CHAPTER I

INTRODUCTION

1.1. Background

Coastal ecosystems must be preserved and restored as globally important carbon sinks. They bind and store large amounts of carbon in soils around the world, albeit to a smaller extent than other ecosystems. As the destruction and loss of these systems progresses, more anthropogenic greenhouse gases will be produced (Robert and Walter, 1991). Alongside tropical forests and peatlands, coastal ecosystems demonstrate how nature can be harnessed to enhance climate change mitigation strategies, thereby providing opportunities for countries to meet emission reduction targets and nationally determined contributions (NDCs) under the Paris Agreement (IUCN, 2017). This is why, natural preservation that happens in the coastal ecosystem which creates blue carbon ecosystem should be implemented sustainably. One promising alternative is adaptive coastal protection, which involves a variety of measures that can be combined and adjusted to account for sea level rise in both planning and design. Nevertheless, coastal protection programs also being stated as in the Ocean Health Index (OHI) as one of the main indicator (Gazioğlu, 2018). However, the indicator should be followed by the rational policy framework that can support the effectiveness of preservation on coastal environment. On the other hand, the effectiveness of some measures remains unproven in many cases. It is crucial to swiftly address this knowledge gap (Braunerhjelm and Henrekson, 2015).

Indonesia as one of a country who had concern on climate change also taking a part in international agreement such as Paris Agreement and even COP meeting by UNFCC which most of the discussion are talking and creating some clear agreement among countries to deal

with climate threat. Paris Agreement was known as a legal binding international treaty that focus on climate change and adopt since 2015. The agreement followed by several countries who committed to limit the increase in global average temperature to well below 2 degree Celsius above pre-industrial levels, such as European Union country members, Canada, Japan, United States, and others. Meanwhile Conference of the Parties (COP) is one of the committee that makes decision on how to implement an international treaty of climate change. Indonesia and other 197 countries that ratified the Convention of Paris Agreement are involved to discuss the continuity of climate change treaty in the future, as well as creating some policy design in country members that contain the main goal of Paris Agreement. Paris Agreement become an international treaty on climate change that adopted by 196 countries at COP 21 in Paris on 12 December 2015, under the United Nations Framework Convention on Climate Change (UNFCC). This can be proven that how serious is the threat that will come in the few years ahead. It becomes both pressure and challenges for Jokowi's second period of administration alongside with His ministry to cope with the current situation.

The sphere of politics that happened and being highlighted by many leaders in the world is about economic growth and climate threat. Although, some of the countries still do not paying much attention on declaring climate change as a nation's threat include Indonesia itself. This can be assured that the commitment that have been made internationally with many discussion and diplomacy agenda could not be executed well. Luckily, in March 2023 one of the biggest agreement have been signed and adopted by 193 member states which called High Seas Treaty. Adopted by the Intergovernmental Conference on Marine Biodiversity of Areas Beyond National Jurisdictions (BBNJ), the "High Seas" treaty aims to manage the oceans on behalf of current and future generations, in line with the Convention on the Law of the Sea (UN, 2023). The new agreement contains 75 articles aimed at ensuring the protection, care and responsible use of the marine environment, safeguarding the integrity of

marine ecosystems and preserving the unique value of marine biodiversity. All of the countries signed including Indonesia have to ratify the draft and clearly implementing based on the international regulations. But in most occasion, the situation on field tend to shift differently as it has been signed in the international sphere (Geden, 2019).

Reflecting on the urgencies, we can clearly see the empirical evidence of coastal environment condition in Indonesia. According to LIPI (2020) on their research in 2018 - 2019 of three major ecosystem which are seagrass beds, coral reefs and mangroves in Indonesia categorized in the moderate or unhealthy. Specifically for coral reefs, they are still in the medium category with relatively low biomass levels. Meanwhile, the average mangrove forest is currently still categorized as medium based on the Vegetation Health Index. Statistically in 2019, from 1153 coral reef locations, there are around 390 coral reefs (33.82%) in the poor category, 431 coral reefs (37.38%) in the medium category, 258 coral reefs (22.38%) in the good category and 74 coral reefs or (22.38%) in the good category. Coral (6.42%) is in the very good category.

The biodiversity point that stated on Government Regulation (PP) No. 26/2023 contains significant responsibility to maintain the health condition in the coastal area. The living creatures that lives beneath the coastal areas have their own ecosystem to build. If there are certain threats like big wave refractions or excess sediment transport on the area will also affecting the biota creatures. Sand dredging activities is also one of the external threat that may decrease the coastal protection aspect like the sand and natural barrier reefs. The activity that damaging coastal areas like sand dredging could be worsen if the government does nothing. In this case, policy planning and its implementation are crucial things that the government should considered (Richard, 1995).

Fortunately, The Coordinating Ministry of Maritime and Investment (MENKOMARVES/CMMI) already have a strategic plan (RENSTRA) for 2020 - 2024 to

enhance investment and economic growth whilst also paying attention to the nature of preservation. As one of ministry that managing maritime affairs and foreign investment, CMMI creates some goals to be achieved on several years ahead. One of the goal is to encourage the maritime economy through inclusivity and high quality of marine product by paying attention to maritime GDP and the Ocean Health Index (OHI) (Halpern et al., 2017). Those two kinds of different indicator can be seen in a different way of perspectives and tend to be contradictory with the reality. Both points also include the coastal environment to enhance maritime GDP as well as maintain OHI score. But looking on the reality alongside the creation of PP No.26/23, the path to achieving those goals seems to be off track.

Picture 1.1. Score of Ocean Health Index. Source: OHI (2023).

OHI is an assessment tool that measures ten key elements of ocean health that are seen from the biological, physical, and socio-economic dimensions, which include food provision, the potential for artisanal fishing, a natural substance, storing carbon, protection of the shore, tourism and recreation, coastal livelihood and economic, sense of place, clean water, and biodiversity. The OHI assessment, which rates these objectives on a scale from 0 to 100, offers a comprehensive overview of the environmental condition that can be communicated to the public. That is why, the ten global goals in OHI as variables and indicators often used by the government as a benchmark for assessing some policy planning (Halpern, Longo, McLeod et al, 2013).

In 2020, the Indonesian government, through the Coordinating Ministry for Maritime and Investing Affairs starting to use OHI as the published guidelines for measuring sea ecosystem healthiness. From 2020 to 2021, OHI scores improved for most targets and goals, with the exception of Artisanal Fisheries and Tourism and Recreation Service Providers, which experienced a significant decline (Rintaka et al, 2023). That is why, Indonesia's current Ocean Health Index score is on the low level which is 69 out of 100 while the global average score is 73 and sitting on 152 rank out of 220 countries.

OHI assessment and evaluation also offers a comprehensive picture of the ecosystem's state that can be shared with various audiences (Halpern, et al, 2015). Moreover Indonesia's seventh president Joko Widodo, while on his second period of administration was tend to be focusing on the future maritime planning rather than the previous president. That is why, the Coordinating Ministry of Maritime and Investment was created to establish the missions of Jokowi's on maritime governance. Following through the missions, the ministry which holding as the executor of the Jokowi's missions have to create certain maritime planning to consider the preservation of coastal environment. Enhancing the point of coastal environment health, the RENSTRA is playing some role in establishing good environmental quality. Thus, the government also plan to manage the coastal areas through National Medium Term Development Plan known as (RPJMN) 2020 – 2024 which supported by RENSTRA of Coordination Ministry of Maritime and Investment. The focus is that in the next five years, the area of conservation areas is expected to reach 26.90 million ha in 2024

In a form of the managing that already planned by the government a problem arise. Recently the government has been publish the new government policy (PP) number 26, year 2023 about management of sedimentation results in the sea which were opposed by some of the climate activists and experts through interview with BBC on Tuesday (30/5). Coastal and Marine Campaign Manager of the Indonesian Forum for the Environment (WALHI), Parid

Ridwanuddin, said that the PP would risk reducing small islands in Indonesia. The polemic of this PP among the society increasing into a national concern. Since the PP have a purpose to ensure the coastal environment health, the framework of this policy turns out to be contradictive. Greenwashing become the highlight point that consist in the policy to assure the readers for environmental purpose. In fact, the policy turns out potentially contradictory. Moreover, the coastal environment clearly threaten not only on the planning agenda but also on the whole point of its framework.

Based on the research by WALHI (2022), there are around 20 small islands around Riau and Maluku that have already been sunk and threatening 115 other small islands in around Indonesian sea. The sand dredging activities that still active is slowly threaten on the coastal environment of small islands in Indonesia. Sand dredging have a huge impact on creating a destructive phase of coastal environment. Denny Nugroho as a researcher in Center for Coastal Rehabilitation and Disaster Mitigation Studies (CoREM), while at the discussion of PP No.26/23 by BEM UNDIP on 16 September 2023 declared that if the policy is continuously implemented without any following preventive actions can significantly damaging the shoreline of coastal environment. Scientifically, the sea sand that located on the edge of coastline have a big task to prevent big wave to the shoreline. On the simple explanation, the sea sand on the shoreline become the great barrier to prevent huge waves coming to the land. If the sea sand is being dredged, the coastline does not have any barrier or defensive tool to resist certain kind of waves. This is the real threat that comes to the perspective of natural ecosystem. Since Indonesia is one of the largest archipelago countries and billion kilometres of shoreline along its island, the shoreline become the natural frontline defensive area that prevent any natural disaster. Moreover, the threatening waves of climate change which changing the atmosphere of the ocean temperature clearly implicate some

future potential natural disaster that can striken some archipelago countries anytime especially Indonesia.

On the other hand, Ministry of Fisheries Marine Affairs (KKP) spokesperson, Wahyu Muryadi in an interview with BBC (31 May 2023), denied that this new regulation would cause damage to aquatic ecosystems. The government will not use the threatened small island. He also added that the government would like to recover coastal environment rather than destroy it. Indeed, there are two sides of perspectives that arguing about the policy. But in the reality, this policy potentially threatening the existence of coastal environment.

The major point of this PP is to rehabilitate the environment which on the coastal area, throughout cleansing and utilization of coastal materials. In the first place, PP No.26/2023 stating to rehabilitate the coastal environment throughout the cleansing of marine sediments, but in the reality the planning to rehabilitate coastal environment is hindered by the usage of sea sand for many purposes which stated in Chapter 9 verses 2 such as export, reclamation, infrastructure development, infrastructure development by business actors. Instead, the material that used for coastal rehabilitation is came from mud.

Picture 1.2. Framework of processing of sedimentation results. Source: Marine and Fisheries Ministry (2023)

Thus, the sediment result that used for rehabilitation do not come from the sea sand but from the mud. Ideally, based on the explanation above, the sea sand and other sediment materials can be a natural tool. If the sea sand are cultivated continuously, it will not only

damaging the coastal environment but also could reach up to the land settlement. Despite that nature has its own cycle to process the sediment, from this point we can see that the major point usage of sand in this regulation is tend to support business interest instead of coastal rehabilitation.

One of the example for the certain case was based on the research by W. Wahyudi et al. (2023), "Sea sand mining in Tunda Island Waters". The research comprehend an exclusive investigation on sea sand mining activities in Tunda Island, Banten. Wahyudi using MIKE 21 Modelling to overview the flow of sediment that contains many materials from sand mining company. As the result, there are several impacts on Tunda Islands which resulting damage on the small islands around it. The mining activities also brought disposal materials to the surroundings islands, which directly causing the land subsidence in the coastal area.

In this case, researcher wants to see the bigger picture of northern Central Java Province coastal area. Based on the research by Prayogo et. al. (2023): Sebaran Sedimen Dasar di Pantai Segolok, Batang, explain more about the environmental condition in one of coastal area that located at Batang, Central Java province. The research comprehend the in-depth acknowledgement on Segolok Beach components that creates a natural barrier for its coastal area. In short, it resulting on types of sediment like sand, silty sand, sandy silt and clay silt, which potentially vulnerable to be dredged.

On the other hand, Batang region currently become the Integrated Industrial Area (KITB) or known as Grand Batang City. The area is become one on a National Strategic Project (PSN) that inaugurated by President Joko Widodo lately. Offering 4,300 hectares of prime land for industrial, retail, and commercial development, this land attracting foreign investors to build their own factories in the area. One of the important project that agreed by Indonesia and China government is *Two Countries Twin Parks*. That project become a clear

evident and reality of Indonesian government facilitating foreign companies to use local lands for economic purposes. Moreover, the area of Grand Batang City is located on the northern coastal of Central Java Province.

The growth of industrial zone in Batang become one of the challenge for Indonesian government to maintain coastal ecosystem in a good condition. It also become a threat for coastal barrier in the area. Because, in PP No.26/23 article 9 stating that all of the natural resources in coastal area including sea sand will be utilized for infrastructure development by business actors. While according to its planning, the process of sedimentation rehabilitation only contains mud and others unnecessary things that could naturally processed. Furthermore, in the article 16, any business actors should have recommendation from the ministry for utilizing sea sand. Although Grand Batang City acknowledge as National Strategic Project, the ministry that responsible handling the matters potentially allowing any act of sea sand usage under term of 'business purposes'.

At this term, PP No.26/2023 trigger some potential misleading purpose and could lead into greenwashing effects. Many experts that researcher told on the previous are still in doubt to implement this regulation. Thus, they need to assessed more possibilities and deep research on the implementation of this government if the regional government wants to use this regulation (Mardiasmo, Barnes, Sakurai, 2008).

By looking at the problem that can be caused by the regulation above, there are several possibilities of implications which threatening not only the coastal environment but also become the patron law for any business purposes or investment that utilize the environment in Indonesia. Firstly, the sand dredging activities in northern coastal of Central Java does not restrict. Those activities can give some impacts on the coastal population. The policy emphasizes economic development in sedimentation management and coastal

rehabilitation, but this focus may not sufficiently consider the importance of environmental preservation. There needs to be a more balanced approach that integrates both economic and environmental goals to prevent policies from favoring short-term economic gains at the expense of long-term environmental health.

Secondly, the coastal barrier can be threatened if the governance of sand sediment does not contain clear effect to the sustainability. The policy's current provisions on sand dredging activities lack adequate restrictions, particularly in the northern coastal regions of Central Java. Without clear guidelines, these activities could lead to severe environmental damage, such as habitat destruction and increased coastal erosion, affecting local ecosystems and communities (Fleming, 2019) .

The management of sediment and its effects on coastal barriers also need to be explicitly addressed to ensure sustainability. If the policy does not include comprehensive measures to safeguard these barriers, it risks compromising their natural protective functions, which are crucial for preventing coastal flooding and erosion.

At last, coastal rehabilitation that stated in the PP No. 26/23 do not could potentially create a misleading information in terms of business purposes. Potential activities like greenwashing can be misunderstood and misapplied by the private company, which also threatening on the coastal protection sustainability. The policy's framework for coastal rehabilitation may inadvertently create opportunities for greenwashing, where companies present an exaggerated or misleading image of their environmental efforts. This can result in superficial or ineffective measures being taken under the guise of environmental protection, undermining genuine coastal conservation efforts.

However, there is a high tendency for environmental degradation under PP No. 26/23 due to some critical factors. The laxity of this policy in putting appropriate restrictions on

sand dredging within the northern coastal areas of Central Java is regarded as a serious threat to the coastal environment. To be more specific, the uncontrolled extraction of sand could destroy important marine habitats such as coral reefs and seagrass beds, which are significant breeding sites for many marine species. This means that such devastation not only affects biodiversity but also upsets ecological balance, marking the beginning of long-term impacts on marine and coastal ecosystems (Bulling, et al, 2010).

Furthermore, poor sediment governance raises concerns over the long-term maintenance of coastal barriers. Coastal barriers, both in the form of dunes and mangroves, play a crucial role in mitigating storm impacts and preventing erosion. Without adequate and efficient practices, these inherent defence mechanisms could be impaired or weakened, increasing the vulnerabilities to coastal flooding and erosion. Barriers degradation can thus propagate through a variety of impacts on the ecosystem and the community itself, raising the related risks of climate change and sea-level rise. While the policy's emphasis on economic development is important, it also requires a balance with far-reaching environment protection measures to prevent further degradation.

Lacking clear instructions on sustainable sediment management and coastal restoration, these strategies will be oriented towards short-term economic gains at the cost of the long-term health of the environment. The policy can lead to significant and possibly irreversible damage to coastal ecosystems and undermine the robustness and functional integrity of these critically important areas. It is potentially have the indication of greenwashing which result in some misinterpretation on the planning, process, and the implementation part.

Thus, does the policy credible enough as regulation basis that enhance environmental preservation? The researcher wants to analyse deeper on the implication of PP No. 26/2023

through the approachment from both government and grassroots sides. By paying attention to the aspect of Environmental Impact, Policy Framework, and Ocean Health Index as the major data indicator. Although, implications of this research is tend to be more precise on the government behaviour which causing agenda setting for business purposes. The researcher hope that this research could be used as an academic review to decrease the environmental degradation.

1.2 Problem Statement

Based on the background above, the Problem Formulation in this study are:

1. How is the implementation of PP No.26/2023 on the development of Grand Batang City?

2. What are the contributions of Grand Batang City in managing coastal environment?

1.3 Research Purposes

This research have some purposes, such as:

1. Researcher will study on the corelation of the Government Policy (PP) No.26/2023 within Ocean Health Index in Indonesia and the activities of sand dredging in Grand Batang City. Are there any business purposes or interests that submitted inside of the policy.

2. Researcher will deeply observe the coastal ecosystem governance which potentially threaten by the PP No.26/23 throughout some interview within related parties.

3. Researcher will analyse policy implementation framework and the potential threat of Greenwashing act in Grand Batang City based on the implementation of PP No.26/2023 and Environement, Social, and Governance Aspect (ESG).

1.4 Research Benefits

Theoretically, the benefits of this research based on the description and concern of the background above are expected to be additional references and insights in further research on policy implementation as well as coastal governance. Researcher also expect on this research would express and open many discussion on the urgency of our coastal ecosystem towards handling climate crisis.

Practically, this research is expected to have contribution on the problem to extent the further study on coastal governance with concerning some policies that could threaten the environment for any personal, political, or even business interest.

1.5 Literature Review

In conducting research on a case, of course there is nothing that is truly new or that someone has already done research before. Literature review itself has the aim of gaining an understanding regarding the problem being discussed and then formulating it to solve a problem to be researched. In this case, researcher tries to collect information from previous writings that is appropriate to the topic to be researched, including the following:

The activity of sand dredging has occurred in Indonesia for several years ago and still continuing until now. One of the paper that discussing about sand dredging is "Investigating Impact Of Sea Sand Mining In Tunda Island Waters, Indonesia Based On Mike 21 Modelling" (Wahyudi et al. 2023). This paper mostly discuss on the sand mining activities that occurred in Tunda Island, Banten. The study carried out for 6 months starting from July to December 2021 and selected based on the Sea Sand Mining Business Permit Area (WIUP). The focus of this paper was to studied on the health condition of sea sand mining area. Using MIKE 21 software to carried out several data such as collecting samples, simulating bathymetric data, tidal, currents, and wave patterns. The result of this paper was stunning.

The impact of extracting sand from the lake on the sediment structure in the vicinity of Tunda Island was replicated over a 15-day period, both in the western season (January) and the eastern season (August). One of the highlight point that could impacting the environment is on the tools that uses by the company. The extraction of sea sand in the Tunda Islands involves the utilization of suction pipes, directing the material through the suction pipes on the drag head and into the hopper without undergoing initial washing through the exhaust pipe and chute. This method effectively manages the material's distribution across the entire bottom surface of the hopper. Water depth also become the important indicator in this paper regards to the study of aquatic environment (Zhou et al., 2017). Since the proposed sand mining sites is located on the high seas, the closest land to the mining area is Tunda Island.

The water depth had a significant impact on how deep the sand has been dredged. Although, the residue of the sand mining proven affecting the coastal ecosystem in around Tunda Island, such as the marine biota or the coastal depth barrier. This can be seen that the sand dredging in around Tunda Island clearly affecting the environment around it. Even though this research paper do not using any recent policies that allowing the sand dredging, the policy that referring on Regional Regulation of Serang Regency No. 2 of 2013 on the Zoning Plan for Coastal and Small Island Areas in Serang Regency for 2013-2033 and permit by the Regent of Serang, Decree No.540/Kep.68/Huk/2003. Based on the Serang Regency Regulation, the allowance of sand mining in small island around Serang Regency should be measured on the environmental impact and the usage of eco-friendly technology was highlighted on the policy, including its mining management. In the paper clearly stating that the technology that used in this paper resulting in bad impact on the environment around Tunda Island. That is why, researcher wants to compare on this study to giving a comprehensive perspective of sand mining management and its implication towards coastal environment. It also creating a further potential threat if the sea sand mining is use The

activities that had been done irresponsibly tend to affect the surrounding environment and ended in the threatening situation.

If looking on a broader eye of the world, there are several countries in South East Asia that have been done sand mining for a long time. Most of their exploitation resulting in an export activity that can support the reclamation project in other countries. One of the country that doing this activity is Cambodia. Based on the article "The Dirty Business of Sand – Sand Dredging in Cambodia" (Lee Kuan Yew School of Public Policy, 2012). This paper is revealing about the history of sand dredging around Cambodia since 1970's up until 21st century. Cambodia has a natural-rich resources, including the sand. Meanwhile around 36% of its people still lived in poverty and 1.7 million Cambodian still struggle to fulfil their own needs. This research paper took the perspective from Global Witness, an International NGO based in London which worked on campaigns and investigations to uncover the exploitation of natural resources and the role of the exploitation in fuelling corruption, conflicts and wars. They found in early 2009 when investigating the 'Country for Sale' report there was something fishy going on in Koh Kong. Koh Kong was known as home for fisherman, protected mangroves, the Peam Krasop Wildlife Sanctuary, and rich marine and floral life. Based on reports by Global Witness, the riverside and coastal in Koh Kong province had been invaded by loud sand-dredging boats and barges. They also got the data from observation which estimated for around 796,000 tonnes of sand were believed being exported every month. The most imported country on sand is reportedly in Singapore which needed for its construction and land reclamation. The investigation experience various obstacles, from the opression of Global Witness from Cambodian Embassy until the spotting member of senators that involved in the sand-dredging business. Although at the end of the day, Prime Minister Hun Sen had placed a ban on the export of sand as a response to the local protests. In this point of view, the allowance of the Cambodian government towards sand-dredging activities

and exportation was going quite smooth, far from the eye of outsiders. However, there also some contradictive and impacts that can be shown in terms of sand-dredging. From the social aspect into ecological relation. This paper shown the evidence of sand dredging activities that happened in ASEAN countries which have a similar concern in Indonesia and researcher study. Comparing to the paper, researcher can analyze that the involvement of some actors of government have a high possibility to reform or engage in the policy-making process. Thus, the sand-dredging activities become the highlight point to maintain coastal environment, followed by several policies which act as the regulatory basis. Researcher wants to fill in the gap of policy implementation framework which did not explained in the papers and revealing the truth of possible damage that can be happened in the coastal environment.

On the discussion of coastal preservation, many indicators that necessary to support the preservation process. One of the indicator can be seen from the Ocean Health Index (OHI). Based on the research of "Application of the Ocean Health Index to assess ecosystem health for the coastal areas of Shanghai China," by Wu, Chen, Meadows, and Liu (2021) explain furthermore on the use of OHI as its major indicator. OHI has been applied in ocean health studies from global to regional scales, not only provides a framework for evaluating changes in ocean health, but also can be used to identify causes underlying the changes and facilitate the implementation measure for improvement (Halpern et al., 2017). The research located on the eatern coast of China, Shanghai which has been a Jurisdictional Marine Area (JMA) of approximately 10,754.6 km based on Shanghai Marine Functional Zoning 2011-2020. The OHI that adapted in this research consist in four dimensions such as status, trend, pressure, and resilience which characterized by ten public goals within the total of ocean health score.
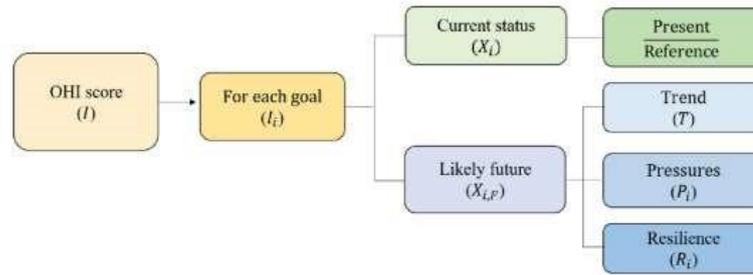
Picture 1.3. Framework Dimensions of Ocean Health Index (OHI)

The OHI includes 10 different public goals, some of which have sub-goals: Food

Supply (FP), Artisan Opportunities (AO), Natural Products (NP), Carbon Storage (CS),

Coastal Protection (CP), Coastal Livelihoods and Economy (CLE), Tourism and Recreation

(TR), Sense of Place (SP), Clean Water (CW), Biodiversity (BD). If the area or indicator

being evaluated is itself not related to a specific purpose, there is no need to calculate the

data. The OHI methodology used in the study was adapted in terms of the selection of

indicators and reference values compared to existing OHI research cases. There are

significant positive result that the OHI can be use as a quantitative indicator for measuring

coastal preservation in Shanghai. In this case, the status of ocean health can be use to forecast

on the further planning agenda made by the government. The realization on the coastal

preservation become the major concern to be established using the OHI as one of the

indicator. From the research above researcher believe that OHI can be use as one of the

method to assess the potential threat on the coastal environment in Indonesia. Through this

research, the OHI can maximized its function as the basis indicator to create some

recommendations for the policies that related to the coastal preservation.

1.6 Theoretical Framework

1.6.1 Ocean Health Index

Every aspect of life has one indicator which become the benchmark on the quality of the creature of things. Same as in every biological environment, ocean has their own indicator of health to monitor the sustainability aspect of the sea. The sea consists of many things to monitor, in this case Ocean Health Indicator become the relevant substance of indicator that should be implemented for any maritime research. According to Halpern, (2020); Mcleod et al, (2010) health ocean ecosystem can be defined as a system that balances the relation between the nature and society. Indeed, the relation between human activities and kind of exploitation have a significant damage to the ocean ecosystem which reducing the capacity of marine ecosystem to continue provide their natural resources. It is also align with the ideal aspect of sustainability for the oceans and coastal areas in United Nations Sustainable Development Goals known as SDG's (UN, 2015) that stated in Goal 14: "Conserve and sustainably use the oceans, seas, and marine resources in order to enhance sustainable development". Ocean Health Index was created in 2012 to evaluate the health of the ocean by estimating the current and future state of ten different targets (Halpern et al, 2012). According to (OHI, 2012), the objectives in any OHI assessment will depend on the context, thus the OHI scores represent objectives relevant to the assessment area. Those targets are consist of food provision, natural products, coastal protection, livelihoods and economies, clean waters, artisanal fishing opportunities, carbon storage, sense of place, tourism and recreation, and biodiversity. The index simultaneously captures the ecological and socioeconomic aspects of ecosystem health, rather than treating them separately or independently, it provides a key tool for making assessments synthesis necessary for ecosystem management.

In essence, the Ocean Health Index designed to take into account the specific characteristics of the natural environment and socio-economic activities.

Indicators	Sub-goal	Definition	Parameter
Food Provision (FP)	Fisheries (FIS)	Harvest of sustainable seafood from ocean wildlife.	Marine fishing
Artisanal Fishing Opportunity (AO)		Engagement in artisanal-scale fishing for subsistence and/or recreation	Fishing ports, traditional fishermen
Carbon Storage (CS)		Conservation of coastal habitats utilizing carbon storage	Condition of habitat, area of habitat
Coastal Protection (CP)		Conservation of coastal habitats utilizing protection from inundation and erosion	Condition of habitat, area of habitat, coastline erosion area.
Coastal Livelihoods and Economies (LE)	Livelihoods (LIV)	Profession in marine related departments.	Locals sea-related industries, per capita disposable income.
	Economies (ECO)	Revenue of marine related departments	Total output value of the marine industries
Tourism and Recreation (TR)		Entertainment and enjoyment in coastal areas for locals and tourists	Number of tourists
Sense of Place (SP)	Lasting Special Places (LSP)	Cultural, spiritual, or aesthetic relationships associated with iconic important coastal marine locations and environment	Protected coastal marine area
Natural Products (NP)		Sustainable harvest quantity and marine products that relates to focus on marine potential	Monitored fishing area
Clean Waters (CW)		Clean water free of detrimental nutrients, chemical pollution, marine debris, and pathogens	The area percentage of the first and second-class water
Biodiversity (BD)	Species (SPP)	The existence value of biodiversity calculated by the status of marine-related species.	Phytoplankton, zooplankton, benthic organism, mangroves.
	Habitats (HAB)	The existences value of biodiversity calculated by the protection status of habitat	Area of habitat

Table 1.1. Ocean Health Index Indicator

It can be applied in marine health assessment at different scales. According to Blenckner et al., (2017) the OHI framework has been used to evaluate global ocean health of 220 coastal countries and regions every year since 2012. That is why, in any coastal or marine research process OHI become the credible indicator to see the realtime situation of its health. It has also been applied at local and regional -scales, such as the Antarctic coast (Longo et al., 2017), Brazil (Elfes et al., 2014), Canada (Daigle et al., 2017) and Fiji (Selig et al., 2015), as well as areas along the Pacific coast of the United States in Washington and California (Halpern et al., 2014). Those research mostly are trying to elaborate the management framework into specific aspects of marine ecosystem with certain measurement. In Shanghai, OHI become one of the indicator that can be utilized at the city scale. As one of the largest coastal city and financial capital of China, the situation in Shanghai is trying to elaborate and analyze some aspects along its coastal. Lying on the intersection of Yangtze River estuary and the East China Sea which affected by human activities Since the early 20th century, the country's ocean ecosystems have been under enormous pressure, leading to widely reported environmental problems such as declining ocean water quality, coastal environmental degradation, and environmental degradation. However, it also reduce the productivity of coastal ecosystems (Wu et al., 2019). The indicator can be use for decision making situation and policy management by the government in order to achieve a long-term sustainable development of the city.

Ocean Health Index is as important as the basis academic review on each policy. This indicator can reflect the intention and seriousness of the government managing marine ecosystem especially on the coastal area. Thus, the certain method can measure several impacts to enhance the policy making process. In Indonesia become much more relevant due to the archipelago country which many coastal management have to be ensure its monitoring. By using two main aspect such as Coastal Protection (CP) and Coastal Livelihoods and

Economics (LE), researcher is trying to specifically describe the empirical condition that happen using the OHI as an ideal analysis. This method and results will serve as a basis for management and decision-making related to the development and protection of marine resources in the Indonesian coastal ecosystem

1.6.2 Coastal Protection

Coastal area is a very potential area for variety of development options. However, within the increasing of population growth and rapid development the activities in coastal areas for many utilizations (residential, fishing, ports, tourism, etc) which also increasing the ecological pressure on the ecosystem of coastal environment. The coastal area is also known as the land met with the sea and fresh water met salt water. In this case, the coastal environment become the supporting area for establishing many natural activities including the natural process of sedimentation. Indonesia's coastal area is depending on the situation of the weather which annually characterized by two seasons, wet and dry. The dry seasons usually occured from June to September and influence by the Australian continental air masses. The range of marine ecosystem in Indonesia is hugely varied, especially on the coastal ecosystems. These ecosystems support various collection of species and Indonesia also known as the home to the most extensive mangrove forests, sea grass beds and spectacular coral reefs in Asia. According to (Kusumanto, 1998), the conceptual urgency of coastal and ocean zone in Indonesia was based on three main reasons, such as: the fact that Indonesia is an archipelago country consisting of 17,508 pieces of small islands within a coastline along up to the 81,000 km. Secondly, the increasing of development activities and amount of population also affecting the coastal environment as the residential area. Third, is the concentration fo a shift in global economic activities. Many economically things happened in the coastline of Indonesia like the shipping activities until the fisheries. Although the changes in concentration surely will bring consequences for the coastal area in Indonesi

Coastal protection may be ensured through both natural or man-made systems which can be implemented and divided into two categories on hard and soft strategies. The hard strategies that mostly tend to prevent any huge damage to the land area is often man-made. The structures are built along the coastline to resist any deformation from wave or current sea activities. Hard coastal protection structures fall into the categories of sea dykes, seawalls, revetments, groynes, and offshore breakwaters (IADC, 2017). Although the soft strategies could capacitated in the natural ways like dune, supratidal beach, foreshore, mega and morphological nourishment. Both ways can be use as the solution to create a barrier for the coastal environment. However, the coastal protection that occurs naturally can be based on the preservation of coastal environment itself. Based on the Integrated Coastal Zone Management (ICZM) in 2013, the consideration on the importance aspect of coastal protection through the natural ways provided by the human itself. In this case, the relation of human and the natural become the one ecological beneficial aspect that built in order to establish a healthy coastal protection. The strategies of coastal protection based on both soft and hard situation also depending on the concept that occur in several coastal area. That is why the integration on the coastal protection aligned with its planning and implementation process should become the major consideration by the government.

The important part on the establishment of coastal protection is not only to prevent any natural causes but to maintain the ocean health from the edge of the land. Since the coastal waters are integral part of coastal region, the biophysics on coastal area still affected by a variety of ocean activities, such as water intrusion, tidal, wind and sea. The boundaries of the coastal line is only a delusion according to Latuconsina (2008), assuring that the boundaries of coastal up to the upstream where sea is still influencing the activity also got affected not only by the current activities that occurred in the coastal but naturally by activity anthropogenic carried by the flow of rivers. Therefore, the management of coastal should be

based on three principles of integration that assessed by Dahuri. R (1996). Firstly, the integration between land and sea ecosystems should be consider on the impact of various socio-economic situation. It means that the threat of damage to the ecosystem will be implicated to the negative situation of ocean ecosystem. Secondly, the integration between sectors and stakeholders. The cooperation that established on the alignment of coastal protection must based on the coordination and planning made by the both sides, especially on the stakeholders. It is also aligned with the cooperation in good governance system that need to be established not only on the urban development but in the coastal preservation. And the last thing is the integration between the level of government bodies, both local and the national level. The visions on establishing coastal management have to be in the same vision which also could affecting the planning and various implementation on the development process.

1.6.3 Greenwashing

On the other hand, the policy framework in the PP No.26/23 is being questioned. The good policy framework should be based on the right value and purposes in order to complement the previous policy. In this case, the major purpose on the policy is very clear but on the body of the policy consist of several description that potentially misunderstood. The misunderstood part of description can implicate some of the act of unethical behaviour like greenwashing. According to Wongkar and Apsari (2021) greenwashing simply can be defined as the act to manipulate public opinion using a green brand image. In this point of view, greenwashing is related to the branding and the front face of a product[1]. Lyon and Maxwell (2006) also added that greenwashing can be described as the intentional act of disinformation publicity to deliver environmental responsible[2]. Although at the beginning of the policy itself,

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[1] Sandha, Oktarika & Puspita Kurniawati, Chandra. (2023). SUSTAINABILITY FRAUD: GREENWASHING. 30-41.
[2] Delmas MA, Lyon TP and Maxwell JW (2019) Understanding the Role of the Corporation in

the readers was driven on the main purpose of the policy which is to support and enhance environmental health especially on the coastal environment. But there are some misinterpreted description that if we analyse deeply consist of several interests that potentially referring on certain unethical act. The society in this case who rolling as the reviewer of the policy was driven into several potential misleading information.

Indeed, it contains many words of "preservation" but deeply, the practical framework of the policy consist of several self-interest purposes. Greenwashing on this policy become much more related on how the policy described the potential misleading implementation of the policy. This act also can be recognized as the act of fraud context[3]
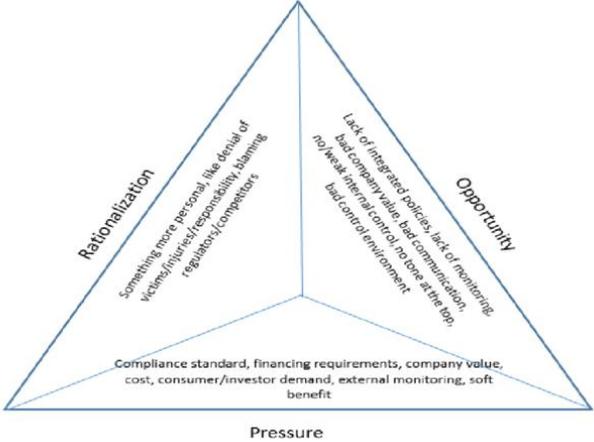
Picture 1.4. Greenwashing Triangle Framework. Source: Adapted from Delmas & Urbano 2011), KPMG (2020)

The triangle consists of three aspects which are rationalizations, opportunity, and pressure. Those three important aspects working alongside the purposes of the policy. In the policy itself, rationalization become the relatable factor to engage the policy in the rational thinking perspective. Moreover, the opportunity that the realization resulted can driven some additional information which implicate the potential acts to doing something inside of the

Sustainability Transitions. *Organization & Environment*, 32(2): 87–97
[3] Sandha, Oktarika & Puspita Kurniawati, Chandra. (2023). SUSTAINABILITY FRAUD: GREENWASHING. 30-41.

policy context. Within those two factors, there is a pressure factor that driving the reader to believe on the goals and benefits that can be obtained if the policy is implemented. The study by Kolcava (2023) on how greenwashing impacting on government regulation[4], propose that the society control using public opinion could be analysed into two steps. Firstly, on the public denunciation of private-sector measures as greenwashing would have to shift people attitudes towards some policy contexts in favour of government regulation. Secondly, the updated policy preferences would have to be translated into actual policy and decision making changes. Therefore, the research on this level indicates that citizen's policy preferences shape government's agendas (Chu and Recchia, 2022).

1.6.4 Policy Implementation Framework

Framework of policy making is being questioned since many agenda and interests are clashes in one government product. The product that resulted by the government directly can be seen by the regulations and law that produced for any kind of purpose. But the problems came when the policy context is not based on the rational implementation and framework. Datta et al. (2011, 69) on His observation in Indonesia declared that the 'policymaking process at the highest level of government is complex, multifactors, and tend to be not linear with certain goals'. The emphasize of the political situation followed by some various competing interests also influence the policymaking process in Indonesia. It can be reflected on the PP No.26/23 that the researcher wants to analyse. The policy have a big potential to create policy gap within its implementation and it potentially become misunderstood by several actors that playing in the field of the law.

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[4] Kolcava, D. (2023). Greenwashing and public demand for government regulation. *Journal of Public Policy*, *43*(1), 179-198.

In terms of policy implementation framework, government action and its branding become the significant part to determine some actions towards certain policy. Based on matrix theory by Richard (1995), policy implementation framework consist of several supporting factors which describing further on government actions and its corelation with policy implementation process. The implementation process highlighting mostly in the establishment of potential conflict and the ambiguity which can be seen on both perspectives in the matrix.

Picture 1.5. Matrix of Policy Implementation Process. Source: Richard E. (1995)

Picture 1.5 presents the type of implementation process based on the principle of outcomes of the policy. In order to determine the level of ambiguity and conflict, Richard (1995) use the matrix based on several factors such as administrative implementation, political implementation, experimental implementation, and symbolic implementation. All of the factors in the matrix determine policy makers action towards certain decision making based on both perspective of conflict and ambiguity.

1.6.4.1. Administrative Implementation

Administrative implementation become the first of factors that has low policy ambiguity and low policy conflict rate. The major principle in

administrative implementation located on outcomes which determined by resources. Resources that mentioned in this factor are based on financial, human, and technical that can be used in the certain policy.

On the other hand, low sufficient information also become the major resource based on theoretical overview from the policy context. Information flows from top to down which determined by hierarchical manner of bureaucracy order. In this case, related actors that create a policy should understand a standard operating procedure to expedite their work. However, the administrative implementation classified as low level on ambiguity and conflict because it looking on the broader overview of actors activeness rate towards policy implementation.

1.6.4.2. Political Implementation

In political implementation, the level of ambiguity is at the low point but high on creating potential conflict. The main principle of political implementation is located on the powers that determined the implementation outcomes. An actor or a coalition of actors have sufficient power to force their interest but not limited to do bargaining in order to reach an agreement.

This type of factor compliance with the policy makers action towards several goals in a policy. Power become a major thing that important to establish political implementation in factor in policy planning process. While bargaining process become the part of this factor, an act of negotiation to support some of political interest by the actors can be seen from this type of approach. Therefore, this factor is trying to view conflict based on actors involvement to create desire interest in a policy.

1.6.4.3. Experimental Implementation

If a policy determines a high level of ambiguity and low level f conflicts, the outcome will depend on which actors are active and most involved. In the factor of experimental implementation, a principle that applied is based on contextual condition which dominate the process.

Some outcomes which depend heavily on the resources and actors defined by looking on preferences which tend to be problematic or uncertain. Experimental implementation mostly based on real-time situation of implementation which determine the involvement of related actors in a policy. If the policy making process included several actors involvement, the actors related should responsible engage for implementing the policy.

However, the ambiguity point located on the goals and purposes of a policy which implemented unproperly by the actors. Since it is based on experimental condition, the policy is strictly monitored by the public. Besides that, lack of conflict in this factor is likely to open the arena for large numbers of actors to participate and provide certain interests. It seamlessly open the opportunity for the government to allocate their interest on fulfilling specific needs.

1.6.4.4. Symbolic Implementation

It seems improbable for a policy to be very ambiguous at the same time conflictual. It can be seen from several authors contest that high ambiguity in a policy might work towards conflict resolution in that policy. However, there exist policies which rightfully define the scope of being ambiguous as well as highly conflictual. Policies involving highly valued

symbols frequently tend to generate very high conflicts, even when the policy itself remains completely vague.

The main principle in symbolic implementation is located on local level of coalitional strength which determines the outcome. This factor is tend to be conflictual because it opens the possibility for several actors to intensely involved. One of the criteria that differs symbolic implementation from political implementation is on the coalition strength at microlevel. When a policy has a clear goal but ambiguous means of achieving it, it firmly belongs in the symbolic quadrant. As the level of ambiguity decreases, the policy shifts upward, moving into the political implementation quadrant. (Richard,1995). In this case, the policy implementation is work based on the coalition of actors at the local level who control available resources.

Additionally, conflict plays a central role to distinguish of relevancy between purposes and implementation process (Richard, 1995). A policy conflict will exist if there is an interdependence of actors, an incompatibility of objectives, and not perceived element of interactions towards its implementation (Dahrendorf, 1958). Therefore, policy conflict occurred when there are some incompatibility values and political interest by related actors.

In the aspect of policy ambiguity, implementation process of a policy determined based on some factors like political coalition and lackness on clarifying policy goals. However, the ambiguity is often become prerequisite for getting new policies passed at the legitimation stage. It can be seen from the legislatives act to compromises meaning of the policy depends on ambiguous language and different kind of interpretation. In this case, ambiguity is not limited to goals but affects the purposes of a policy. Thus, policy ambiguity created by policy makers inevitably based on real goals but on different perspective of

interpretation and implementation. The ambiguity also influenced by several political interest which determined by government action towards policy implementation process.

On the other hand, Government action can be recognized by the actions that carried out as a reasonable response in solving problem in a real way. From this point of view, the real actions become one of the indicator of personal branding that the government. Marbun (2012) also adding that any government real action is the straightforward tool which includes several attitudes and behaviour that existed outside the field of administrative law government. Thus, when it comes to the pragmatical aspect we can acknowledge that the focus of the government is not merely on the goals but interests.

1.7 Research Argument

The threat than ignite the coastal environment is clear. The government have a full charge and responsible to engage in creating a rational framework of policy for natural preservation purpose. Ocean Health Index that indicate the capability and condition of a nation's ocean become the important aspect to be aware. Implementation on the policy framework should be assigned to prevent any agenda setting that potentially occur caused by sand dredging following the implementation of PP No.26/23. Some factors that consist of society and private participation to prevent the threat also should be implemented in order to establish a good governance framework on the coastal area. Furthermore, the creation of good cooperation between the government institution within some private sectors in the field of coastal governance become the success or failure factor to measure the capability of Indonesian government towards the threat of dynamic changes on the environment.

1.8. Concept Operationalization

Good concept of governance on coastal area could significantly undergo future management of the coastline. Although, the key point of healthy coastal area located on the

sustainability aspect that can maintain the natural cycle of biodiversity that lives on the coastline. Coastal area has its own natural process to maintain the healthiness of the area. On the other hand, a policy came to manage its natural process as the main reason for any unclear purposes. At this point, a clear governance management is needed in order to protect the natural environment by doing some academic assessment.

A. Coastline management concept

The aim of shoreline management plan is to provide the basis for sustainable coastal defence policies with a coastal cell and to set objectives for the future management on its environment (Reeve, Chadwick, Fleming, 2018). The management of coastline area depends not only by the natural form but also located on the inter-relationship between nature and human. There are four key components of coastline management such as coastal processes, coastal defences, land use and the human built environment, and natural environment. It becomes fundamental point to understand the inter-relationship on both sides. Although, the relationships could underlie the creation of sustainable defence policy on coastal area.

On its development and management process, the construction of coastal engineering has been established as the implementation to protect coastal area. Indeed, Indonesian government is trying to establish such a sustainable design for rehabilitate coastal area using PP No. 26/2023. On the other hand, many experts came to criticize the policy which can not reach the level of ideal coastline management based on the concept of coastal engineering. Nevertheless, the environmental assessment also should be designed to conserve or enhance the natural environment. This concept becomes the key factor to recognize main purpose of the policy on its implementation in coastal area around Indonesia.

B. Policy Implementation Framework Concept

Policy implementation framework can be defined as a landscape or pathway for a policy to be applied which involve many aspects of factors such as administrative until politics. In the theory by Richard E. about matrix of policy implementation framework process consist several indicators which determine whether the policy tend to be political or ambiguous.

As an implementation research, researcher use this kind of approachment theory to define and seek for some potential involvement by the certain actors, especially from the policy makers towards its target. However, this concept of theory reflects not only the theoretical approachment based but analysing deep on the real-time situation which the policy implemented. Thus, this research have several hard-reason on analysing the policy based on actual situation. Moreover, researcher applied this concept as an ideal indicator for recognizing current situation which PP No.26/2023 is implemented in Grand Batang City.

C. Concept of Greenwashing Effect

A policy certainly requires some assessment based on its aim and purposes. On the aspect of environment, a policy making process and its planning become the major point that can be vulnerable to which contains any personal interest. All of the aspect that contains in policy making and relatable to the environmental can be generalized as the issue of Environmental, Social, and Governance (ESG) which transformed beyond corporate social responsibility. However, the amount of corporate involvement on certain policies that established for the purpose of business interest tend to be a target for greenwashing (Lockard and Becker, 2009).

General term of Greenwashing historically derived from the words green and whitewash which could possibly creates false or misleading environmental claims for the sake of interest or often products (TerraChoice Environmental Marketing, 2007). Based on the general types of greenwashing by Delmas and Burbano (2011), it recognizes into two kind of things such as the act of misleading consumers or audience regarding the environmental practices of a company. Secondly, the environmental benefits of a product or services. It affirms by many researchers that the act of greenwashing tend to publicizes disinformation in the general form of information or even to the policy, which deliver an image as environmentally responsible.

Based on the context of PP No.26/2023, the contextualization on its planning does not met the clear information of sedimentation management. As Delmas and Burbano (2011) specifies three actors that involve in greenwashing, namely external, organizational, and individual factors, the major form on Article 10 of PP No.26/2023 contains two actors which named by Delmas and Burbano. The Article 10 and 11 curated an agreement between government and business actors that involving in the management of sedimentation result to be dredged based on certain permits. On the other hand, the sedimentation management resulting in two types which explained on the Picture 1.2, consist of sea sand and mud. In fact, Article 9 highlighting sea sand and mud as the result of sedimentation process that can be used as many forms of things such as reclamations, several source of infrastructure development, and even for the commodity of exports.

Additionally, The Minister of Trade of Republic of Indonesia recently released the new policy which is Regulation of The Minister of Trade of The Republic of Indonesia Number 20 of 2024. The new policy highlighting reveals several goods and commodities that are prohibited for exports. But, on the points number 7 of goods that allowed for export purposes consist of result on sea sedimentation. It consist of sea sand and the mud

that came from sedimentation process in the coastal area. If we analyse using Picture 1.4 which explains about Greenwashing Triangle, it becomes relevant following on the pressure that came on many researcher criticizing PP No.26/2023. The government potentially establish a rationalization of the policy that underlie pressure from expertise. Although it came along with certain opportunities that revealing of the real purpose on Regulation of The Minister of Trade of The Republic of Indonesia No.20/2024 strengthen the points of coastal environment that exists in PP No.26/2023 to be utilized for further business purpose.

D. Concept of Ocean Health Index

Ocean Health Index (OHI) not the most used indicator to be used but one of the types that could relatable on policy context. However, OHI has been applied globally to assess and evaluate some changes regarding to the ocean health and its environment. OHI had 10 goals which refer to each area of analysis, which provide the framework to acknowledge causes underlying circumstances on the context of policy implementation (Halpern et al., 2017). The model specifies characters from environment to socioeconomics activities.

The development of OHI framework were used by many archipelago countries like Indonesia. As the ongoing development of infrastructure and economy are increasing by years, Indonesia had to used OHI for assessing several aspects which relates to the maritime affairs. In essence with the 10 goals of OHI which contains in Table 1.0, PP No.26/2023 highlighting the three main aspect from the goals. Goals of Coastal Protection (CP) and Coastal Livelihood and Economics (LE) in that table reflects the focus of this research will going to be conducted. As the context of PP No.26/2023 remains in the coastal area, researcher wants to use OHI as the environmental assessment tool of ideal indicators for coastal environment.

The points of CP explain about conservation of coastal habitats and utilizing protection from inundation and erosion. Acknowledge the goal, this OHI goals using current condition of coastal habitat and its rehabilitation process, as well as the width of beach border as the parameter. This goals also trying to overseeing the area of marine protected areas/marine national parks and marine nature. On the context of Grand Batang City, CP and LE will be used as an ideal assessment tool for indicating the damage and vulnerability of coastal protection around the area.

Based on these concepts, this research used indicators as follows:

a. Implementation of PP No.26/2023 on Grand Batang City

b. Contribution of Grand Batang City on Managing Coastal Environment

1.9. Research Methods

1.9.1 Research Design

In this research, the researcher uses mixed method descriptive quantitative and qualitative research type that will analyse certain problems and phenomena which will then produce an accurate description on the phenomena under study. Using the scientific geographical analysis based by the scientists combined with the Ocean Health Index analysis, researcher wants to know the implications and influency of PP No.26/23 towards the sand dredging activities followed by certain policy framework on Indonesia coastal area.

The mixed method that researcher wants to implement in this research is tend to have the overview perspective on the output and future implementation of this Government Policy or known as Peraturan Pemerintah (PP). In this study, researcher seek to provide the data from PP No. 26/23 alongside the several data from Ocean Health Index as the major ideal indicator by interviewing some scientists that relate on the coastal preservation and environment. Using purposive samplings, the data are provided by the Ministry of Maritime

Affairs and Fisheries (KKP) and Ministry of Energy and Mineral Resources (ESDM), combined with civil societies perspectives of impact to measure the potential and framework of the policy will lead.

1.9.2 Research Subject and Object

In this study, the research subjects have an important role as informants in obtaining data related to this research. The following informants are needed in this study are divided into two types, such as:

Government Institution:

1. Ministry of Fisheries and Marine Affairs Office Unit of Central Java Province

2. Head of Marine Service on Ministry of Marine and Fisheries

3. Head of Corporate Communication of Grand Batang City.

Civil Society or NGOs:

1. Head of Maritime and Ocean Preservation Campaign on Greenpeace Indonesia.

2. Co-Executive Officer of Indonesia Ocean Justice Initiative

3. Resident of Ketanggan Village

4. Resident of Kedawung Village

5. Resident of Sidorejo Village

6. Center for Coastal Rehabilitation and Disaster Mitigation Studies Diponegoro University

1.8.3 Data Source

Data are empirical collected by researchers with the aim of solving problem or answering research questions. Research data can be obtained from various sources that are collected using various techniques.

1.8.3.1 Primary Data

Primary data sources are data obtained by researchers directly from the data source or commonly referred to as original data. The primary data obtained by the researcher in this thesis is the result of interviews with informants and the results of direct observations of phenomena and problems. In this study, the primary data came from the implementation of PP No. 26/23 alongside Ocean Health Index as the complement indicator to encourage the empirical situation.

1.8.3.2 Secondary Data

Secondary data sources are data obtained by researchers indirectly. This data have intention to support the primary data obtained. Secondary data can be obtained from books, journals, literature, previous research, scientific data, and others. In this study, the secondary data came from the oceanography analysis and sediment transport model which interpreted into a descriptive explanation to strengthen the argument.

1.8.4 Data Collection Technique

Data collection in research needs to be monitored so that the data obtained can maintain the level of validity and reliability. Data collection in this study will use the following techniques:

1. **Interview**

The data obtained through the interview method in this thesis used a structured interview method. This structured interview method is an interview guide that is prepared in detail by using a form of check-list questions prepared by the researchers to be answered by the informants. In this method the researcher asks a series of structured questions, then one by one is deepened in extracting further information.

Thus, the answers obtained can cover all variables with complete and in-depth information. The informants who will support this research are from both government institution and civil societies or NGO. In collecting data through interview techniques, researcher will obtain data on how the implication of PP No.26/23 and its effects on the policy framework in Indonesia.

2. **Observation**

The observation in this research aims to achieve some details of activities of sand dredging and the management of coastal protection in Grand Batang City. Relating on both theoretical and empirical framework of concept, researcher wants to observe deeply on the context of this topic. Supported by several interviews and decision-making process that made by the government institution following the implementation of PP No. 26/23 in Indonesia. The data from this observation will create a synchronization between the planning framework and its implementation.

3. **Data Analysis**

In the data analysis, the researcher wants to collect the information based on the perspective from various sources on coastal governance aspects, both from the research object and Indonesia. This data can be a supporting information to encourage the implication of PP No.26/23 in Indonesia followed by its policy framework. Using Ocean Health Index as the ideal indicator for the real condition combine with Integrated Coastal Management (ICM) to measure coastal governance condition.

1.8.5 Data Analysis Technique

Data analysis carried out in this study was carried out throughout the study form the start. Since this type of research is qualitative research, it must be analysed since the start of the research. The following is the process of analysing research data:

1. **Data Reduction**

Data reduction is the researcher's way of summarizing the core data obtained and focusing only on the important things. It will not only to scrutinize the research discussion but also to enhance the data. In result, researcher will obtain simplified data so that the data does not seem complicated and mixed. Researchers need to simplify the data and discard data that are not related to the research topic. Thus, the purpose of this research is not only to simplify but to ensure the processed data is included in the scope of the research.

2. **Data Presentation**

After the data is reduced, the next step is to present the data. This step can be done by presenting an organized and structured set of information. Thus, the conclusion can be drawn. At this level, the researcher tries to combine and present the data according to the topic. Through descriptive quantitative researcher wants to describe the information and create the final hypothesis based on the scientific data and observation.

3. **Conclusion**

The last thing that the researcher did in the data analysis stage was to draw into a comprehensive conclusion from the data source that had been obtained. This step is intended to find the meaning of the data which already collected by looking for implications, similarities, or differences. By combining the quantitative data and the descriptive qualitative researcher can simplify the findings that can be gained in this study.