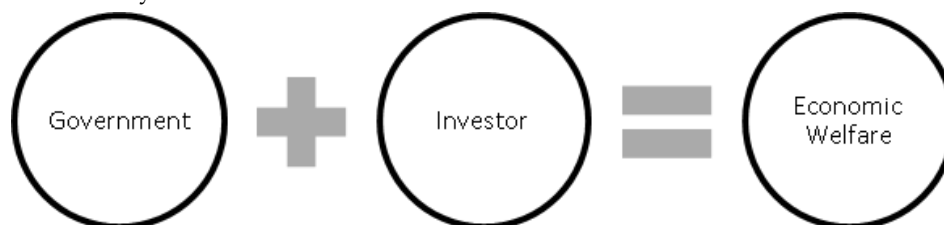


**Figure 4.** Essential Aspects of ICZM in Coastal Zone Management

The existence of integration in the management of coastal areas is something that should be done in order to create a harmonious coastal space and be able to support all sectors in the coastal area. Integration in the management of the coastal area will not only support economic sustainability but also support the area's sustainability.<sup>16</sup> This is a basic form of developing a coastal area.<sup>17</sup>

Primary data obtained in the study in the coastal area of Ngrenehan shows that there is moral support provided by parties outside the village, either the district government or the private sector. With the private sector, at least a few companies are already planning to develop businesses that will support the Ngrenehan area in the form of resorts, hotels, and cafes. However, the Covid 19 pandemic has caused infrastructure development plans by investors who have the support of the local village government to become hindered. In the cooperation agreement/MoU made by investors and the village government, investors must create jobs for Ngrenehan residents. Of course for the village government, it will be very beneficial in addition to reducing economic inequality, it will also attract visitors and tourists to spend a long time here. This kind of policy is a win-win solution and reflects the value of integration in the economic sector and infrastructure development.

There are also rules regarding the nominal regulation of kiosk rental regulations along the Ngrenehan coast, which the village government carries out every four years. The policy in this period will determine the rise and fall of rental prices determined by the village government based on development trends and community capabilities. The policy to regulate the location of kiosks on the border of the Ngrenehan coastal area and determine the amount of kiosk rental for the community is a form of complete control by the local government in ensuring the continuity of structured and systematic economic activities.

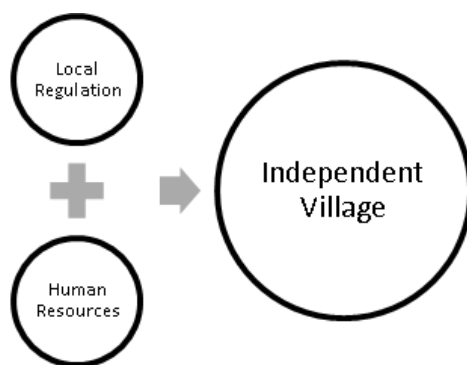


**Figure 5.** Illustration of Village Government Communication with Investors With Potential to Generate Economic Welfare

<sup>16</sup> D Utomo, "Analisis Pemanfaatan Ruang Yang Berwawasan Lingkungan Di Kawasan Pesisir Kota Tegal," *Jurnal Ilmu Lingkungan* 9, No. 2 (2011): 51-55.

<sup>17</sup> A.R. Salim, H. Purnaweni, And W. Hidayat, "Kajian Pemanfaatan Ruang Kawasan Pesisir Kabupaten Bone Bolango Yang Berwawasan Lingkungan (Studi Kasus Desa Botubarani Dan Desa Huangobotu)," *Jurnal Ilmu Lingkungan* 9, No. 1 (2011): 39-47.

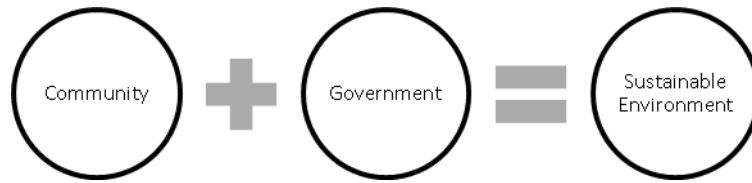
Kanigoro village does not own the Sultan Ground. This is because Kanigoro village is not part of the sultan's land, since Sultan Hamungkubuwono 8 or 9 of the Kanigoro area has made it into village treasury land, the implementation of all kinds of activities in the coastal area of Kanigoro village, including Ngrenehan, is carried out directly by the local village. The existing regulations in Kanigoro village have gone through or used village regulations and not through tourism regulations. This is because the district, through the tourism sector, does not have the right to carry out management; it is enough to supervise and control. The village management rights, including coastal areas, are owned by the village. The beach which is included in the sultan ground area is managed directly by the Gunung Kidul tourism office, but on the Ngrenehan beach, it is not managed by the Gunung Kidul tourism service because the land on Ngrenehan beach is cash land, which is an area that is not included in the sultan ground and its management is carried out all by the district. This fosters the spirit to create an independent village, but there is also a negative effect, making it difficult to carry out more significant developments. Because it must be adjusted to the available PAD, another problem is that the available area is not too wide, especially on each beach; the village government must budget funds within 2-3 years for land purchases to get a land expansion.



**Figure 6.** Illustration of the Relationship between Regional Regulations and Local Human Resources towards Independent Villages

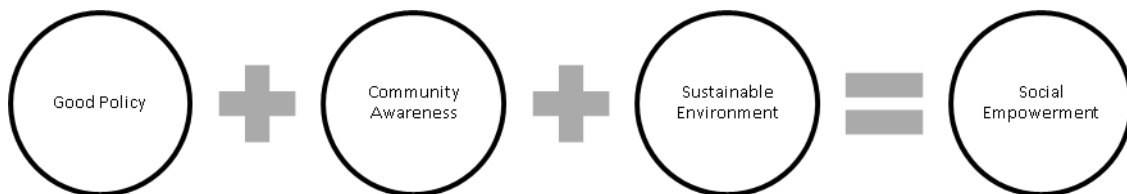
The desire for environmental awareness by Kanigoro residents has been ingrained from the past; it is a message from previous ancestors. It is proven by the birth of various nature-based tourist attractions, one of which is the beach. The community independently initiates the establishment of environmentally conscious tourism groups. The initiator of the tourism awareness group at Ngrenehan Beach is carried out by the community, not from the village government. In its implementation, its respective sub-heads are formed. These sub-heads are presently based on the existence of community groups in coastal tourist areas and places for marketing fish caught by fishers.<sup>18</sup> So the initiators of the Pokdariwis on the beach were formed into two subgroups, namely the Head of the Fishermen's Tourism Awareness Group (Pokdariwis) and the Head of the Merchant Pokdawi. The purpose of separating each pokdariwis chair is to create effectiveness in the focus of their respective fields. The head of the fishing Pokdariwis tends to regulate the management of the ownership of fishing boats, and the head of the merchant Pokdariwis tends to regulate the sale and purchase of fish or the management of culinary tourism around the ngrenehan beach. The village government only provides support in the form of supervision and direction to create an environmentally conscious pokdarwis performance.

<sup>18</sup> Indriati Amarini and Rahtami Susanti, "Pola Pengelolaan Bagi Hasil Antara Nelayan Dan Pemilik Kapal (Studi Pada Nelayan Anggota Hnsi Cabang Pekalongan Dengan Pemilik Kapal Bintang Mas Samudra)," *Kosmik Hukum* 14, no. 2 (2014): 744.



**Figure 7.** The Relationship between the Village Government and the Ngrenehan Community that has the Potential to Produce Sustainable Environmental Management

On the Ngrenehan beach, there was a debate between fishers, the village government, and the district government regarding lobster catching. Fishers who use fishing gear in the form of tight nets accidentally catch lobster seeds, even though their goal is to catch lobsters ready for consumption. For fishers, this is confusing because, in catching the fish, they use nets, which if the nets are still used, then during the process of netting at sea, lobster seeds will also be carried away. The problem is that the lobster seeds that have been caught are not ready for consumption.<sup>19</sup> The solution given by the Kanigoro village government is to ask the fishers to return the lobster seeds, the first reason being that immature lobsters cannot be processed or traded; secondly, it is related to the preservation of marine fauna. Regarding directions to preserve flora and fauna, Kanigoro Village does not yet have an association oriented to preserving flora and fauna; so far, these directions have come from the village government. There is a belief from the village government that the people of Kanigoro Village already have an awareness of developing empowered villages; the community already understands what is good and right concerning nature conservation. Then the social spirit of the cultured and virtuous village community is manifested from the attitude of self-awareness supported by targeted policies from the local government and a healthy environment.<sup>20</sup>



**Figure 8.** The Relevance of Village Policies, Community Awareness, and Sustainable Environmental Management to Community Social Empowerment

The Kanigoro Village Government's policy in managing coastal areas is intended to solve problems that exist in the field due to community demands brought by the public into the government's agenda. The policy reflects a political and administrative system response to an existing social reality and is considered to have been followed up.<sup>21</sup> The problems encountered in the management of the Ngrenehan coastal area are at least in the economic, social, and environmental fields. In solving this problem, the Kanigoro village government provides a solution in a public policy that reflects the integrated management of coastal areas based on the tourism economy, community empowerment, and a sustainable environment. The following is explained in this table:

<sup>19</sup> Ali Suman Et Al., "Stock Assessment And Management Implications Of Three Lobster Species In Gunungkidul Waters Indonesia," *Ocean & Coastal Management* 211 (2021): 105780.  
<sup>20</sup> Veronica Caviedes, Pedro Arenas, And Juan Manuel, "Regional Public Policy For Integrated Coastal Zone Management In Central America," *Ocean & Coastal Management* 186 (2020): 105114.  
<sup>21</sup> Bronwyn Goble, Trevor Hill, And Michael Phillips, "An Assessment Of Integrated Coastal Zone Management Governance And Implementation Using The Dpsir Framework: Kwazulu Natal South Africa," *Coastal Management* 45, No. 2 (2017): 107-24.

**Table 1.** Public Policy of Kanigoro Village Government Based on Tourism Economy, Community Empowerment and Sustainable Environment

Variable	Field	Problem	Solution
Village Government Administration	Land	Limited Village Land	Procurement of village-owned land, settlement of the exchange of village-owned land with individuals
Village Development Implementation	Tourist	Spatial Planning	Village-level tourism development
Community Development	Public Orderliness	Environmental Hygiene	Provision of waste management infrastructure and facilities
Community Empowerment	Marine and Fisheries	Fisherman Empowerment	Fisherman group development, marine product management training
Disaster management	Disaster management	Natural Waves	Disaster management activities

ICZM-based coastal area management also pays attention to community social empowerment, welfare, and environmental sustainability. This causes the elements of natural and human resource management to be crucial elements to be considered to maintain the integration of economic, social, and environmental aspects.<sup>22</sup> The Ngrenehan Coast of Kanigoro Village itself, based on a direct review conducted by the author on its aspects, shows that the integration of the above aspects is quite good, including;

**Table 2.** Aspects of Integrated Coastal Zone Management to Reality in Ngrenehan Coast Kanigoro Village

Reviewed aspects <sup>23</sup>	Dasein Kanigoro
Ecotourism potential of the Ngrenehan coastal tourism area	<ol style="list-style-type: none"> <li>1. Already have the ease of achieving tourist objects.</li> <li>2. Various tourist facilities that must be provided in tourist destinations include travel agencies, transportation and communication tools, and other supporting facilities.</li> <li>3. Having a situation that supports the function of tourism facilities and infrastructure</li> </ol>
The suitability of the physical potential of the Ngrenehan coastal area with ICZM	<ol style="list-style-type: none"> <li>1. The land function supports sustainable coastal area activities;</li> <li>2. Management of water resources that have been maintained sustainably;</li> <li>3. Coastal border areas have become the main factor in every coastal area management program</li> </ol>
The potential of the Ngrenehan coast as a way of empowering social communities with the ICZM approach	<ol style="list-style-type: none"> <li>1. The Ngrenehan coastal area has connected the physical with its cultural context and has taken into account the wishes and aspirations of the community</li> <li>2. The Ngrenehan Coastal Area has complied with regulations by the natural environment and social reality.</li> <li>3. Accommodate forms of social community and social organization.</li> </ol>

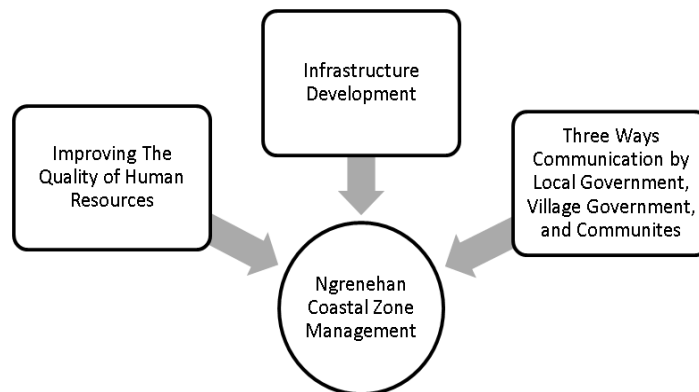
<sup>22</sup> Dina Sunyowati, "Integrated Coastal Management," *Mimbar Hukum* 20, No. 3 (2008): 425-42.

<sup>23</sup> Arina Marta Setya Putri, "Penataan Kawasan Wisata Pesisir Sendang Biru Yang Optimal Sebagai Kawasan Terintegrasi Dengan Pendekatan Iczm (Integrated Coastal Zone Management)" (Nstitut Teknologi Sepuluh Nopember Surabaya, 2016).

## 2. Ideal Concept of Managing Coastal Areas in Ngrenehan

The management of coastal and marine resources on the Ngrenehan Kanigoro coast must be carried out based on the concept of co-management involving elements from the levels of government and local communities (community-based development). The factors that influence coastal and marine areas management based on Integrated Coastal Zone Management (ICZM) are presented in Figure 1. The graph illustrates several factors that affect the management of coastal areas, including: a) National Policy; b) Regional Policy; c) Human Resources; d) Technology; e) Finance; f) Industrialization; g) Public.

Based on these seven things, the management of coastal and marine areas in the Ngrenehan coastal area of Kanigoro Village can be done by implementing three main management strategies in the future; this is based on the potential problems encountered at the location of the research object. It should be noted that elements of human resources, village infrastructure, and stakeholder communication are still problems that need to be given a solution regarding how to optimize their implementation. According to the author, these three elements are the primary basis for an integrated-based management pyramid. If these elements have not been implemented optimally, it is feared that the process of village development and development to become an empowered and civilized village will be hampered. So the effort to implement the strategy for managing the Ngrenehan coastal area of Kanigoro Village based on the Integrated Coastal Zone Management (ICZM) method is as follows:



**Figure 9.** Ngrenehan Coastal Area Management Strategy based on Integrated Coastal Zone Management method

First of all, improving the quality of human resources by providing training and education in managing and utilizing sustainable coastal and marine resources. Local communities must play a central role in the management and utilization of coastal and marine resources in an integrated manner.<sup>24</sup> Providing the breadth to play an active role and empowering the wider community to be involved in decision-making and implementation in the management of coastal areas will undoubtedly provide significant benefits.

According to Kristiyanti,<sup>25</sup> The advantages of placing the community as a central point in the management of coastal and marine areas, namely the community are involved in controlling the surrounding resources, broad support in the management of existing natural resources, the availability of data needed in the utilization of these resources, and resource management. Natural resources can improve the welfare of the surrounding community. Of course, communities that are directly involved must be balanced by continuing to communicate openly

<sup>24</sup> Theodora Papatheochari And Harry Coccossis, "Development Of A Waterfront Regeneration Tool To Support Local Decision Making In The Context Of Integrated Coastal Zone Management," *Ocean & Coastal Management* 169 (2019): 284-95.

<sup>25</sup> Kristiyanti, "Pemberdayaan Masyarakat Pesisir Pantai Melalui Pendekatan Iczm ( Integrated Coastal Zone Management )."

in establishing good relations between other stakeholders to achieve goals. Second, increasing the development of supporting infrastructure for the management and development of coastal and marine areas.<sup>26</sup> Management of coastal areas that aim to support the use of coastal and marine resources must, of course, be supported by infrastructure. The infrastructure needed to develop coastal areas on the Ngrenehan Kanigoro coast is the infrastructure that can support ecotourism, fish processing, and markets. Optimizing the function and maintenance of several facilities that are already available such as tourism objects, the fishing sector, and fish auction places (TPI), must be carried out as facilities for conducting marine and fisheries business. The availability of adequate infrastructure will undoubtedly provide business opportunities in the marine and fisheries sector for local communities and investors outside the region.

The development of coastal areas is also very much needed for supporting facilities and infrastructure. Facilities and infrastructure in developing coastal areas, especially in the marine tourism support sector on the Ngrenehan Kanigoro coast, which has excellent potential, must be carried out and pay attention to social, economic, environmental, and institutional aspects. The development of coastal infrastructure, especially in the marine tourism sector, is a priority to be carried out in encouraging activities in coastal areas.<sup>27</sup> Marine tourism on the coast of Ngrenehan Kanigoro is one of the developing coastal areas in the tourism service sector, and to enjoy coastal tourism; supporting facilities are needed. Supporting the marine tourism sector facilities include homestays, restaurants, camp/camping places, and playgrounds. Management in the marine tourism sector can certainly be realized if optimal management is carried out between stakeholders and pays attention to environmental sustainability so that coastal management sustainably takes place to improve the community's economy.

Third, collaborate and communicate on regional and village policies to support each other in developing coastal areas on the Ngrenehan Kanigoro coast. Collaboration and communication in the management of coastal areas can be done by making legal policies that are clear and do not overlap.<sup>28</sup> A collaborative negotiation process between stakeholders produces policies and strategies for managing coastal and marine areas. The negotiation process must, of course, be carried out by integrating understanding and integration to create a form of systemic management of coastal and marine area development, the existence of goals and objectives, paying attention to development values and ethics that are environmentally sustainable, and dispute resolution and cooperation among coastal communities, government stakeholders.<sup>29</sup> The policy for the management and development of coastal areas on the Ngrenehan Kanigoro coast must be carried out based on an integration between sectors, levels of government, management and science, and space. This is based on the fact that coastal areas and their communities are very

---

<sup>26</sup> Martin Le Tissier, "Unraveling The Relationship Between Ecosystem-Based Management, Integrated Coastal Zone Management And Marine Spatial Planning," *Ecosystem-Based Management, Ecosystem Services And Aquatic Biodiversity*, 2020, 403-13.

<sup>27</sup> K. H. Ekosafitri, E Rustiadi, and F Yulianda, "Pengembangan Wilayah Pesisir Pantai Utara Jawa Tengah Berdasarkan Infrastruktur Daerah: Studi Kasus Kabupaten Jepara.," *Journal of Regional and Rural Development Planning. Institut Pertanian Bogor* 1, no. 2 (2017).

<sup>28</sup> Francisco Taveira, Paulo Rosa, And Tiago Fazeres, "Integrated Coastal Zone Management: Preservation, Adaptation, And Monitoring," *Journal Of Integrated Coastal Zone Management* 21, No. 1 (2021): 5-9.

<sup>29</sup> Hafez Ahmad, "Bangladesh Coastal Zone Management Status And Future Trends," *Journal Of Coastal Management* 22, No. 1 (2019): 1-7.

dynamic and complex. Therefore, the management of coastal areas must be approached in an integrated, rational, and optimal manner that prioritizes the active role of coastal communities.<sup>30</sup>

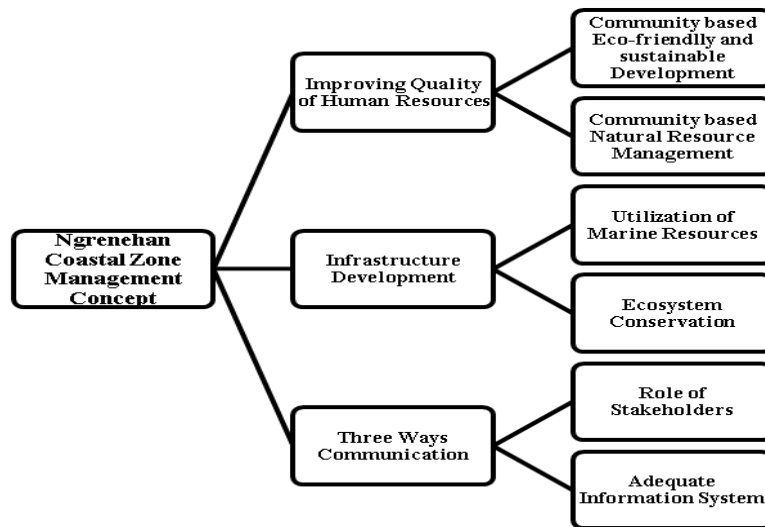


Figure 10. Ngrenehan Coastal Area Management Concept

The Ngrenehan Kanigoro Coast was built and supported by the potential of sustainable natural resources to lead to civil society in the context of the Unitary State of the Republic of Indonesia (NKRI). In this case, the village head should propose that the development of this area move from fishery products and ecotourism. This area has a wealth of reef fish and great panoramic beauty. In utilizing the abundant marine products, the utilization program is based on the development of aquaculture, economic empowerment of coastal communities, and protection of the potential of marine resources. Cultivation will be focused on community training and making pilots for seaweed cultivation. As we know, the industry also requires raw materials for cosmetics, medicines, and gelatin, which has promising potential.

The potential in the region must be managed professionally and in an integrated manner so that the regional economy can be raised and help the country's economy, all of which lead to community empowerment or improving people's welfare.<sup>31</sup> After being designated as a tourist area, this location invites the community's attention so that the community plays a role in the development and regional income as well as improving the economy of the community itself.<sup>32</sup> The enormous potential on land and at sea is sought to be utilized at environmentally sound development,<sup>33</sup> Natural resources can be exploited, but pay attention to the environment and natural preservation. The exploitation of resources must support the balance and preservation of the environment.

The preservation of coastal and marine ecosystems is vital for the sustainability of resource management.<sup>34</sup> Although, in general, the forest and coral reef ecosystems on the Ngrenehan Kanigoro coast are still good, efforts are still needed to develop conservation programs for these

<sup>30</sup> L. S Hiariy, "Peran Serta Masyarakat Pemanfaatan Pesisir Dalam Pengelolaan Wilayah Pesisir Teluk Ambon Dalam," *Jurnal Matematika, Sains Dan Teknologi* 14, no. 1 (2013): 46–61.

<sup>31</sup> Edwin Permana, Kamaludin, And Yefriza, "Perspective Of Integrated Management Of Bengkulu Coastal Areas Based On Space, Social, And Economic Utilization," N.D.

<sup>32</sup> Carlos Mestanza Et Al., "Tourism In Continental Ecuador And The Galapagos Islands: An Integrated Coastal Zone Management Perspective," *Water* 12, No. 6 (2020): 1647.

<sup>33</sup> Carlos Mestanza Et Al., "Integrated Coastal Zone Management In Continental Ecuador And Galapagos Islands: Challenges And Opportunities In A Changing Tourism And Economic Context," *Sustainability* 11, No. 22 (2019): 6386.

<sup>34</sup> Wen Jui Tan Et Al., "Integrated Coastal Zone Management For Sustainable Tourism Using Decision Support System Based On System Dynamics: A Case Study Of Cijin Kaohsiung Taiwan," *Ocean & Coastal Management* 153 (2018): 131–39.

ecosystems by conducting socialization and education on the importance of these ecosystems. In the coastal development of Ngrenehan Kanigoro, there must be linkage and cooperation between stakeholders so that there are no overlapping interests, and most importantly, every stakeholder and organization is interested in the environment. The strategies used in the Ngrenehan Kanigoro coastal development process are science, community development, policy, collaborative management, and public awareness. It is hoped that with science, the community will better understand how important it is to build their territory with the existing potential; on the other hand, the community will also develop their economic level because of this potential.<sup>35</sup> However, the local government must still have a policy for limiting the benefits and management of natural resources, which are the potential of the area, which must be carried out in collaboration with outside parties who are interested in helping the coastal development Ngrenehan Kanigoro.

On the Ngrenehan Kanigoro coast, there is traditional sustainable natural resource management by the community, such as the determination of the boundaries of the Ulayat area, the recognition of rights (e.g., restrictions on fishers from outside for certain villages), controlling the size of marine commodities that can be caught (size restrictions for lobsters). ) the moratorium system or the opening and closing season (sasi gereja) for sea cucumbers, lobsters, and Lola, there are taboo types that cannot be caught in certain areas and others. This traditional management system is used as an opportunity to develop community-based conservation strategies.

The Ngrenehan Kanigoro coast has exceptional underwater beauty and beautiful panoramas, but unfortunately, many domestic and foreign tourists are not familiar with this location. Therefore, an adequate information and communication system must also support maritime development. Based on the discussion above, several policies and strategies must be based on:<sup>36</sup> 1) a good understanding of the natural processes (eco-hydrological) that take place in the coastal area that is being managed, 2) the economic, social, cultural, and political conditions of the community, and 3) current and future needs for goods and (products) and coastal environmental services.

## V. Conclusion

The problems encountered in the management of the Ngrenehan coastal area are at least in the economic, social, and environmental fields. In solving this problem, the Kanigoro village government provides a solution in a public policy that reflects the integrated management of coastal areas based on the tourism economy, community empowerment, and a sustainable environment. The village development process must be based on integrated and integrated processes and programs based on its supporting aspects. These aspects include national, regional, human resources, technology, finance, industry, and society. Each element is born and has its influence on the village management process.

Providing the breadth to play an active role and empowering the wider community to be involved in decision-making and implementation in the management of coastal areas will undoubtedly provide significant benefits. It increases the development of supporting infrastructure for the management and development of coastal and marine areas. The existence of collaboration and communication on regional and village policies to support each other in developing coastal areas on the Ngrenehan Kanigoro coast The potential in the area must be managed professionally and in an integrated manner so that the regional economy is lifted and also helps the country's economy, all of which lead to community empowerment or improve community welfare.

---

<sup>35</sup> Nicola Cantasano, Gaetano Pellicone, And Fabio Letto, "Integrated Coastal Zone Management In Italy: A Gap Between Science And Policy," *Journal Of Coastal Conservation* 21, No. 3 (2017): 317-25.

<sup>36</sup> Rahmawaty, "Pengelolaan Kawasan Pesisir Dan Kelautan Secara Terpadu Dan Berkelanjutan," 2004.

## Reference

- Ahmad, Hafez. "Bangladesh Coastal Zone Management Status and Future Trends." *Journal of Coastal Management* 22, no. 1 (2019): 1–7.
- Ali, Mohammad Mahrus, Zaka Firma Aditya, and Abdul Basid Fuadi. "Coastal Communities Protection of Constitutional Rights: The Urgency of Harmonization of Integrated Coastal Zone Management." *Jurnal Konstitusi* 17, no. 4 (2020): 799–827.
- Amarini, Indriati, and Rahtami Susanti. "Pola Pengelolaan Bagi Hasil Antara Nelayan Dan Pemilik Kapal (Studi Pada Nelayan Anggota Hnsi Cabang Pekalongan Dengan Pemilik Kapal Bintang Mas Samudra." *Kosmik Hukum* 14, no. 2 (2014): 744.
- Arianto, Mukhamad Fredy. "Potensi Wilayah Pesisir Di Negara Indonesia." *Jurnal Geografi* 10, no. 1 (2020): 204–15.
- Cantasano, Nicola, Gaetano Pellicone, and Fabio Letto. "Integrated Coastal Zone Management in Italy: A Gap Between Science and Policy." *Journal of Coastal Conservation* 21, no. 3 (2017)
- Caviedes, Veronica, Pedro Arenas, and Juan Manuel. "Regional Public Policy for Integrated Coastal Zone Management in Central America." *Ocean & Coastal Management* 186 (2020): 105114.
- Clark, Jhon R. *Coastal Zone Management Handbook*. New York: Lewis Publisher, 1996.
- Ekosafitri, K. H., E Rustiadi, and F Yulianda. "Pengembangan Wilayah Pesisir Pantai Utara Jawa Tengah Berdasarkan Infrastruktur Daerah: Studi Kasus Kabupaten Jepara." *Journal of Regional and Rural Development Planning. Institut Pertanian Bogor* 1, no. 2 (2017).
- Fadel, Muhammad. *Reinventing Local Government: Pengalaman Dari Daerah*. Jakarta: Gramedia,
- Goble, Bronwyn, Trevor Hill, and Michael Phillips. "An Assessment of Integrated Coastal Zone Management Governance and Implementation Using The DPSIR Framework: KwaZulu Natal South Africa." *Coastal Management* 45, no. 2 (2017): 107–24.
- Hiariey, L. S. "Peran Serta Masyarakat Pemanfaatan Pesisir Dalam Pengelolaan Wilayah Pesisir Teluk Ambon Dalam." *Jurnal Matematika, Sains Dan Teknologi* 14, no. 1 (2013): 46–61.
- Kinasih, Putri Intan, and Hartuti Purnaweni. "Pemanfaatan Mangrove Untuk Pemberdayaan Masyarakat Pesisir." In *Collaborative Governance Dalam Pengembangan Pariwisata Di Indonesia*. Semarang: Universitas Diponegoro, 2019.
- Kristiyanti, Mariana. "Pemberdayaan Masyarakat Pesisir Pantai Melalui Pendekatan ICZM ( INTEGRATED COASTAL ZONE MANAGEMENT )." In *Kajian Multi Disiplin Ilmu Dalam Pengembangan IPTEKS Untuk Mewujudkan Pembangunan Nasional Semesta Berencana (PNSB) Sebagai Upaya Meningkatkan Daya Saing Global*, 752–60, 2016.
- Mestanza, Carlos, Maritza Saqnchez Capa, Hilter Figueroa, and Juana Rojas. "Integrated Coastal Zone Management in Continental Ecuador and Galapagos Island: Challenges and Opportunities in a Changing Tourism and Economic Context." *Sustainability* 11, no. 22 (2019): 6386.
- Mestanza, Carlos, J Adolfo Chica, Giorgio Anfuso, Alexis Mooster, Camilo Botero, and Enzo Pranzini. "Tourism in Continental Ecuador and The Galapagos Island: An Integrated Coastal Zone Management Prespective." *Water* 12, no. 6 (2020): 1647.
- Papatheochari, Theodora, and Harry Coccossis. "Development of a Waterfront Regeneration Tool to Support Local Decision Making in The Context of Integrated Coastal Zone Management." *Ocean & Coastal Management* 169 (2019): 284–95.
- Permana, Edwin, Kamaludin, and Yefriza. "Perspective of Integrated Management of Bengkulu Coastal Areas Based on Space, Social, and Economic Utilization," n.d.

- Putra, Dody Yuli. "Peran Sektor Perikanan Dalam Perikonomian Dan Penyerapan Tenaga Kerja Di Indonesia: Analisis Input-Output." *Jurnal Maritime Economy*, 2011.
- Putri, Arina Marta Setya. "Penataan Kawasan Wisata Pesisir Sendang Biru Yang Optimal Sebagai Kawasan Terintegrasi Dengan Pendekatan ICZM (Integrated Coastal Zone Management)." Institut Teknologi Sepuluh Nopember Surabaya, 2016.
- Rahmawaty. "Pengelolaan Kawasan Pesisir Dan Kelautan Secara Terpadu Dan Berkelanjutan," 2004.
- Sadarianto, Syaiful Anwar, and Purwanto. "Pengaruh Pemberdayaan Wilayah Maritim Dan Pelatihan Nelayan Terhadap Kesejahteraan Masyarakat Pesisir Dalam Rangka Mengoptimalkan Strategi Pertahanan Di Desa Gisik Cemandi." *Strategi Perang Semester 4*, no. 3 (2018): 1-18.
- Safira, Evi. "Pengembangan Sumberdaya Pesisir Yang Berkelanjutan Di Ulele Kota Madya Banda Aceh." *Serambi Konstruktivis 2*, no. 2 (2020): 84-91.
- Salim, A.R., H. Purnaweni, and W. Hidayat. "Kajian Pemanfaatan Ruang Kawasan Pesisir Kabupaten Bone Bolango Yang Berwawasan Lingkungan (Studi Kasus Desa Botubarani Dan Desa Huangobotu)." *Jurnal Ilmu Lingkungan 9*, no. 1 (2011): 39-47.
- Suman, Ali, Umi Chodriah, Beoduel Kang, and Chang-ik Zhang. "Stock Assessment and Management Implications of Three Lobster Species in Gunungkidul Waters Indonesia." *Ocean & Coastal Management 211* (2021): 105780.
- Sunyowati, Dina. "Integrated Coastal Management." *MIMBAR HUKUM 20*, no. 3 (2008): 425-42.
- Supriharyono. *Konservasi Ekosistem Sumber Daya Hayati Di Wilayah Pesisir Dan Laut Tropis*. Yogyakarta: Pustaka Pelajar, 2007.
- Susanto, Adha. "Integrated Coastal Zone Management Strategies In Kuala Jelai, Sukamara Regency." *Jurnal Ilmiah Samudra Akuatika 3*, no. 2 (2019): 21-30.
- Tan, Wen Jui, Chen Feng Yang, Pierre Alexandre Chateau, Meng Tsung Lee, and Yang Chi CHang. "Integrated Coastal Zone Management for Sustainable Tourism Using Decision Support System Based on System Dynamics: A Case Study of Cijin Kaohsiung Taiwan." *Ocean & Coastal Management 153* (2018): 131-39.
- Taveira, Francisco, Paulo Rosa, and Tiago Fazeres. "Integrated Coastal Zone Management: Preservation, Adaptation, and Monitoring." *Journal of Integrated Coastal Zone Management 21*, no. 1 (2021): 5-9.
- Tissier, Martin Le. "Unraveling The Relationship Between Ecosystem-Based Management, Integrated Coastal Zone Management and Marine Spatial Planning." *Ecosystem-Based Management, Ecosystem Services, and Aquatic Biodiversity*, 2020, 403-13.
- Utomo, D. "Analisis Pemanfaatan Ruang Yang Berwawasan Lingkungan Di Kawasan Pesisir Kota Tegal." *Jurnal Ilmu Lingkungan 9*, no. 2 (2011): 51-55.
- Yuan, Wei, and Yen Chiang Chang. "Land and Sea Coordination: Revisiting Integrated Coastal Zone Management in The Context of Community Interest." *Sustainability 13*, no. 15 (2021).
- Yuliarta, I Wayan, and Hayatul Khairul Rahmat. "Peningkatan Kesejahteraan Melalui Pemberdayaan Masyarakat Pesisir Berbasis Teknologi Sebagai Upaya Memperkuat Keamanan Maritim Di Indonesia." *Jurnal DInamika Sosial Budaya 23*, no. 1 (2021): 180-89.
- Yurista, Ananda Prima. "Implikasi Penafsiran Kembali Hak Menguasai Negara Terhadap Pengelolaan Wilayah Pesisir Dan Pulau-Pulau Kecil." *Jurnal Rechts Vinding 5*, no. 3 (2012): 339-58.