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OPTIMIZING COASTAL AND SMALL ISLAND AREAS THROUGH INDUSTRIAL RECLAMATION: AN EXAMINATION THROUGH THE LENS OF UTILITARIANISM THEORY

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Abstract: Indonesia, as the largest archipelagic country in the world with more than 17,000 islands, has the potential to become the world's maritime axis through optimizing marine resources. One of the policies taken was converting coastal areas and small islands as industrial reclamation areas. However, they faced several real problems and impacts. This research normatively analyzes the disharmony of reclamation regulations and the impact of policies on changing the function of coastal areas and small islands as industrial reclamation areas, focusing on the perspective of John Stuart Mill's utilitarianism theory. The research results show the absence of national law, which causes overlapping authority of agencies, a lack of harmony in perceptions between agencies, and a lack of specific regulations for reclamation requirements—judging from J.S.'s theory of utilitarianism. Mill, the current reclamation policy has not equally provided benefits and happiness because the negative impact is more significant than the expected positive. This research highlights the need for substantial improvements in the legal

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framework and implementation of reclamation policies to minimize negative impacts and increase positive contributions for stakeholders.

Indonesia, sebagai negara Archipelagic State terbesar di dunia dengan lebih dari 17.000 pulau, memiliki potensi untuk menjadi poros maritim dunia melalui optimalisasi sumber daya kelautan. Salah satu kebijakan yang diambil adalah alih fungsi wilayah pesisir dan pulau-pulau kecil sebagai kawasan reklamasi industri, namun, menghadapi sejumlah permasalahan dan dampak nyata. Penelitian ini secara normatif menganalisis disharmonisasi pengaturan reklamasi dan dampak kebijakan alih fungsi wilayah pesisir dan pulau-pulau kecil sebagai kawasan reklamasi industri, dengan fokus pada perspektif teori utilitarianisme John Stuart Mill. Hasil penelitian menunjukkan ketidakadaan hukum nasional yang menyebabkan tumpang tindih kewenangan instansi, kurangnya keselarasan persepsi antar instansi, dan kekurangan aturan khusus untuk persyaratan reklamasi. Ditinjau dari teori utilitarianisme J.S. Mill, kebijakan reklamasi saat ini belum memberikan kemanfaatan dan kebahagiaan secara merata, karena dampak negatifnya lebih besar dibandingkan dampak positif yang diharapkan. Penelitian ini menyoroti perlunya perbaikan substansial dalam kerangka hukum dan implementasi kebijakan reklamasi untuk meminimalkan dampak negatif dan meningkatkan kontribusi positif bagi pemangku kepentingan.

Keywords: Transfer of the function; reclamation; utilitarianism.

INTRODUCTION

Indonesia, a country with the nickname "Archipelagic State," the largest in the world, has more than 17,000 islands with a total sea area

reaching 5.8 km² of the total 7,827,087 km2 of Indonesia's territory. The special condition of this archipelago opens opportunities for the Indonesian government to launch programs that can make Indonesia the world's maritime axis by optimizing marine resources in Indonesia. Coastal areas and small islands that have very high potential natural resources and environmental services, both as provisioning, regulating, cultural and supporting, are then used as one of the basic capitals of Indonesia's economic development.

The manifestation of the spirit to accelerate development by utilizing the condition of Indonesia's territory, which is more than 70% in the form of waters, has resulted in the government looking at areas that have been untouched, namely coastal zones, as alternative land needs (Djakapermana 2022:1). Generally, this coastal area is considered worthless and does not provide great benefits for economic and environmental development, So the government formed a state policy to transfer functions to coastal areas and small islands to be used as industrial areas. Function transfer, according to KBBI, is switching functions. The conversion of coastal areas and small islands can be interpreted as a change in the function of part or all the coastal areas and small islands from their original functions to other functions that affect the area's potential.

The implementation of the policy of converting the use of coastal areas and small islands into industrial estates gave birth to innovations to make efforts to reclaim water areas. Reclamation is a concept that involves acquiring land for the more productive use of certain needs. Reclamation can be divided into several types, but the main one involves restoring

abandoned mining areas and adding a certain amount of land volume to the seabed until it reaches above water level, thus forming new areas (Martín-Antón et al. 2016:667). Reclamation is improving useless areas that can be used for various human purposes, such as port transportation facilities, industrial areas, settlements, tourism and recreation. Many countries, especially island countries, use this type of water area reclamation to maximize the benefits of coastal resources by modifying the form of landscapes.

Reclamation is one potential solution to the increasing demand for new land for living and development. Many countries in the world, such as the Netherlands, Britain, Japan, South Korea, Dubai, China and Singapore, have carried out coastal reclamation as an effort to expand land and protect the land from abrasion (Wang and all 2014:1). The countries' success in reclaiming coastal areas provides an opportunity for Indonesia to adopt reclamation as a step to utilize coastal areas and small islands as industrial areas. Although there is no official record of the first-time reclamation was adopted in Indonesia, the Ambon Municipal Government carried out reclamation on Mardika Beach in 1980.

The reclamation program for coastal areas and small islands was chosen by considering the various benefits that can be obtained from this program, such as maintaining land due to sea level rise, obtaining new land, increasing regional income, and improving the socio-economy of the community (Jaya 2012:2). However, the implementation of the reclamation program must be carried out systematically and sustainably by considering the spatial planning guidelines for coastal reclamation areas so as not to

cause degradation of the aquatic environment, including damage to mangrove ecosystems, deterioration in water quality and other ecological problems that have an impact on survival. Therefore, the utilization of the reclamation program for coastal areas and small islands is dynamic because it is considered a strategic activity as well as dilemmatic in development activities.

Based on records from the Ministry of Marine Affairs and Fisheries (2019), in the period 1980-1990, small-scale reclamation was relatively widely carried out in various cities in Indonesia, including Manado, Makassar, Ternate, Surabaya, Tanggerang and Denpasar. In 1995, the government initiated the implementation of the largest reclamation in Indonesia, namely the reclamation of the North Coast of Jakarta, as outlined in Presidential Decree Number 52 of 1995. Based on data from the Ministry of Marine Affairs and Fisheries in 2016, at least 37 locations will be developed through reclamation (Himawan and Tolen 2016). The increase in the number of reclamations is based on several reclamations that have been successfully carried out, among others, the reclamation of the Lampa Strait of Natuna Kabupate, the reclamation of Nipa Island Batam City, the reclamation of Belawan waters of Medan City, the reclamation of coastal areas of Purbolinggo City, the reclamation of coastal areas of Balikpapan City, the reclamation of the centre point of Indonesia (CPI) Makassar City and the coastal reclamation of Ternate City.

Although reclamation has various benefits, both economic benefits to support economic growth and environmental benefits of disaster mitigation, in some cases, the implementation of this reclamation seriously

impacts the environment and socio-economic community. The adverse impact of this reclamation is not only felt by the community around the reclamation area but also impacts the community supplying reclamation materials. The negative impact of reclamation can occur if the implementation of reclamation does not prioritize a synergistic and sustainable spatial plan, the sustainability of human life and livelihood and marine life, the balance between the use and preservation of the coastal environment, as well as technical requirements ranging from retrieval, dredging, to stockpiling reclaimed materials.

Some reclamation activities in coastal areas and small islands have received an unfavourable response from the community because they hurt community survival and ecosystem damage. An example is the megaproject of reclamation of Jakarta's North Coast (Pantura) coastal area. As the oldest reclamation in Indonesia, because it has been carried out since the New Order government until now, the reclamation of Pantura Jakarta cannot be separated from the rejection from both the central government, regional governments, and the community. The rejection is based on the results of an analytical study conducted by the Ministry of Environment on the environmental impact of the Pantura Jakarta reclamation program. The findings show that the construction of the Jakarta Bay reclamation project will cause various environmental impacts, including worsening the intensity and magnitude of flooding in Jakarta and damage to marine ecosystems due to the extraction of filler materials (Velarosdela 2018). In addition, the socio-economic impact is also felt by local fishermen who are harmed by

reclamation because the area's ecosystem to make a living is damaged, so they must sail farther to find fish.

Not only will it affect coastal areas and islands that will be used as reclamation locations, but negative impacts will also be felt by people in the dredging area of reclaimed materials. As experienced by the fishing community of Kodingareng Island, South Sulawesi. Before the sand mining activities for the Makassar New Port (MNP) reclamation, the life of a fishing family on Kodingareng Island was going well. The average income of fishermen ranges from Rp.200,000 to Rp.2,000,000. However, since the existence of sea sand mining activities, they have experienced suffering and losses both materially and non-materially. During the 257 days since the mining activity, the total loss of 1,043 fishermen on Kodingareng Island has reached Rp.80.4 billion (Amin and all 2021:5–25).

Overlapping reclamation policies also affect the environmental and socio-economic impacts suffered by a region. Herowanti (2021) conducted an analysis of the legal certainty of reclamation arrangements. In her research, Herowati found that there was only a single national-specific law on reclamation. Reclamation policies that focus on the autonomy of each region cause overlapping authority between related agencies, causing legal uncertainty in the implementation of reclamation development projects. The implication of this study is to emphasize the need for national reclamation arrangements in order to integrate various interests related to the implementation of reclamation in order to realize legal certainty in the field of reclamation development (Herowanti 2021:206).

Wei Wang (2014) conducted a study of the impact of reclamation, and the result was that many coastal and marine ecosystems could not accommodate these changes. Severe impacts resulting from reclamation are a reduction in coastal wetland area by more than 50%, loss of biodiversity, destruction of fish habitat, reduced water purification ability and several other negative impacts (Wang and all 2014:9). Different from Wei Wang's research which presents data on the negative impact of reclamation, Rahmah (2021) shows that the reclamation of Seruni Beach has a positive impact on the community, ranging from increasing public spaces to increasing the economic income of the surrounding community. This is because many of the surrounding communities whose main livelihood is in the waters have turned into traders in the Seruni Island reclamation area. This statement actually raises a new question about the factors causing the transfer of professions from people who were originally fishermen and seaweed farmers to trade because the transition of livelihoods is possible due to damage to marine ecosystems, which causes the loss of fishing areas around the waters of Seruni Island (Rahmah 2021:20).

Discourse on the pros and cons of reclamation in national development efforts is inseparable from the positive and negative impacts of its implementation. This can be seen in the support for reclamation projects, directly proportional to the rejection received. Undeniably, some reclamations bring benefits to development, but on the other hand, they also bring losses to the community. Some of the previously mentioned studies have also shown different results regarding the impact of reclamation on life.

That is, a particular study is needed on the impact of reclamation in terms of the project's benefits for the benefit of the wider community.

Departing from the argument above, John Stuart Mill suggests that the ethics of a policy can be considered good if it can provide happiness to everyone involved in an event and not just one person's happiness (Mochtar and Hiariej 2021:286). Therefore, if the government wants to make reclamation the answer to development needs, then the government must measure how much benefit reclamation is. The government must conduct a study on the benefits of the reclamation program for the state, community, and aquatic ecosystems so that the use of this reclamation does not have short-term use value but is also sustainable in the future. Various studies on reclamation problems have been carried out, but only some have focused on the implications of reclamation of water areas and small islands as industrial areas, so this research is expected to complement existing research. Departing from this argument, the author is then interested in conducting a study on how the impact of the policy of converting the function of coastal areas and small islands as industrial reclamation areas is viewed from John Stuart Mill's utilitarianism theory.

RESEARCH METHOD

The type of research used in this study is normative research. Soerjono Soekanto suggested that normative research is legal research conducted by examining library materials or secondary data (Soekanto 1981:15). This research examines theoretical matters related to basic norms or rules, legal theory, and doctrine with three focus approaches, namely the

statutory approach, theoretical approach and analytical approach. Normative legal research is carried out by examining library materials or secondary data. Researchers search legislation, journals, research reports, government agency reports, articles, and news related to the topic of study discussion.

DISCUSSION

Reclamation: Coastal Disharmony

Article 33 Paragraph (3) of the 1945 Constitution which states that *"Earth, water and the wealth contained therein are controlled by the state and used as much as possible for the prosperity of the people*". The logical consequence of the control, management and utilization of these natural resources is that the state has the authority to form policies and programs for natural resource management used for national development. One of the government's policies in the use of natural resources (especially coastal resources) for national development is the granting of permits to manage coastal areas and small islands by changing the function of utilizing coastal areas as new areas.

Coastal areas under regional governance territory often encourage local governments to create new spaces for various activities including industrial estates (Herowanti 2021:207). One of the efforts that can be done by the government, especially local governments, for regional expansion is to transfer functions to coastal areas and small islands that are considered not of high value as an alternative to meet land needs. Coastal areas and small islands that are relatively narrow are then converted into industrial areas by expanding land areas through reclamation.

In general, the rules regarding the conversion of coastal areas and small islands to be used as new spaces are contained in Law of the Republic of Indonesia Number 32 of 2014 concerning Marine Affairs as an effort to develop marine with marine spatial management methods to achieve national prosperity. Management of marine spatial planning can also be done by forming new artificial land or increasing the volume of land in coastal areas and small islands called reclamation. Water reclamation more concretely refers to the practice of converting coastal land into landscapes that are more usable by humans by prioritizing anthropogenic use and changing land from a natural state to an artificial state driven by human use (Gerwing and all 2021:9).

The policies related to the reclamation of coastal areas and small islands have been regulated in various provisions of laws and regulations and derivative rules, as follows: Law Number 27 of 2007 concerning Management of Coastal Areas and Small Islands; Law Number 32 of 2009 concerning Environmental Protection and Management; Law Number 26 of 2007 concerning Spatial Planning; Law Number 32 of 2004 concerning Regional Government; Presidential Regulation of the Republic of Indonesia Number 122 of 2012 concerning Reclamation in Coastal Areas and Small Islands; Regulation of the Minister of Marine Affairs and Fisheries of the Republic of Indonesia Number 25/PERMEN-KP/2019 concerning Permits for Reclamation Implementation in Coastal Areas and Small Islands.

Lex specialist regarding the reclamation policy of coastal areas and small islands is regulated in Law Number 27 of 2007 concerning the Management of Coastal Areas and Small Islands. Article 34 of Law No. 27

of 2007 states that reclamation of coastal areas and small islands must be able to increase the benefits and/or added value of coastal areas and small islands, both from technical, environmental, and socio-economic aspects. The implementation of reclamation must pay attention to the sustainability of life and livelihood, the balance between the interests of utilization and the interests of preserving the functions of the coastal environment and technical requirements (retrieval, dredging and stockpiling of reclaimed materials).

The specific requirements for the implementation of reclamation are regulated in Law Number 32 of 2009. Article 22 states that every business and/or activity that has an important impact on the environment must have an AMDAL consisting of an assessment of the impact of the business plan and/or activity, evaluation of activities around the location of the business plan and/or activity, suggestions for input and community responses to the business plan and/or activity, forecasts of the magnitude of the impact and the important nature of the impact that occurs if the business plan and/or activity Carried out, holistic evaluation of the impacts that occur to determine environmental feasibility or ineligibility, and environmental management and monitoring plans.

Furthermore, special reclamation rules are also regulated in the Presidential Regulation of the Republic of Indonesia Number 122 of 2012 concerning Reclamation in Coastal Areas and Small Islands. Broadly speaking, Presidential Regulation discusses planning, licensing, and implementation of reclamation. Planning starts from determining the location, preparing plans, feasibility studies, and preparing detailed designs.

Granting location permits and permits for reclamation implementation by ministers, governors, and regents/mayors according to their authority. Finally, is the implementation of reclamation with techniques of rugation, land drainage, and/or drainage.

Not only regulated in laws and presidential regulations, reclamation of coastal areas and small islands is also regulated in the Minister Decree Number 25/PERMEN-KP/2019 concerning Permits for Reclamation Implementation in Coastal Areas and Small Islands. This Ministerial Regulation regulates water location permits for reclamation activities and water location permits for reclamation material extraction activities from the sea. In addition, it also discusses environmental permits and the minister's authority to grant environmental permits.

In addition to these three rules, reclamation policies are also regulated in the regional regulations of each territorial area. The birth of each regional regulation that regulates reclamation is inseparable from the mandate contained in Law Number 23 of 2014 which gives authority to provincial regional autonomy to manage marine areas and utilize natural resources optimally, while being responsible for the utilization, maintenance, impact control, cultivation, and preservation of marine areas. The ratification of Law Number 23 which is a substitute for Law Number 32 of 2004 caused a paradigm shift in water area management which was originally the authority of City/Regency regional autonomy changed to provincial regional authority.

Various forms of reclamation policy arrangements ranging from laws, presidential regulations, regional regulations to ministerial regulations occur

because of the selfishness of each institution to utilize water area management. This egoism not only creates conflicts of use and authority between each institution, but also disharmonized laws and regulations. Disharmonization of laws and regulations means that there is no legal certainty in its implementation (Susetio 2013:136).

There is some disharmonization of the reclamation policy of coastal areas and small islands. *First,* regarding the effectiveness in implementing the PWP3K Law which is considered still ineffective because even though changes have been made to Law Noumber 1 of 2014, there are still implementing regulations that do not yet exist/be issued. In addition, the two PWP3K Laws have not applied an integrated coastal management approach, which is characterized by the absence of renewal of unequal control and exploitation and the existence of dissynchronization with other laws (Adam and all 2012:vi). Another problem is that there are still many Provincial Governments that do not have a Regional Regulation on Zoning Planning, even though the reclamation location permit has been issued, resulting in a vacuum and legal uncertainty regarding the implementation of reclamation of the area concerned.

Second, there is no synergy from the institutions/stakeholders involved because most of these institutions/stakeholders have and refer to their respective (sectoral) laws and regulations. Overlapping policies have an impact on licensing issues in UUWP3K, so this law has not been implemented optimally because stakeholders do not have the same perception of Law No. 27 of 2007 jo Law No. 1 of 2014 concerning Management of Coastal Areas and Small Islands.

Third, the conflict between Law No. 26 of 2007 concerning Spatial Planning and Law No. 27 jo Law No. 1 of 2014 concerning Management of Coastal Areas and Small Islands. Article 24 of Law No. 26 of 2007 regulates the Regional Spatial Plan (RTRW) determined by the local government and article 9 Paragraph (5) of Law No. 27 of 2007 jo Law No. 1 of 2014 which regulates the Zoning Plan for Coastal Areas and Small Islands (RZWPPK) is also determined by the local government. Basically, RTRW and RZWPPK are a unit that regulates relatively the same thing, so it should not need to be made with two different local regulations (Adrianto and all 2015:27–28).

Fourth, the issuance of Law Number 23 of 2014 which replaced Law Number 32 of 2004 concerning Regional Government, created a legal vacuum in the management of coastal areas and small islands in the Regency / City. Law No. 32 of 2014 only gives the authority to manage coastal areas to provincial regional governments, while Law No. 1 of 2014 states that coastal area management can be carried out by governors or regents/mayors in accordance with their jurisdiction. The authority of the provincial government and district / city government in the management of coastal areas is not further explained in Law No. 32 of 2014, thus creating legal uncertainty (Adrianto and all 2015:29).

Fifth, the presence of decentralization of regional autonomy to manage coastal areas and small islands also has an impact on overlapping reclamation policy rules. This is because, regional autonomy is interpreted as the sovereignty of each region to form regional regulations that vary from one region to another. For example, DKI Jakarta has its own rules regarding reclamation policies as stipulated in the Regulation of the Governor of DKI

Jakarta Province No. 121 of 2012 concerning Spatial Planning of the North Coast Reclamation Area of Jakarta. South Sulawesi Province also issued Regional Regulation No. 2 of 2019 concerning the Zoning Plan for Coastal Areas and Small Islands of South Sulawesi Province for 2019-2039. Several other provinces also issued reclamation policy rules that bind their jurisdictions.

Reclamation policy, which is considered as autonomous sovereignty of a region, raises a problem if in its implementation it has an impact not only on the area concerned, but also those under the jurisdiction of other regions. This condition creates a legal vacuum in the implementation of reclamation development. This is realized by the absence of certainty in national laws and regulations in the form of regulations containing various prerequisites from agencies related to the implementation of reclamation (Herowanti 2021:210).

It is clear in the above statement that reclamation policies have different arrangements from one region to another and there is also overlapping authority between related agencies. This disharmony of laws and regulations results in different interpretations in the implementation of regulations, the emergence of legal uncertainty, laws and regulations are not implemented effectively and efficiently, and legal disharmony (Susetio 2013:142). Another crucial consequence of the disharmonization of reclamation policy arrangements is its detrimental impact on marine ecosystems. Because, each institution feels entitled to use, but no one is responsible when damage occurs. The absence of a national law that specifically regulates water reclamation, then has an impact on the absence

of responsible parties if there is damage or negative impacts from reclamation projects. Even though the negative impact caused by reclamation activities is not only around the reclamation construction site, but also has an impact on the area of sand material extraction for reclamation or areas that intersect with the location of stockpiling and mining reclamation that is outside the jurisdiction of the reclamation area carried out.

The government is expected to be able to harmonize different interests between regions that intersect with reclamation areas and jurisdictional intersections between agencies in reclamation arrangements in an area. Therefore, the government needs to issue a special law that applies as a *lex generalis* for all regulations related to reclamation that contains all requirements, starting from the stages of the reclamation planning process, the stages of the process of utilizing reclamation areas, the stages of the reclamation area control process, controlling negative environmental impacts and the interests of related agencies in the implementation of reclamation in order to realize legal certainty in the field of reclamation development. In addition, it is important to consider reclamation management and increase public involvement in reclamation management.

Industrial Estates: Coastal Policy Evaluation

The transfer of the function of coastal areas and small islands as industrial areas is intended to reduce marketing costs and delivery costs of industrial products. This is because coastal areas and small islands are strategic areas with typography that is relatively easy to develop and has good access to support means of movement. The implementation of the

conversion of coastal areas and small islands into industrial areas is that the coast is transformed into a landscape that is more usable by humans through anthropogenic methods. Although reclamation of coastal areas is permissible, Article 34 of Law No. 27 of 2007 confirms that reclamation can only be carried out if the social and economic benefits obtained are greater than the social and economic costs.

The conversion of coastal areas and small islands as industrial areas with reclamation has been carried out by several developed countries in the world. China is one of the countries that since 2009 has revitalized the iron, steel, petrochemical, shipbuilding, thermal power, nuclear power, and other heavy industries to coastal areas. Reclamation is the Chinese government's solution to meet the needs of economic development land with low costs and very large benefits. The economic benefits are so great that local governments and developers have further boosted the demand for land reclamation (Wang and all 2014:4–5).

Indonesia as a country with a dominance of sea and coastal areas 3/4 (three quarters) of the total territory of the country, began to introduce the use of water reclamation since the 1980s. The first reclamation in 1980 was carried out by the Ambon City Government on Mardika Beach. During the span of 1980-1990, several cities in Indonesia, such as Manado, Makassar, Ternate, Surabaya, Tanggerang and Denpasar have carried out small-scale reclamation. The philosophical, sociological, and juridical foundations of the policy of reclamation of coastal areas and small islands are as follows:

First, philosophy. Pancasila and the 1945 Constitution as *staatfundametalnorm* mandate that all policies issued by the state are used to

maintain state welfare. Likewise, the control and management of earth, water and natural resources carried out by the state must be used as much as possible for the prosperity of the people as stated in Article 33 Paragraph (3). Based on the authority of the state in control and management, the government makes arrangements and manages coastal areas and small islands, including transferring functions to be used as a means of port transportation, industrial estates, settlements, tourism and recreation and so on with water reclamation methods to advance Indonesia's development and economy.

Second, Sociological. Indonesia as an archipelagic country with a total of 17,504 islands makes water reclamation a solution to expand territory. Reclamation is carried out by expanding coastal areas or turning small useless islands into high-value areas. The development of industrial estates in coastal areas and small islands is intended to improve the national economy, increase regional income, improve the socio-economy of the community, and open opportunities for high-value development.

Third. Juridical. Since the inception concerning Regional Regulations, governments and local governments have been given the authority to manage natural resources within their jurisdiction. The management includes utilizing coastal areas and small islands for industrial estates. The reclamation policy regulated in the Presidential Decree, Regulation and Regional Regulation was formed to fill the legal void of the PWP3K Law which does not provide specific rules in the implementation of coastal reclamation.

Suhud (1998) states that coastal reclamation is carried out with the following objectives: 1) the acquisition of new land that can reduce pressure on land needs in already congested parts of the city; 2) enable water transport to reduce the burden of land transport; 3) the opening of opportunities for the development of high-income development; 4) increase marine tourism; 5) increase in regional revenues; 6) promote the economic growth of coastal communities and urban economies; 7) improving the socio-economic community (Raymond and Ma'rifah 2021:6).

Water reclamation activities generally have a positive impact on regional development. This practice provides options for providing land for territorial expansion, structuring coastal areas, generating alternative activities, building new spaces and reeviltalizing previously damaged coastlines for the better and more useful. The benefits of reclamation in terms of the environment, which is used for the manufacture of breakwaters and sea walls to anticipate changes in sea current patterns that can cause accretion and abrasion of coastal lands and small islands. In coastal areas like this, reclamation must be carried out to restore the shape of the beach affected by abrasion to its original shape (Edyanto 2016:3). Another result of reclamation is that new land can also be used to withstand tides (tidal floods) if seawater retaining walls are made.

The reclamation of coastal areas and small islands for industrial estates also has a considerable positive impact on the community and national economic growth. Industrial estates that are used as a concentration of industrial activities (processing of raw goods and/or semi-finished goods into goods that have added value) with various supporting facilities and

infrastructure developed and managed by companies in industrial estates, encourage the growth of the industrial sector to be more centralized and integrated, and provide more optimal results for the area where the industrial estate is located. The development of industrial estates is expected to absorb many workers to reduce unemployment at the national, regional and local levels, encourage national and regional economic growth, grow the foreign investment climate, and spur the development of the industrial sector.

Although theoretically reclamation can produce many positive impacts on the environment, people and countries, the management of coastal areas faces three main challenges. First, is the problem of biophysical degradation of coastal environments (corals, fish populations, coastal erosion, pollution, sedimentation, and siltation). Second, there are conflicts over use and authority in coastal areas, thereby reducing the effectiveness of sustainable coastal management. Third, unclear ownership and management often lead to legal uncertainty (Kementrian Hukum dan HAM 2015:3).

In the previous discussion, the author has explained the challenges of utilization conflicts and legal vacuums, so in this discussion the author focuses more on discussing the problem of biophysical degradation of coastal environments and other negative impacts of reclamation of coastal areas and small islands. The People's Coalition for Fisheries Justice (KIARA) noted that Indonesia currently has 41 reclamation projects for investment purposes that damage coastal and marine ecosystems [Kamim, 2020:106]. The number of problematic reclamation projects cannot be separated from the government's belief that coastal areas and small islands have great potential

for the development of new economic centers, but it is not followed by an in-depth analysis of the benefits and disadvantages of reclamation.

Reclamation area development activities (including industrial estates) in coastal areas and small islands if not properly calculated, will result in degradation of environmental quality and other negative impacts. Geotechnical issues are one of the most important issues in water reclamation. The compaction stage becomes a big problem when creating a new area, whether the material is obtained from the sea or excavated from land. It is difficult to achieve a large and perfectly filled area, so it is sometimes allowed to consolidate little by little. The phenomenon of soil liquefaction occurs mainly in sand when interstitial water pressure increases significantly (Martín-Antón et al. 2016:670–71).

Reclamation will also raise water levels in aquifers and will bring water interfaces toward the sea. After reclamation, the infiltration and size of the aquifer increase, thus increasing the volume of water. Increasing water volume is a serious problem in coastal areas, because when water moves towards reclamation and water discharge on both sides of the island increases, it will have an impact on the water level in the coastal area opposite the reclamation site, so that the beach is prone to sinking [Guo &; Jiao, 2007: 336]. Reclamation also has a series of negative impacts on ecosystems and the environment which are manifested in the following areas (Gea and Jun-yan 2011:106–7).

First. Habitat functions, eeclamation often leads to environmental degradation, leading to decreased biodiversity, reduced natural wetlands, and extinct animal and plant habitats. Second, adjustment function,

reclamation also has an impact on coastal loss, loss of wave energy dissipation space, decreased seawater clarity, increased frequency and intensity of algae/algae and increased disaster risk. Reclaimed materials and pollutants produced during reclamation activities can pollute the marine environment. Changes in coastlines caused by ocean reclamation also affect sediment deposition. Production function, large-scale reclamation projects can cause changes in the topography of waters that affect fishery resources. At the same time, the rapid development of industry continues to produce many pollutants that are discharged into the sea and seriously affect the regeneration capacity of fishery resources.

Reclamation policies that adversely affect ecosystems show that the implementation of reclamation still uses an anthropocentrism approach rather than an ecological truth approach. It is undeniable that erosion and sedimentation can actually also be caused by natural dynamics, but making coastal engineering and construction activities without paying attention to local hydro-oceanographic dynamics, erosion and sedimentation events as well as floods and droughts can be detrimental (Adrianto and all 2015:18). For this reason, it is important to consider ecological truth in forming a policy related to the environment. The truth is that man is part of an ecological process, without which nature and other living things cannot survive. Awareness of this ecological truth will save humans from the domino effect of natural damage (Arief and Samekto 2007:17).

If you look at the positive and negative impacts resulting from reclamation projects, it is appropriate to conduct a theoretical review study on the utilitarianism of reclamation policies in Indonesia, especially

reclamation for the benefit of industrial estates. The theory of utilitarianism used as an analytical knife is John Stuart Mill's theory of utilitarianism. J.S. Mill's view of utilitarianism is based on a critique of Jeremy Bentham's theory of utilitarianism which focuses more on the broadest importance and happiness for everyone. John Stuart Mill suggests that the ethics of a policy can be considered good if it can provide happiness to everyone (collective) involved in an event and not just the happiness of one person (individual). J.S. Mill emphasized that in the event that individual interests rub against the public interest, then instinctively humans as moral and intelligent beings will be able to adjust their interests to achieve common interests (Mochtar and Hiariej 2021:286–87).

Departing from J.S. Mill's utilitarianism theory, coastal reclamation policies can be said to be narrow happiness whose benefits are only received by some systems. Reclamation of coastal areas for the purposes of industrial estates, settlements, offices, and other economic activities, is a development project carried out to achieve short-term economic benefits without considering long-term benefits (conservation). In fact, if we examine further, long-term economic development with the concept of conservation, actually has economic value that is not inferior to the economic value of other sectors. Indonesia has a very abundant marine economic potential. The Ministry of Maritime Affairs and Fisheries (2020) estimates that the potential of the marine sector can reach US $ 1338 billion or IDR 19.6 trillion per year (Anna 2020). This is because, Indonesia is a marine mega-biodiversity country that has more than 8,500 species of fish, 555 species of seaweed, and 950 species of coral reef biota.

In addition, the negative impact of reclamation projects for short-term economic benefits can be seen in several reclamation cases, such as Jakarta Bay reclamation, Manado beach reclamation and several other cases. Not only has an impact on the reclamation site, the negative impact of this reclamation is also felt by communities that intersect with the reclamation project, including communities whose areas are the location of reclamation materials. The negative impact of this reclamation project activity was experienced by the people of Kodingareng Island, South Sulawesi. Sea sand mining activities have an impact on ecosystem damage, reduced marine life, decreased catches, turbid water, until the wheels of the community's economy are paralyzed due to these activities. The far-reaching impact of this reclamation does not provide benefits, it adds to the misery for the wider community. Especially for reclamation used for industrial estates, ecological and environmental problems not only occur during the implementation of reclamation projects, but also when industrial estates begin to actively produce. Industrial estates will have an impact on marine pollution from industrial waste, garbage and oil spills on ships transporting industrial materials.

A good development policy in the perspective of utilitarianism is development that later the benefits of development can be passed on to future generations and not pass on the problems arising from current development, namely in the form of environmental damage. The benefits offered by the coastal area reclamation program for the benefit of short-term development are not directly proportional to the losses incurred from

reclamation carried out without a synergistic and sustainable long-term development calculation.

If judging from the opinion of J.S. Mill who states that ethically a policy must be able to provide happiness to all involved in an event and not just the happiness of one person, then in economic development must also provide benefits to all systems ranging from the environment, ecosystem, society, and state. If the government still wants to use the reclamation area for the benefit of development and economic growth, then the government must establish special rules and strict supervision that can minimize the negative impacts caused by reclamation. Another effort that can be done by the government is to form sustainable development policies that prioritize ecological principles. This sustainable development, if it can be implemented properly, will provide benefits not only to the environment, but also to traditional fishermen, the wider community, the country, and future generations.

CONCLUSION

The reclamation-driven conversion of coastal areas and small islands underscores the need for a comprehensive and harmonized approach to their management. The existing disharmony in policy arrangements among government agencies stems from individual egos, resulting in a lack of alignment in understanding and enforcing reclamation policies. The absence of a national law serving as a lex generalis exacerbates the issue, leading to overlapping authorities and a dearth of explicit rules addressing reclamation requirements. To address these challenges, it is imperative for the government to enact a dedicated law that serves as a comprehensive

framework for all reclamation-related matters. Such a law should accommodate the interests of all relevant agencies and stipulate clear requirements from the planning stage to the mitigation of negative impacts. From the utilitarian perspective of J.S. Mill's theory, a deeper examination of the policy's impact on overall well-being is necessary. Currently, the negative repercussions outweigh the benefits, which are predominantly experienced by a select few. If the government intends to continue reclamation for development and economic growth, it must implement stringent rules and effective supervision to minimize adverse effects. Establishing rules rooted in ecological integrity is crucial, as it promises widespread benefits across the environment, ecosystems, communities, and the state. [*W*]

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