

Assessment of Ocean and Coastal Policy Effectiveness in Seribu Islands, Indonesia

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Abstract

Indonesia is an archipelago country, consisting of five main islands (Sumatra, Java, Kalimantan, Sulawesi and Papua) and 17,475 small islands (below 2,000 km²) which are isolated from the main islands. Governance, spatial planning and public participation are important factors to the promotion of sustainable development programs as part of the international agreement at the Earth Summit in 1992 known as Rio Declaration. The impact of policy changes from centralization to decentralization made the situation even more complicated in coastal areas because new laws and regulations regarding ocean and coastal areas must be proposed, deliberated and enacted by the Indonesian parliament, but not by the local governments. This paper aims to identify and assess the Indonesian policies that are implemented in ocean and coastal areas. This study is based on the spatial analysis and focused on small islands in the Seribu Islands region. From the data analysis results, it can be summarized that the Indonesian policies associated with ocean and coastal areas are only focusing on their economic revenues and seeking for the acknowledgement from international agreements or bodies. Therefore it is important that governance coordination, public acknowledgement as well as regional planning must be put to the highest priority in order to achieve the Integrated Coastal Zone Management objectives and sustainable development in ocean and coastal areas. The top-down policies enacted in the region have meant that coastal communities have not been consulted, and as a consequence, the level of their engagement with policies has been low. Decision-makers need to make public announcements about the guidelines of each new policy and provide improved access to information, so that coastal communities are aware of, and can implement, procedures to protect their environment. In addition, these communities should be involved in every development plan affecting the Seribu Islands region. To achieve this goal, public services such as inter-island transportation must be addressed appropriately, so as to support the participation of the coastal communities and enhance their access to economic activities within the region.

1. Introduction

Many countries have adopted the sustainability concept resulted from the Earth Summit 1992 concept and Indonesia has chosen Integrated Coastal Zone Management (ICZM) as a suitable framework to achieve the sustainable development in Indonesian ocean and coastal regions. Indonesia has a long history of problems with the ocean and coastal management. The Indonesian Government Declaration in 1957 known as Djuanda Declaration and the 1982 United Nations Convention on the Law of the Sea (UNCLOS) have recognized Indonesia as the largest archipelagic state in the world, however, significant changes in policy and development are still land-based rather than maritime-related. In the past, the land development primarily focused on the main islands (Sumatra, Java, Kalimantan, Sulawesi and Papua) and the prioritized areas were agriculture, forestry and mining industry. As a consequence, land clearing

and deforestation were rapidly expanded without taking the land suitability, land capacity and environmental impact into account. Initially, ICZM was carried out by the Indonesian government for the first time in 1987 under the international funding, however, the program created disputes among scientific communities, local communities and the Indonesian government in terms of the program continuation and jurisdiction (Farhan and Lim, 2010). Moreover, there were no clear policies, regulations or guidelines provided by the Indonesian government to support the ICZM projects, hence the program relied solely on the international funding. The problems and conflicts associated with ICZM in Indonesia can be categorized as follows (Farhan and Lim, 2010):

- Policy and finance: low national priority and lack of consistency.

- Environment: land clearing, deforestation, erosion, abrasion, pollution, lost and declining biodiversity, and mismanagement.
- Socio-economic factors: poverty, inappropriate houses, lack of education and knowledge, and traditional fishing with some destructive methods.
- Ocean and coastal observations: very few ocean and coastal observation equipment (such as oceanographic buoys, tidal gauges, etc.) and lack of operational maintenance.

In the spirit of political reformation and decentralisation, the Indonesian Cooperation Law Act No. 22 of 1999 required that the central government accord regional administrations the highest authority in their respective regions. The basis for this Act was specified as follows:

- With reference to the Indonesian Constitution of 1945, regional authorities must carry the process of autonomy into effect.
- Autonomy must be exercised in consideration with the principles of democracy, public participation, and equity of natural resources and biodiversity.
- Responding to both national and international developments, as well as globalisation, it is necessary for regional authorities to manage their autonomy with greater responsibility for the arrangement, distribution and utilisation of natural resources.
- According to the Ministry of State Secretariat of the Republic of Indonesia, replacement of Indonesian Cooperation Law No. 5 of 1974 (state gazette No. 38 and additional government gazette No. 337) and Indonesian Cooperation Law No. 5 of 1979 (state gazette No. 56 and additional state gazette No. 3153) is necessary.

Act No. 22 of 1999, Article 10, ensured that local governments had full authority over their natural resources and had full responsibility to maintain ocean and coastal environments. The jurisdiction of the regional authorities according to this article was described as encompassing the following areas:

- Exploration, exploitation, conservation and management of ocean resources
- Administrative management
- Spatial planning
- Law enforcement of regional and/or central government regulations
- Enforcement cooperation for the state's security and sovereignty

However, this jurisdiction only applied to marine environments up to 12 nautical miles from the coastal boundaries of the administrative districts known as Kabupaten. Beyond 12 nautical miles, regional authorities had to act under the coordination of, and in accordance with, central government acts and regulations. House of Representatives have the full authority to issue any regulations from central regulations to local regulations. Most of the regulations usually were made without knowing the potential of each province, and usually the regulations were generalized, which contributed to uneven development in Indonesia. With this Act, the Regional Authorities and the Local Parliament can have the authority to enact local regulation according to their potential of each area (Act 10, Articles 26 to 31) and public participation has a right to provide input in preparing the local regulation. Apart from these regulations, President Decree and Ministerial Decree are acting similarly as technical regulations in order to support Presidential regulations and regional authority's regulations (Figure 1). Since the implementation of Act No. 32 of 2004 has been made, the regional authorities have been attempting to control and manage their region, however, most of the regional authorities are still concerned with the development of the land rather than the coastal area. The lack of experience and human resources in the regional authorities has made the coastal area unmanaged (Farhan and Lim, 2010), and this problem can be worse with the complexity of the regulations between the central government and regional authorities (Dirhamsyah, 2006). Therefore this paper aims to identify and evaluate the policy effectiveness in Indonesia in conjunction with the framework of Integrated Coastal Zone Management (ICZM). The Seribu Islands region (Figure 2) is chosen as the pilot study area in order to conduct the comparative study as well as to assess the technical aspects of the policy responsiveness index and its vulnerabilities.

2. Indonesian Policies for Ocean and Coastal Management

Indonesia consists of five main islands, and many thousands of smaller islands of varying size. From a comparative study of international efforts in ocean management as described by Vallega (2001a), and Indonesian efforts towards Integrated Coastal Zone Management (ICZM), it can be concluded that the implementation of environmental laws in ocean and coastal management can be differentiated before and after the Reformation Era.

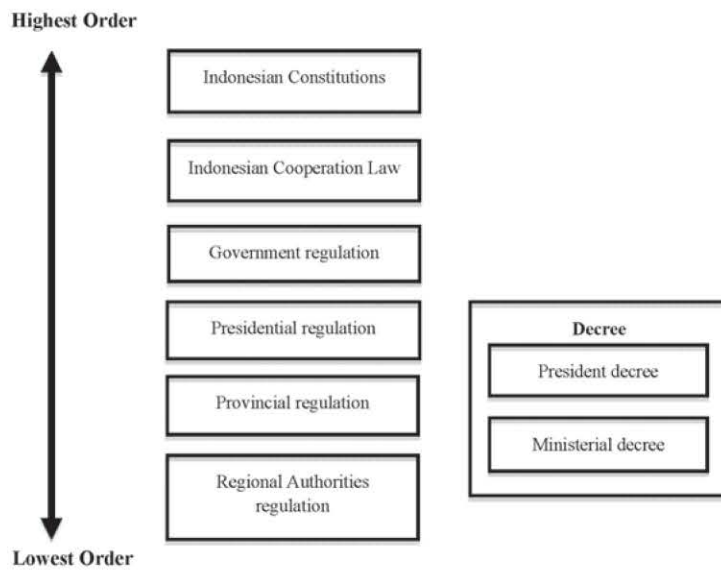


Figure 1: Structure of the Indonesian legal/regulation system

2.1 Before the Reformation Era

There were no specific laws that exclusively addressed ocean and coastal management before the Reformation Era (Dirhamsyah, 2006). However, four laws enacted before 1998 did have implications for ocean and coastal management. Those four laws were articulated in Indonesian Cooperation Law, namely, Act No. 4 of 1982 regarding environmental management, Act No. 9 of 1990 regarding the tourism industry, Act No. 24 of 1992 regarding spatial planning management and Act No. 23 of 1997 regarding environmental management. Act No. 4 of 1982 was the first piece of Indonesian legislation concerning environmental management. It did not specifically mention oceans or coastal regions, but it stated that it was necessary to take action on environmental conservation to support sustainable development with integrated policies. Article 1 defined the environmental system as consisting of biological resources, non-biological resources, artificial resources and social environments that influence the livelihood and prosperity of the Indonesian people. Public participation was acknowledged in Articles 5, 6 and 12, although the actual coverage of public participation was very limited. Under this law, there were three types of jurisdiction in environmental management: country-wide environmental management, administered by the relevant national minister, regional environmental management to support national coordination, performed by the relevant national department, and local environmental management, endorsed by the local government. Article 8 stated that the central

government held the power of policy action in relation to sustainable development in any area concerning environmental issues, for instance, collecting environmental taxes and issuing environmental permits and licences (Article 7) or fines (Article 21), in order to repair any environmental damage or to improve the environment. However, environmental issues were not a priority for the government and thus environmental taxes were used by the central government only for rapid land-based development and infrastructure such as office buildings, roads, hotels/resorts and so on. Tourism, as one of the biggest contributions to the Indonesian economy, received special emphasis during this period. It was one of Indonesia's most important industries, especially in coastal regions of islands such as Bali, which have unique natural resources and local customs. Many regional authorities drew the attention of both national shareholders and international investors to their tourism industries, and they tended to choose coastal areas for the development of tourist attractions. Inadvertently, this behaviour changed the environmental conditions of many coastal areas in Indonesia. Deforestation and the development of social infrastructure such as concrete walls along the beachfront became common all over the country. The rapid development of hotels and resorts, that were typically built only a few metres away from the beach, created conflicts of interest between local people and the government, because the beach in front of the hotels or resorts was claimed as a

public participation and governmental recommendation.

2.2 After the Reformation Era

Following the instigation of the Reformation Era in 1998 and the ratification of Act 32 in 2004, the central government began to pay more attention to ocean and coastal areas, especially small islands. Act No. 27 of 2007 and Act No. 32 of 2009 both address ocean and coastal management, with Act No. 27 of 2007 being the policy that specifically relates to ocean and coastal issues (including small islands). This regulation emphasises that:

- Coastal areas and small islands must be protected and utilised for the Indonesian people now and in the future.
- Sustainable and global development must take account of public welfare and national values.

This regulation was enacted in consideration of Articles No. 20, 21, 25A and 33 of the Indonesian Constitution of 1945. It stipulates that regional authorities must observe eleven principles in regard to ocean and coastal management: sustainability, reliability, integrity, legal certainty, partnership, equal distribution, public participation, openness, decentralisation, accountability and fairness. The purpose of ocean and coastal management should encompass:

- Protection, conservation, rehabilitation, utilisation and enrichment of coastal natural resources and small islands
- Equal partnership between the central government and regional authorities
- Greater local community participation in coastal natural resource management
- Improvement in the socio-economic and cultural standards of the local communities

In 2009, Act no 23 of 1997 was replaced by Act 32 of 2009 as the Environmental Act, which focuses on environmental protection and management with attention to the following:

- Indonesian human rights in relation to the environment
- Sustainable national development
- Local autonomy
- Global warming
- A better environment and protection of all Indonesian ecosystems. (source: Ministry of State Secretariat of the Republic of Indonesia)

Articles 4 and 5 of Act 32 articulate environmental planning, development, monitoring, protection, management, and law enforcement. Article 6 articulates environmental values concerning the nation's islands and matters relating to natural resources, utilisation, governance, damage and conflict. The Environmental Impact Assessment regulation, defined in paragraph 5 (articles 22-33), requires all developments by private individuals or companies to have an EIA before they can be approved. The EIA must include an impact assessment plan, an evaluation of the surrounding environment, public acknowledgment, impact forecast, holistic evaluation of the project's eligibility and management plan, as well as monitoring.

3. Methodology

A study area for this research is chosen to be the Seribu Islands which were enacted as the National Marine Park since 1982 and located 30km away from Jakarta, Indonesia. Generally, the region has been suffered from natural hazards (Ongkosongo, 1982), urban pressures (Verstappen, 1988), marine debris (Bird and Ongkosongo, 1980), beach litter (Unepetty and Evans, 1997), coral damages (Edinger and Browne, 2000, Cleary et al., 2006, Rachello-Dolmen and Cleary, 2007), socio-economic problems (Tomascik et al., 1994, Fauzi and Anggraini Buchary, 2002 and Crawford et al., 2006) and climate change impact (Brown and Suharsono, 1990). In order to evaluate the impact of the policies on the vulnerability of small islands, the methodology is split into two steps as follows.

3.1 Policy Identification and Environmental Impact

At this step, all policies that are implemented directly and indirectly into the ocean and coastal management of the study area are fully investigated based on their mutual contents in each policy. Each of policies will be studied further based on the ICZM concept in relation to environment, socio-economical factors and governance. This study focuses on Indonesian Cooperation Law because it is the second highest order and the fundamental reference for the central and local government regulations.

3.2 Policy Analysis and Evaluation

This study aims to analyse the implication indicator and identify the policy effectiveness in the region. This step is divided into three sub-steps. Firstly, the historical literature documents on Seribu Islands are studied thoroughly i.e. 455 articles from year 1965-2010 of Indonesia national newspapers and the literature review from past research are used to have

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better understanding of the region. In particular, physical and demographic changes that affected the environment in the region are studied. Secondly, methodologies using Geographic Information Systems (GIS) and spatial data by Farhan and Lim (2011, 2012) are used to assess the regional issues. Finally, an interview with high-level decision makers of local government of Seribu Islands was conducted, and the digital interview data was analysed using NVIVO 10 Software. This step is important to construct the principal guidelines to have successful implementation.

3.3 Validation

Validation step aims to superimpose the GIS spatial themes on the map of the study area. A model builder with spatial joint analysis and an intersection tool will be used to compute the vulnerability level together with a set of weighting indicators that were produced by the above step. The vulnerability calculation and classification will be determined based on the characteristics of each of the islands and the impacts on them. Principally, each of the islands will be highlighted individually to identify any specific changes.

4. Results

The policy identification steps shown in Table 1 indicate that four Indonesian policies are implemented in the ocean and coastal environment. The content analysis has been conducted to identify the similarity among policies and determine respective indicators and sub-indicators. Based on the mutual contents, five indicators are defined, namely: spatial issues, public/local community issues, economic issues, governance issues, and international issues. Sub-indicators were determined based on the environmental history in Seribu Islands as described by (Farhan and Lim, 2011, Farhan and Lim, 2012, De Vantier et al., 1995, Rachello-Dolmen and Cleary, 2007, Williams et al., 2000, Willoughby et al., 1995, Alder et al., 1994, Bird and Ongkosongo, 1980, Boyle, 1998, Cleary et al., 2006, Crawford et al., 2006, Hardjono, 1991, Patlis, 2005, Pollnac and Pomeroy, 2005, Siry, 2006, Sukardjo, 2002, White et al., 2005, World Bank, 1994, Yates, 1994 and Soekarno, 1989). Each of sub-indicators will be checked thoroughly whether the issues were already resolved by the policy implementation.

Table 1: Content Analysis of Indonesian Policy

Indicator	Indonesian Cooperation Law			
	Act 9 1990	Act 24 1992	Act 23 1997	Act 32 2009
Spatial				
Spatial planning and management	N	Y	Y	Y
Ocean or coastal	Y	Y	N	Y
Conservation	N	Y	Y	Y
Protection	Y	Y	Y	Y
Sustainable development	Y	Y	Y	Y
Marine protected area	N	N	N	Y
Guidelines	N	N	N	N
Public/Local Community				
Public Participation	Y	Y	Y	Y
Public Information	Y	Y	Y	Y
Public guidelines	Y	Y	N	N
Governance				
Government in charge	M/L	C/L/P	C/M	C/L/M
Law enforcement	Y	N	Y	Y
Guidelines	N	N	N	Y
Integration	Y	Y	N	Y
Economic				
State income	Y	Y	Y	Y
Infrastructure development	Y	Y	Y	Y
International	N	N	Y	Y

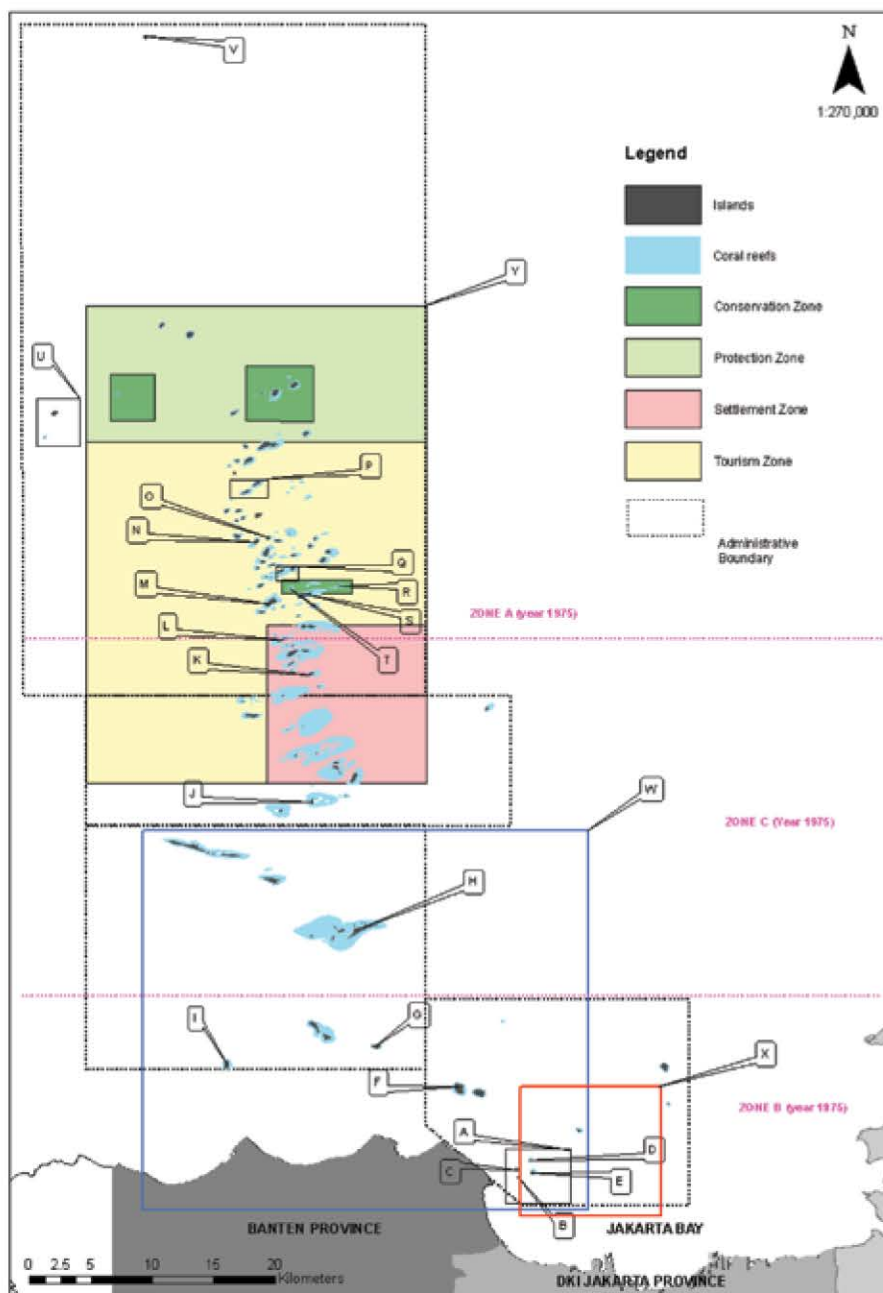


Figure 2: Issues in the Seribu Islands region: zones defined by Indonesia Statistics Agency

Historical documents showed that the development of Seribu Islands started in 1965 as part of the Conference of the New Emerging Forces (CONEFO) development that initiated by Soekarno, the first president of Republic Indonesia (Soekarno, 1965). At that time, Soekarno ensured that all development must be completed within 1 year period and focused on transportation, electricity and resort development. At that time, Seribu Islands were under the Jakarta Province jurisdiction and the development must be coordinated by Governor of

Jakarta. However, because of the transition from Soekarno to Soeharto in 1966, the CONEFO projects were left behind and the development of Seribu Islands became the nation's lower priority. Before Act No. 4 of 1982 (Environmental Act) was amended, Seribu islands as well as other small islands in Indonesia were known as open access. For example, Kaliage Island in Seribu Islands had been rented by a foreigner in 1968. Seribu Islands also experienced fishing bombing, sand exploitation and coral mining activities (Umbgrove, 1949,

Verstappen, 1988 and Romimochtarto, 1976). In order to cope with the problems, the first law enforcement was formed in 1972 under Indonesian Navy and in the following year Governor of Jakarta declared that people must pass a special clearance by the governor in order to enter Seribu Islands. However, all islands could not be managed by the Jakarta Province (Sadikin, 1970). Fish bombing as well as coral mining still existed until 1990's. In 1973, only two islands had been designated as tourism districts: Putri Island (Figure 2 Region P) and Nirwana Island which is also known as Nyamuk Kecil (Figure 2 Region X). To improve the accessibility and support tourism industry, the airstrip was built in the same year on Panjang Island (Figure 2 Region L). In the same year, the first oil spill happened in Jakarta Bay which resulted major fire in Jakarta pier and caused the relocation of the fishermen area to Muara Angke (at present as the centre of public transport in Seribu Islands). In 1975, Seribu Islands were divided into three zones (see Figure 2), namely Zone A (Putri Islands and its surrounding islands for international tourism), Zone B (Islands near Jakarta Bay for coastal tourism) and Zone C (known as the populated islands designated as fishing area) (Kasijanto, 1975b). Two sanctuary islands had been assigned on Rambut Island (Figure 2 Region F) as fauna sanctuary and Bokor Island as botany sanctuary (Figure 2 Region G). Other than the aforementioned islands, three islands had been assigned as archeology museum of eighteen centuries and must be protected under auspicious of Momentum Ordonante STBL of 1931 and also has been enacted by Governor of Jakarta since 1972, namely Onrust Island (Figure 2 Region B), Cipir Island (Figure 2 Region B), Kelor Island (Figure 2 Region D) and Sakit Island (Figure 2 Region E). Sakit Island had been rented by private companies and its name became Bidadari Island in 1976 (Ambarita, 1976). In 1976, Indonesian Institute of Science located in Pari Islands (Figure 2 Region H) declared that Seribu Islands are endangered because of its long history of fish bombing, coral mining, as well as marine debris from rivers in Jakarta (Kasijanto, 1975a). However, such a warning was not taken seriously by the local governments and therefore the destruction was aggravated by housing developments, resort developments and infrastructure developments in Jakarta Bay (Soekarno, 1989). The corals, especially giant clam (*tridacnasp*), were exploited for tile industry since 1978 (Ongkosongo, 1994). Especially sand mining became worsen because of these developments mostly occurred near Jakarta bay such as Cipir Island (Figure 2 Region B), Onrust Island (Figure 2 Region C), Kelor Island (Figure 2 Region

D), Bokor Island (Figure 2 Region F) and six other islands that had been vanished by 2012 (See Figure 2 Region X). After the Environmental Act No. 4 of 1982, Seribu Islands were also enacted by the Ministry of Forestry as Marine National Park (MNP), which were divided into 4 different zones of utilization in 1986 (Radjamandalu, 1987), namely: Conservation Zone, Protection Zone, Tourism Zone and Settlement Zone (see Figure 2). This Ministerial decree was ambiguous because 24 islands were left behind, 22 islands near Jakarta Bay, Pabelokan Islands (Figure 2 Region U), namely, Pabelokan Besar Island dan Pabelokan Kecil Island, and Sebira islands (Figure 2 Region V) which is the most remote island in north (approximately 23 km from Dua Barat Island). Surprisingly, in the following year, the governor of Jakarta declared the new tourism project namely Pulau Seribu Marine Project in two islands (Pantara Barat Island and Pantara Timur Island) (Figure 2 Region P) which is located in the middle area between Protection Zone and Conservation Zone of MNP and the plan was to develop 38 hectare into 220 cottage and tourism attractions. However, MNP focused on only two zones (Conservation and Protection Zone) and did not take surrounding islands into account, which is the major weakness of this MNP. Since Tourism Zone in MNP and the tourism Act No. 9 of 1990 were enacted, the government of Jakarta increased their local revenue that caused Seribu Islands severed badly. The financial burden to manage the whole region forced the government of Jakarta to privatise 15 islands in 1982 (Khodyat, 1982). The privatised islands for the tourism purposes had reached 60 percent of the region by 1990. There has been noted that about 52 cases of illegal developments and permit deviations around the region e.g. illegal resort developments with 21 bungalows in Macan Islands (Figure 2 Region M) had been constructed (Figure 2 Region H). Karang Kudus Island (Hermawan, 1989) and Ayer Island (Figure 2 Region J) already changed the region's shape dramatically (Figure 3). However, the government of Jakarta changed another 30 islands to tourism destinations. In 2012, the government of Jakarta managed only 61 islands and the other 51 islands became private islands. Since the Act No. 24 of 1992 (spatial planning Act) was applied, the government of Jakarta enforced the regulation of building demarcation line that a villa/bungalow must not be built within 20 meters from the coastal line. Even so, the land disputes still occurred. For instance, with the deforestation of mangrove on Bira Island (Figure 2 Region S) became a golf field in 1994 which was noticed by the government after the development was completed.

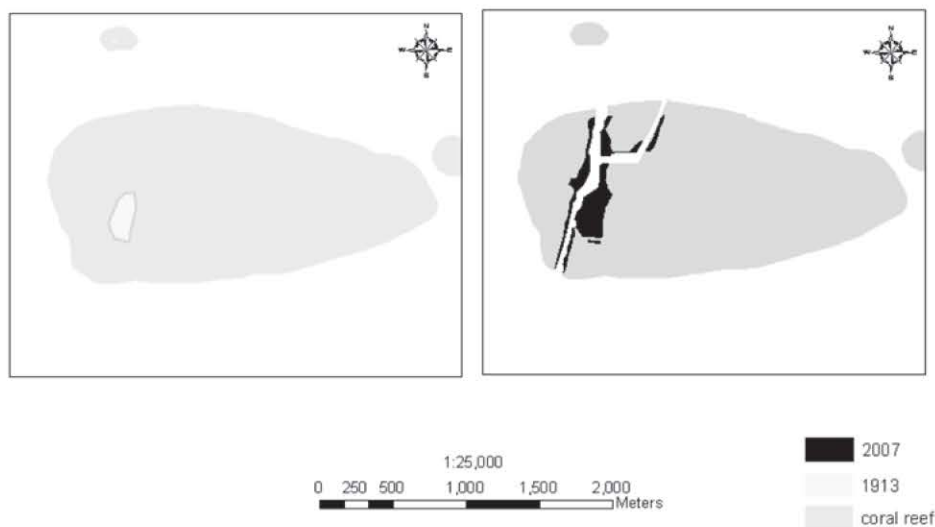


Figure 3: Robust development on Ayer Island

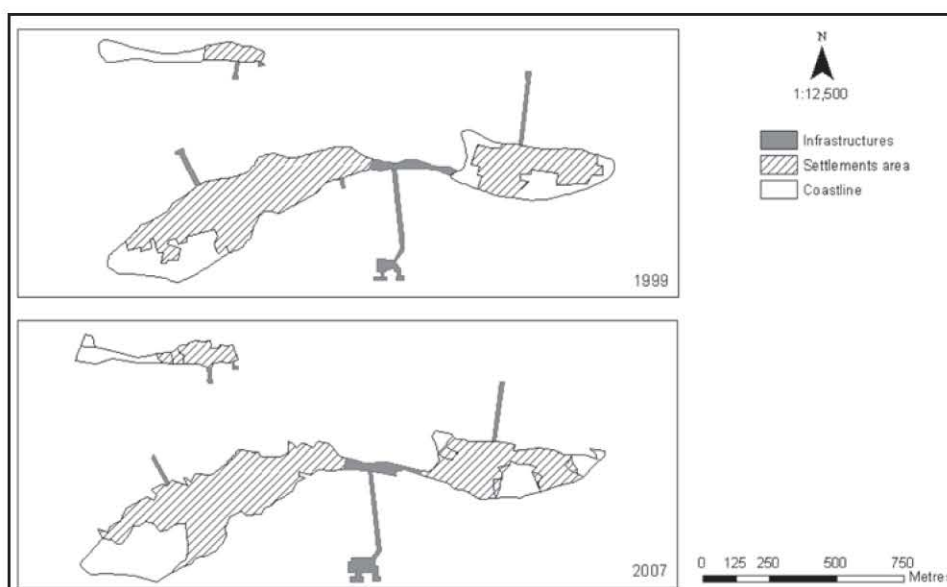


Figure 4: Development on Harapan, Kelapa and KelapaDua Islands

Table 2: Population growth in Seribu Islands

Village	1989	1990	1991	1992	1994	1995	1996	1997	1998	1999	2000	2001
Panggang	3,443	3,505	3,568	3,620	3,674	3,737	3,798	3,853	3,928	4,014	4,267	4,507
Kelapa	5,643	5,551	5,614	5,668	5,709	5,783	5,836	5,908	6,235	6,340	6,636	6,243
Tidung	3,941	3,968	4,017	4,120	4,172	4,231	4,373	4,466	4,551	5,603	4,917	4,938
UntungJawa	1,219	1,246	1,268	1,294	1,334	1,363	1,417	1,442	1,471	1,519	1,425	1,728
Population/km ²	1375.8	1377.9	1394.7	1414.7	1430.8	1449.9	1476.3	1497.1	1540.9	1650.4	1630.9	1645.5

It also happened in Belanda Island (Figure 2 Region R) and Kayuangan Bira (Figure 2 Region T) that were designated as conservation islands became private islands (Ardirakhman, 1990). Several tourism islands had become private islands such as Laki Island (Figure 2 Region I) Cina Island (Figure 2

Region N), Melinjo Island (Figure 2 Region O), Putri Islands (Figure 2 Region Q) since 1982 (Ardirakhman, 1990). Also land disputes in terms of ownership and management occurred in 22 islands (Figure 2 Region W). There were natural resource disputes between the government of Jakarta and

Banten in 2000 (Figure 2 Region U). At present time, the coral reefs of Untungjawa Villages approximately 2-15 km away from Jakarta bay became more severed because of three factors: high pollution due to its nearness to Jakarta Bay, being unpopulated and unmanaged. Pollution from 3 major rivers, which are Citarum rivers, Ciliwung Rivers (DKI Jakarta Province) and Cisadane Rivers (Banten Province) as part of high population of Jakarta that did not have any water processing also contributed to the environmental degradation in the region (Farhan and Lim, 2012). In addition, based on 10-year observations by De Vantier et al.(1995), there was an abundance of crown-of-thorns-starfish that fed the coral reefs which occurred at some populated islands and already spread largely to the northern part of the national marine park zone. In Seribu Islands region itself, the population growth and density of the study area given by Indonesia-Statistic Agency (2002) indicates that the number of people living in Kelapa Vilages is higher, compared with other villages (see Table 2). Harapan and Kelapa Islands exceeded its capacity (Figure 4). However, the population growth impacted both negatively and positively to the resilience of the islands. Positively, population in the region made the islands more rigid or sustained in terms of erosion and some of the islands were extended by the islander using 'cut and fill method' from the coral reefs in order to have more settlement zone in the island. This also happened in Tidung Besar Island, Tidung Kecil Island as described by Farhan and Lim (2011). These settlements zone which did not had a water sanitation has made coral, mangrove and ecological systems that are degraded every year of the study period and made the coral restoration slower than non-populated islands (Farhan and Lim, 2012). Surprisingly, the coral reefs in non-populated islands were restored after 30 years as mentioned by (van der Meij et al., 2010).

5. Concluding Remarks

The use of qualitative assessment of the region's history using NVIVO software, in conjunction with GIS, is very useful in determining policy susceptibility, in order to ensure better policy evaluation and implementation. In terms of qualitative assessment, the accuracy and evaluation of the analysis is dependent on the operator's knowledge of the study area, since the more knowledgeable the operator, the greater depth is likely in the analysis. Indonesian policies associated with the ocean and coastal environments are still focused on infrastructure development and the national economy, rather than on the needs of coastal inhabitants and environmental pressures.

This is indicated by the environmental degradation of the Seribu Islands region, where there is still uncontrolled, robust development lacking in regulatory enforcement and coupled with insufficient finances to monitor the whole region. Lack of coordination between agencies and stakeholders, together with inadequate spatial planning and public participation guidelines are the main factors influencing the ineffectiveness of policies relating to the development of the Seribu Islands and the disputes that arise between the central government, local governments, the private sector and the coastal communities. The administrative boundaries and jurisdictions must be clearly defined and enshrined in a set of regulations, in order to minimise these disputes and promote effective policies. The engagement of local community participants must be enhanced, in the interests of better community-based coastal management in the region. The central government, regional and local governments, and coastal communities, as well as the private sector, must work together to produce development policies that are more responsive to environmental changes and challenges. Spatial management must be given high consideration, because of the devastating changes resulting from the past history of the region. The National Marine Park must be broadened to cover the entire Seribu Islands region, so as to facilitate ecological protection and management. Additionally, the National Marine Park boundaries and jurisdiction must be re-evaluated and re-designed in the interests of better management of local environmental issues.

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