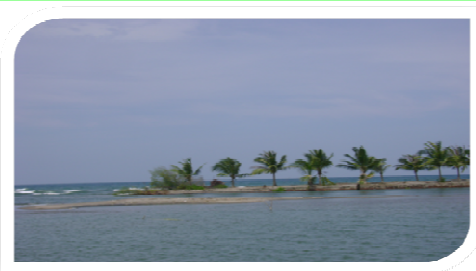




# THE DOCUMENT OF ANALYSIS ON POLICIES FOR THE MANAGEMENT OF SEA AND MARINE RESOURCES OF NIAS ISLAND DISTRICT OF NORTH SUMATERA PROVINCE

## Green Coast

For **nature** and **people**  
after the tsunami



*for a living planet*



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# CHAPTER I

## INTRODUCTION

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### A. Preface

The high-scale Tsunami hit on 26 December 2004 in Nanggroe Aceh Darussalam and on 28 March, 2005 in Nias Island have heavily devastated coastal areas of both provinces. The tragedy did not only ruin infrastructures, settlements, and public facilities but also took away hundreds of thousands of human's lives and destroyed wide-range coastal ecosystems, for instance: sea-water intrusion and muddy sediment over the vast areas, destruction of coral reef and varied coastal vegetations, shifts of coastline and wetland morphology. These biophysical devastations, in turn, are leading to social, economic, and cultural unrests.

Rehabilitating and reconstructing the ravaged areas are not straightforward and short-time efforts, on the other hand, they call for strong commitment of multi sides, well-thought and precise planning and designing, and definitely a great deal of investment. The works ask for long period and, during implementation, both studies and assessments of multi dimensional aspects incorporating social, economic, cultural, environmental, ecological, etc. that altogether integrated in planning and implementation.

One amongst the marine and fishery rehabilitation and reconstruction projects is the **Green Coast Project**. It is organized as joint project with WWF, Wetlands International, both ENDS and IUCN, while financial sponsorship run by n(o)vib. The project aims at protecting the uniqueness of coastal ecosystem and improving income of the coastal villagers. The main target is to recover coastal ecological functions and to provide sustainable income sources for the local villagers struck by the tragedy. The project's outputs are to get coastal areas rehabilitated; new or renewed income sources accessible; community's means of livelihood (mainly fishery and ecotourism) re-established, renewable resources through coastal communities' participative focusing on planning and women's roles become useable.

The executing of marine and fishery rehabilitating and constructing efforts unavoidably require far-reaching appraisals, either on national or local/regional level. The full assessments will uncover whether or not the existing policies have been enough accommodating to regulate the efforts, or additional policies required.

### B. The Followings are Objectives of the Analysis

1. To analyze centrally and locally governmental policies relating to the managing of marine and fishery resources;
2. To evaluate the relevance or relation amongst policies established by the central government and the Nias District Government for the marine and fishery resources condition post-Tsunami.

### **C. Parameter of Analysis**

The analysis narrowed to the following parameters:

1. If the policy put conservation issues forward;
2. If the local governments hold authority to develop the marine and fishery resources;
3. If the policies recognize local community's rights in developing the resources

## CHAPTER II

# PROBLEMS OVER MANAGING MARINE AND FISHERY IN NIAS DISTRICT

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### A. General Description

Island of Nias is only one amongst group of islands stretching in a parallel row off the shore of West Sumatera, and is the largest one. Geographically, the district is positioned in between 0°12' -1°32' N and 97°-98° E on top of a height of 0-800 m above the sea. It borders on Pulau Banyak in north, NAD Province in south, Pulau Mursala of Central Tapanuli District in east, and the Indonesian Ocean in West. Nias District covers an area of 3,495.39 km<sup>2</sup> or equal to 4.88% of to N. Sumatera size (*Nias dalam Angka* or Nias in Figures, 2006).<sup>1</sup>

Administratively it joins N. Sumatera Province. Formerly, in 2003, it was only one district before splitting into N. Nias with Gunung Sitoli as the capital city and S. Nias<sup>2</sup> with Teluk Dalam as the capital city. Nias is composed of 32 sub-districts, and 439 villages. North Nias population post-the earthquake and Tsunami, according to 2005 N. Sumatera Statistics Agency, was 441,733 people (81,242 families) with a density 126 people/km<sup>2</sup>. Based on Nias in Figures (2006), the rate of population growth was 1.36%. Highest population density was found in Gunung Sitoli (466 people/km<sup>2</sup>), while the lowest was in N. Lahewa sub-district (43 people/km<sup>2</sup>).<sup>3</sup>

### B. Fishery and Marine Resources of Nias District

Coastal and marine resources of Nias Island are made of renewable resources, non-renewable resources, and environmental services. The renewable resources contain various kinds of fish and shrimps, seaweed, and coast-culture and marine-culture activities; the non-renewable resources include assorted kinds of minerals, petroleum oil and natural gas; and the environmental services comprise tourism and transportation including any valueables contained in.

Nias Island has much derived benefit from its strategic position because it is facing Indian Ocean that noted as the most productive region for fishery development (See Table 1)<sup>4</sup>.

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<sup>1</sup> The Attachment of Bupati Decree of Nias district about Strategic Plan of Coral Reef in Nias District 2007-2011, page 4

<sup>2</sup> S.Nias Districtm is established based on Indonesian Republic Law No. 9/2003 dated on 25 February 2003

<sup>3</sup> *Ibid*, page 3

<sup>4</sup> Centre of Information and Data of ministry of marine affairs and fisheries, 2005. *Departemen Kelautan dan perikanan dalam angka* or ministry of marine affairs and fisheries in figures 2005

**Table 1: Distribution of Regions and Potentials of Indonesian Fishery Resources**

Group of Resources	Regions of Fishery Development									Indonesian Waters
	1	2	3	4	5	6	7	8	9	
Big <i>Pelagis Fish</i> Potency (10 3 ton/ year)	27.67	66.08	55	193.6	104.1	106.5	175.3	50.86	386.26	1165.36
Small <i>Pelagis fish</i> Potency (10 3 ton/ year)	147.3	621.5	340	605.4	132	379.4	384.8	468.7	526.57	3605.66
<i>Demersal fish</i> Potency (10 3 ton/ year)	82.4	334.8	375.2	87.2	9.32	83.84	54.86	202.3	135.13	1365.09
Edible <i>Karang fish</i> Potency (10 3 ton/ year)	5	21.57	9.5	34.1	32.1	12.5	14.5	3.1	12.88	145.25
<i>Penaid shrimp</i> Potency (10 3 ton/ year)	11.4	10	11.4	4.8	0	0.9	2.5	43.1	10.7	94.8
<i>Lobster</i> Potency (10 3 ton/ year)	0.4	0.4	0.5	0.7	0.4	0.3	0.4	0.1	1.6	4.8
<i>Squid</i> Potency (10 3 ton/year)	1.86	2.7	5.04	3.88	0.05	7.13	0.45	3.39	3.75	28.25
<b>Potency (10 3 tonnes/year)</b>	<b>276</b>	<b>1057.1</b>	<b>796.6</b>	<b>929.7</b>	<b>278</b>	<b>590.6</b>	<b>632.7</b>	<b>771.6</b>	<b>1076.9</b>	<b>6409.21</b>

Source : Centre of Information and Data of ministry of marine affairs and fisheries, 2005. *Departmen Kelautan dan perikanan dalam angka* or ministry of marine affairs and fisheries in figures 2005.

Note: Unit used is tonnes/year

Note: 1. Mallaca Straits, 2. S.China Sea, 3. Java Sea, 4. Makassar Straits and Flores Sea, 5. Banda Sea, 6. Seram Sea and Bay of Tomini, 7. Sulawesi Sea and Pacific Ocean, 8. Arafura Sea, 9. Indian Ocean

It reported that North Nias's fish production in 2005 was 5,070.34 tonnes; 99.63% was saltwater fish and 18.95% was freshwater fish (rivers, swamps, and ponds). In 2004, the fish production mounted up 17,336 tonnes, which were 99.79% and 0.2% saltwater and freshwater respectively. Knocking down of fishing facilities, equipments and fishing areas, is responsible for decreasing amount of fish captured by local fisherman. Such condition has directly caused reduced income of fishermen near the naturally destroyed areas<sup>5</sup>

Assorted fishes mainly brought to the land include small *pelagis* such as *kembung* (*Rastrelliger sp*), *japuh* (*Dussumeria acuta*), *tembang* (*Sadinellla fibriata*), *tenggiri* (*Scomberomorus commersonili*), *teri* (*Stolephorous sp*), and *alu-alu* (*sphyraena sp*). Also found *demersal* fish such as *kakap* (*lates calcarifer*), *ekor kuning* (*Caesino erythrogsater*), and *kerapu* (*Epinephalus tauvina*).<sup>6</sup>

<sup>5</sup> Ministry for National Development Planning. 2007-2009 Action, and Rehabilitation and Reconstruction of Areas in Nias Island of N. Sumatera Province Post-Quake on 28 March 2005 Plan.

<sup>6</sup> Marine Affairs and fisheries agency of North Sumatera Province. 2007. Profile of Marine and Fishery of N. Sumatera Province, pg.145. .



Other than fish, Nias's sea has coral reefs ecosystem that categorized *fringing reef*. The reefs stretch out from the edge of the island to a depth of 15-20 m. In northern of Nias district, distribution of coral found near Tanjung Sigine-Gini, Gosong Uma, Tanjung Lingga, Tanjung Toyolawa, and Tanjung Sosilutte, while coastal vegetations consist of mangrove trees, coconuts and *padang lamun*, and also coral reefs that spread out in almost all island of Nias District. According to coral reef investigation, training and information center, CRITIC (2004), Nias has about 3,961 hectares of coral reefs that the largest part takes place in Lahewa sub-district with a size of 1,250 hectares.<sup>7</sup>

### C. Problems over Fishery and Marine Resources in Nias District

There are three models of coastal and marine management, that is, conservation; economic interest; and a combination model of the two. When it comes down to it, management of coastal and sea has always put more emphasis on economic purposes rather than the protection aspect.

Natural destructions having effects on sea ecosystem or other ecosystems definitely driven by several factors, but generally there are only two predominant factors, i.e. economic driven and policy failure.<sup>8</sup> Comparable features also occurred in Nias earlier than the Tsunami; the resources exploited over its capacity, in consequence, either the rate or intensity of the destruction has directly implicated to significantly quality decrease of fishery habitats and coastal aesthetic<sup>9</sup>. In the same way, pollution and sedimentation have become serious threats to the areas that ultimately multiply in more degrading coastal ecosystem. These all impacts show a relationship to decreasing revenue of local residents.

Such problem is very common in coastal areas across the country including Nias district, but only small efforts done to restore the existing devastations. As an archipelago with the whole potency and treasures contained in, the nation has not made the best of

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<sup>7</sup> The Attachment of Bupati Decree of Nias district about Strategic Plan of Coral Reef Management in Nias District 2007-2011.

<sup>8</sup> Akmad Fauzi , *Policy on Marine and Fishery; Issue, Synthesis and Concept*, Gramedia Pustaka Utama Jakarta , 2005 pg.43

<sup>9</sup> In theory, there are two forms of regulations in managing marine and fishery resources, i.e. *open access* and *controlled access regulation*. *Open access* is regulation that permits fishermen to fish and exploit biodiversity any where and any time, no matter how much it is and what kind of device being used. This regulation is much like "law of the jungle" or "free market". Empirically, this regulation causes negative impacts such as *tragedy of common* either damage on marine and fishery resources or conflict amongst fishermen. The *controlled access regulation* is controlled regulations that can be (1) *input restriction*, i.e. to restrict number of actors, type of boats, types of fishing devices; (2) *output restriction* i.e. to restrict amount of fishing crops by quota. One of the formulations of input restriction is *territorial use right* that puts high emphasis on *fishing right* in certain region with exact jurisdiction. *Fishing right system* allows the *fishing-right* holder to conduct fishing activity in a certain area while those without *fishing right* are not permitted to operate in that area. This regulation also manages schedule and device of fishing that appropriate for operating. A system that leads to parceling of sea places protection to the importance of weak fishermen operating in the neighborhood of coastal areas and to the importance of natural resources conservation. Law No. 11/2006 regulating the jurisdiction of provincial sea (12 miles) and district/municipal (4 miles/one-third of the provincial jurisdiction) jurisdiction of provincial sea (12 miles) and district/municipal (4 miles/one-third of the provincial jurisdiction) indicates that this law product adopted the sea parceling concept. That concept is an instrument of *controlled access regulation* in *territorial use right*. Law No.32/2004 is, basically, an *entry point* to the implementation of *territorial use right*.

its supporting policies. The management of marine and fishery resources done half-heartedly and, in general, remains critical condition.

In deeper watching, all this time marine and fishery management has performed some features, namely:

- a. *Terrestrial-oriented*: the management has disregarded local rights in designating sea protection areas and coastal reclamation;
- b. *Unaware-dependence*: the management has ignored relationship between the natives and local natural resources that regulated in local laws; and
- c. *Exploitation-focused*: the management has exacerbated both quality and quantity of the local resources.

Management problems over marine and fishery resources are not only limited to issues discussed earlier but are very complicated. Extensive identification by numerous parties found that management dilemmas of marine and fishery taking place in Nias divided into three subject matters, i.e. economy, social and institution, and environment (See Table 2).

**Table 2 Problems over Marine and Fishery Sector in Nias District**

No	Issue	Problem
1	<b>Economy</b>	<ul style="list-style-type: none"> <li>✓ Poverty</li> <li>✓ In general, traditional fishermen naturally develop and perform fishing activity according to their expertise and natural feelings passed on for generations.</li> </ul>
2	<b>Social and institution</b>	<ul style="list-style-type: none"> <li>✓ Sea and coastal spatial conflicts</li> <li>✓ Clashes among fishermen (traditional and modern fishermen)</li> <li>✓ Overlapping authority as well as exploitation permits of coastal areas and sea management</li> <li>✓ Undeveloped maritime tourism</li> <li>✓ Lack of public and fishery facilities</li> <li>✓ Lower govt.'s institutional capacity</li> <li>✓ Fish stealing by foreign fishermen</li> <li>✓ Investors show reluctance to go into Nias</li> <li>✓ Inoperative <i>TPIs</i></li> <li>✓ Inactive fisherman cooperatives</li> </ul>
3	<b>Environment</b>	<ul style="list-style-type: none"> <li>✓ Ecosystem destruction of mangrove and coral reefs</li> <li>✓ Use of ecologically unaware fishing equipments, bomb, and cyanide</li> <li>✓ Sedimentation and sea abrasion</li> <li>✓ Sea pollution by domestic and ships waste</li> </ul>

Source: *Pusat Pengkajian dan Pengembangan Masyarakat Nelayan (P3MN)*, 2008. Or Research and Empowerment Center of Fisher Community. 2008

#### **D. Tsunami and Earthquake and the Impacts to Marine and Fishery Resources of Nias District**

Tsunami tragedy on 26 December 2004 and an earthquake on 28 March 2005 have taken lives of 784 people and injured 1,496 people. The quake caused 73,934 people refugees across Nias District. In S. Nias District, some 182 people died, and 3,636 people wounded. The calamities have left Nias major detriments in all sectors i.e. housing and settlement, infrastructure, productive economy, social culture, and so on (*Satkorlak Data, 29 July 2005*).<sup>10</sup> To marine and coastal environment sector of Nias District, such natural disaster has given rise to unbelievable devastation that had happened previously.

The Ministry of Environment affirmed negative impacts on coastal regions and the seas of NAD Province and Nias District down to the Tsunami as follows:

- Coast and seas polluted, including surface and ground water; coastlines shifted;
- Natural protection (mangrove forests) guarding immediate areas from wave and wind and also as spawning, nursery and feeding grounds for countless marine creatures counting fish lost;
- Fish resources and coastal species (potential biodiversity) lost or significantly decreased;
- Both wetland and artificial ecosystems (i.e. cultivation, seaport, and local residence that significantly contribute to the local economy) poorly damaged.

According to the BRR, Tsunami has generated mangrove forest destruction up to 174,590 ha, coral reef in so far as 19,000 ha, and coastal forest as many as 50,000 ha. In the meantime, Suryadiputra from Wetland International in 2005 claimed that Tsunami took place on wetlands in the NAD province (in particular, those located in south west, north west, and north coasts of Aceh), was greatly responsible for shifts of formation, size, water quality, and basic substratum. For instance, swamplands such rice fields, freshwater swamps, or ponds that were deep and purely freshwater has changed into shallow with deep mud on top and salty, and got contaminated with both organic and inorganic pollutants. Swamplands that formerly were narrow have changed into salty, wider lagoons.<sup>11</sup>

Upturned occurrence took place in Seumeulue Island. The land presumably has lost 25,000 ha its swamplands as it has lifted between 1 and 1.5 m. Consequently, its coastlines gotten reduced, lots of mangrove trees died in dried out as the basic substrata no longer touch the water thus they become hard as cemented<sup>12</sup>. Very similar condition has transpired in Nias Island such as in Lahewa, Toyolawa, and Lafau. Meanwhile, in Onolimbu some parts of the landmass have come down.

Recovering both natural resources and social economic structure after the devastating disaster through a rehabilitation and reconstruction process not be parted from dilem-

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<sup>10</sup> 2007-2009 Action, Rehabilitation and Reconstruction of Areas in Nias islands of N. Sumatera Province Post-Quake on 28 March 2005 Plan

<sup>11</sup> Suryadiputra, I N. N. 2006. The Assessment of Environment Condition Post Tsunami in Some Location in Aceh Province or *Kajian Kondisi Lingkungan Pasca Tsunami di Beberapa Lokasi Nanggroe Aceh Darussalam dan Nias*. Wetlands International – Indonesia Programme. Bogor. Page. 60

<sup>12</sup> *Ibid*, page 1 21

mas. In general, there are several issues and limitations in implementing the rehabilitation and reconstruction in Nias islands<sup>13</sup>, i.e.:

1. Poverty, lower welfare, and human resource capacity; the condition is aggravated with very limited structure and infrastructure for land, sea, air transportations thus many investors have been unenthusiastic to enter the area;
2. Lack of fishing facilities, and underdeveloped maritime tourism potency; as maritime region with many smaller islands, Nias is far from a developing city as well as its maritime tourism potency. Not having enough fishing facilities has made its capture fishing enterprise and fish farming weak. On the other hand, illegal fishing by foreign ships frequently happens. Nias islands' beaches are threatened by abrasion and sea-water intrusion, the coral reefs due to destructive fishing instruments are in high-scale damage, natural, decorating fishes living in coral reefs are endangered due to illegal fishing, and mangrove forests destruction;
3. Land-tenurial disputes post Tsunami;
4. Less market access to and fro Nias islands causes unreasonable price for local commodities;
5. Poor quality and shortage of construction materials leads to high-cost activity as well as less participation of local people in the rehabilitation and reconstruction development;
6. Less optimum coordination in recovering actions amongst the related stakeholders ends in duplication and discrepancy;
7. Lack of expertise during post-harvest (marketing, processing, etc) makes prices of agricultural products of Nias islands lower.

Point 1 and 2 are specifically relating to problems over marine and fishery; they are already there longer before the quake and tsunami hit the island.

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<sup>13</sup> Op.cit, page 47

### CHAPTER III

## ANALYSIS ON POLICIES FOR THE MANAGEMENT OF FISHERY AND MARINE RESOURCES IN NIAS ISLAND OF NORTH SUMATERA PROVINCE

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#### A. Progress in Marine and Fishery Policy

During the Dutch colonialism age<sup>14</sup> and old order regime, a number of policies regulating marine and fishery sectors launched, but the impetus for the national level was right behind the *United Nations Convention on the Law of the Sea* No.82/1982 or better known as UNCLOS declaration dated on 10 December 1982. The Indonesian Govt. gave its approval on 31 Dec. 1985 through Law No.17/1985. One year following the convention, the Indonesian Government released Law No.5/1983 on Indonesia Exclusive Economic Zone. Two years afterward, it released one more rule Law No.9/1985 on Fishery, another time Law No.5/1990 on Natural Bio-Resources and the Ecosystem, and Law No.6/1996 on Indonesian Waters.

Earlier than UNCLOS, the nation already had regulation on Fishery policed in Law No.5/1960 on Basics Regulation of Agrarian Affairs; Article 47 verse 2. The verse touched on the problem of rights to maintaining and fish catching. Nevertheless, the Law was unsuccessful to become basic consideration in decision making for marine and fishery management. It can be presumed that since the UNCLOS's launching many national policies on marine and fishery sector had started by new-order government. Unfortunately, at that point in time this sector was still under Agriculture Dept., and as a consequence, most of the released policies, in particular those for sub-fishery that only issued at presidential and ministerial level.

In reform era, particularly in the course of President Abdurrahman Wahid's (or Gus Dur) rule, marine exploration department was established; later on it changed into marine and fishery department. Its founding had recorded a new history to entirety of the national development through separating the sector from the agricultural. Since its establishment, central govt. through Minister of Marine and Fishery (during Rokhmin Dahuri was in office) standing the sector as the major national development activator.

Nevertheless, its presence does not automatically cause authority of other related agencies to vanish for the reason that the sea considered by several facets, among which are, territorial region, ecosystem, communications, and natural resources and aesthetic.

As territorial region, Indonesia, geographically surrounded by two continents and two oceans, is highly prone to sovereignty threats. Defending its sea for the wholeness of the Indonesian Republic territory is an archipelago concept<sup>15</sup>. Indonesian military, in particular, the Naval, has played very important role to make Indonesian territory intact.

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<sup>14</sup> There were a number of policies on fishery sector during occupation of Dutch Colonialist, among which are Ordonnantie dated on 29 April 1916 (staatsblad 1916-157). It contained prohibition on pearl huntings. Law of Ordonnantie on 29 April 1927 (staatsblad 1927-144), in general, contained banning on fishings (Wirjono Prodjodikoro, 1991, page 42).

<sup>15</sup> "Wawasan Nusantara" or the Archipelago Concept firstly introduced by PM. Djuanda on 13 Desember 1957. It decided that Indonesia as a unitary state. The concept then well known as *Deklarasi*

In the ecology point of view, sea contains various resources both energy and mineral, and biodiversity. These all potentials mutually managed among sectors of different departments. Implications of these different viewpoints have initiated a number of policies regulating the sea.

## B. Analysis at National Level

In analyzing policies<sup>16</sup> relating to marine and its fishery resources in Nias District of N. Sumatera Province, investigating associated policies at national level must come first, and to be followed with provincial level, and district level. Afterward, investigating relevance amongst the released policies, the step finds out significance between central policies and district policies that designed for marine and fishery resources development post Tsunami and the quake.

The following list is a number of central policies significant to managing and utilizing sea and fishery resources.

1. Law No.5/1960 on Basic Regulations of Agrarian Affairs;
2. Law No 16/1964 Fishery Joint Venture;
3. Law No.11/1967 on Basic Regulations of Mining;
4. Law No.8/1971 on State Oil Mining or *Pertamina*;
5. Law No.1/1973 on Indonesian Self Continent;
6. Law No.3/2002 on State Defense;
7. Law No.5/1983 on Indonesian Exclusive Economic Zone
8. Law No.5/1985 on Industry;
9. Law No.5/1990 on Conservation Bio-resources and the Ecosystem;
10. Law No.9/1990 on Tourism;
11. Law No.21/1992 on Shipping;
12. Law No.24/1992 on Spatial Planning;
13. Law No.5/1994 on United Nation Convention of the Biodiversity;
14. Law No.6/1996 on Indonesian Waters;
15. Law No.23/1997 on Environmental Management;
16. Law No.41/1999 amended by Law No. 19/2004 on Forestry;
17. Law No.31/ 2004 on Fishery; (Revision of Law No.9/ 1985 on Fishery);
18. Law No.32/ 2004 on Regional Governance;
19. Law No.26/2007 on Spatial Planning ;
20. Law No.27/2007 on Development of Coastal Areas and Small Islands;
21. PP (*Governmental Regulation*) No. 15/1984 on Management Biodiversity Resources in Indonesian Exclusive Economic Zone;

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*Djuanda* or Declaration of Djuanda and obtained international acknowledgement of International Sea Convention.

<sup>16</sup> Framework applied to analyze and to comprehend the authentic of a public policy is by viewing the policy as a system of law. System of law is made of

- a. *content of law*, that is description or explanation of a policy that poured out in form of legislations, regulations, and governmental regulations;
- b. *structure of law*, that is every part of institutional apparatus and executives of the prevailing content of law; and
- c. *culture of law*, that includes perception, understanding and acceptance attitude, practices, and interpretation toward two aspects, i.e.content and structure of law. Also society's opinion to content and structure of the law (Roem Topatimasang, 2000)

22. PP No.15/1990 on Fishery Enterprise and PP No.46/1993 on Amendment of PP No.15/1990 and PP No.141/2000 on Second Amendment of PP No.15/1990 on Fishery Enterprise;
23. PP No. 68/1998 on Nature Preserves and Conservation Areas;
24. PP No. 19/1999 on Pollution Control and/or Sea Destruction;
25. PP No. 25/2000 on Authority of Central Govt. and Provincial Govt. as Autonomous Region;
26. PP No. 82/2001 on Water Quality Treatment and its Pollution Control;
27. PP No. 54/2002 on Fishery Enterprise;
28. PP No. 26/2008 on National Spatial Planning;
29. Keppres (*Presidential Decree*) No.39/1980 on Prohibition of Using Trawl;
30. Keppres No. 32/1990 on Management of Protection Areas;
31. Keppres No. 33/2002 on Sea Sand Control and Surveillance;
32. Ministerial Decree of Agriculture No.01/Kpts / Um /1 / 975 on Establishing of Sustainability of Assets within the Indonesian Fishery Resources;
33. Ministerial Decree of Agriculture No.473a/KPts/IK.250/6/1985 on Permitted Quota of Capturing within Indonesian Exclusive Economic Zone;
34. Ministerial Decree of Agriculture No.475/Kpts/IK.120/7/1985 on Permits to Foreign Individual or Legal Entity to Fishing within Indonesian Exclusive Economic Zone;
35. Ministerial Decree of Agriculture No.476/Kpts/IK.120/1985 on Designated Reporting Locations for Ships Permitted to Fishing within Indonesian Exclusive Economic Zone;
36. Ministerial Decree of Agriculture No.477/Kpts/IK.120./7/1988 on Revision on Taxes of Fishing to Foreign Individual or Legal Entity Fishing in Indonesian Exclusive Economic Zone;
37. Ministerial Decree of Agriculture No.277/Kpts.IK.120/5/1987 on Permits of Captured Fishing Enterprises in Indonesian Waters and Exclusive Economic Zone;
38. Ministerial Decree of Agriculture No.816/Kpts/IK.120/11/1990 on Fishery Enterprises Permits;
39. Ministerial Decree of Environment No 45/1996 on Sustainable Coastal Program;
40. Ministerial Decree of Agriculture No.392/Kpts/IK.120/4/99 on Fishing Routes;
41. Ministerial Decree of Marine and Fishery No.41/Men/ 2000 on Directive for Management of Small islands that Sustainable and Community-based;
42. Ministerial Decree of Environment No. 04/2001 on Standardized Criteria of Coral Reef Destruction;
43. Ministerial Decree of Marine and Fishery No.58/Men/2001 on Guidance of Community Monitoring System in Marine and Fishery Resources Management and Utilization;
44. Ministerial Decree of Marine and Fishery No.02 /Men/2002 on Fishing Monitoring Guidance;
45. Ministerial Decree of Marine and Fishery No.33/Men/2002 on Zone Division of Coastal areas and Sea for Sea-sand Enterprises
46. Ministerial Decree of Marine and Fishery No.34/Men/2002 on Coastal and Small Islands Spatial Planning Guidance;

#### 47. Ministerial Decree of Environment No.201/2004 on Basic Criteria and Guidance of Mangrove Destruction Specification

Brief commentary on the above laws as well as other related legislation regulations see table 3. Matrix of Marine and Fishery Policies at National Level.

The more the regulations the more related departments or instances to have authority over this sector, among which are:

- Ministry of Marine Affairs and Fisheries  
It is specifically in charge of administering issues over coastal areas and small islands, captured fishing, and fish farm.
- Ministry of Transportation  
It has authority to oversee matters pertaining to port authorities and harbor masters.
- Ministry of Forestry  
It has authority to supervise matters pertaining to conservation of sea parks, mangrove forests, and marine organisms.
- Ministry of Environment  
It has authority to control marine pollution
- Technology Development and Planning Board or BPPT and National Aerospace Institute (LAPAN)  
These two scientific institutions are in charge of organizing marine resources inventory.
- Indonesian Academy of Sciences or LIPI  
It has responsibility to handle programs relating to rehabilitation and management of coral reefs.
- *Satuan Polisi Air dan Udara (Satpol Airud)* or Air and Water Police Force  
It has authority to perform investigation on violation or crimes taking place on the sea
- National Armed Forces- Naval  
The institution holds authority to provide protection or defense for national affairs in sea and territorial security.
- Provincial Government  
It is in charge of managing marine and its resources within the radius of 12 miles.
- District/municipal government  
It is in charge of managing marine and its resources within the radius of 4 miles.
- Ministry of Industry  
It is a department with authority to administer export and import of marine products.
- Ministry of Energy and Mineral Resources  
It takes charge of exploration and exploitation of mineral resources underneath the Sea
- Ministry of Culture and Tourism  
It takes charge of managing maritime tourism in coastal regions and the sea.
- Ministry of Agriculture  
Before the establishment of Dept. of Marine and Fishery, it took charge of all authorities to manage the coastal areas and the sea.

A policy in marine and fishery sector generates wide impacts among community and the environmental continued existence. One of the community components that immediate-



ly subjected to the impacts is the fishermen, for instance, the release of Keppres No.39/1980 on Prohibition of Trawl Use. However, the policy has remained deep and heated discussions at the heart of legal, ecological, social, and political viewpoints.

Based on legal aspect, the policy is debatable seeing that its position within the law structure considered very weak, moreover with the establishment of Law No.9/1985 on Fishery that then amended to turn into Law No. 31/2004. In practice, in many cases the fishermen have encountered disagreements due to overlapping regulations and authorities. Still about implementation of regulation on trawl use, sometimes when Air and water Police Force (*Satpol Airud*) takes actions, the Naval does too. Many times both of them have shifted the responsibility. Besides demonstrate vagueness to fishery problem solving, the negative impacts also implicate to investment atmosphere because they will involve a long red tape and high-cost expense. As indicated by local perception, the current regulations all this time have shown law ambiguity. Many times sea crime cases have not touched the court since none of the policies relevant as foundation.

Derived from identification on policies and legislation regulations at national level as well as conventions regulating the management of sea and coastal space, it is found that there are potential, crucial dilemmas on legal aspect, namely: (1) overlapping and disharmony of policies. (2) conflicts between national laws and customary or *adat* laws;

The example of overlapping policies having power over protection and conservation areas include Law No. No.41/1999 on Forestry, Law No. 5/1990 on Conservation of Natural Resources and the Ecosystem, and Keppres No.32 on Protection Areas Management. While, conflicts between national laws and customary or *adat* laws, for instance permanent status or tenure of coastal natural resources. In Law No.6/1996 on Indonesian Waters, Article 4 stated that natural resources of coastal areas and sea substantially belong to state property. In contrast, in several coastal areas in NAD Province, its *Hukom Adat Laot* claims natural resources contained in the waters as their *community property* as per customary or *adat* laws having existed long before the state of Indonesian Republic founded.

Other than two dilemmas discussed above is that the current regulations, in general, have more controlled over permits, prohibition, and retribution or more about economic matters rather than environmental sustainability aspect. That divergence of considerations among conservational values and resources sustainability, and economic importances exists and is one-sided.

It is without a doubt that there are a number of regulations to administer the importance of conservation. For example Law No.5/1990 on Bio-resources and the Ecosystem Conservation, Law No.23/1999 on Management of Environment, Law No.31/2004 on Fishery, Law No.32/2004 on Regional Governance, PP No.69/1998 on Nature Preserves and Conservation Areas, PP No.7/1999 on Preservation of Plants and Animal Species, and PP No.8/1999 on Utilization of Plants and Animal Species.

Other regulations such as Joint Ministerial Decree of Agriculture and Forestry KB.550/264/Kpts/4/1984 and No.082/Kpts-II/1984 on 30 April 1984 stated that width of mangrove forests functioning as green belts is 200 meters. The joint decree then ex-

plained in simple terms by the Dept.of Forestry through a circular No.507/IV-BPHH/1990 that standardize the green belt thickness for mangrove forest as 200 meters along coastline and 50 meters along river. The decree also fortified with a Presidential Decree or *Keppres* No.32/ 1990 on Protection Areas Management. The Keppres instructs that coastlines protection aimed at protecting the coastal areas from any activity potentially damaging conservational functions of the coast. The Keppres regulates criteria for *coastal border*; it is terrain along the edges where its thickness proportional to the shape and condition of the coast; i.e. as a minimum 100 meters from the spring tide point on the land. Ecologically, it also recommended that green-belt thickness near coastal areas with mangrove forests as a minimum 130 multiplied by average difference of the annual highest and the annual lowest spring tides. For instance, in a coastal area with mangrove forests, average difference of between annual highest and lowest spring tides is 1.5 m, therefore the width or thickness of green belt shall be maintained is  $130 \text{ m} \times 1.5 \text{ m} = 195 \text{ m}$ <sup>17</sup>.

Prior to the regulation issued, many mangrove areas converted into large-scale fishponds. Development of the enterprise closely related to agriculture ministerial decree No.344.KP/IK.210/6/1986 on Development of Shrimps through *Pola Tambak Inti Rakyat* (TIR); it has opened wide opportunity to develop shrimps by applying intensification and extensification systems.

Govt. itself still manages to get huge foreign exchanges from shrimps farming. Through a program called *Protekan*, a Fishery Export Development Program launched in 2003. The govt. achieved income as much as US\$ 10,000,000,000. Some US\$ 6.78 billion of the fantastic number contributed from shrimp export with a calculation that in 2003 shrimps export increased from 50,000 tonnes to 677,800 tonnes. Therefore, govt. planned to undertake pond intensification method in 17 provinces and land expansion in 25 provinces. Implementation of intensification method needed large investors. Huge locations for ponds concentrated in Sumatera<sup>18</sup>. Until 1997, size of available ponds was 421,510 ha with land utilization rate of 39,785 ha. Based on Directorate General of Fishery (1998), there were around 1,211,309 ha new fishponds to be developed on mangrove forested land. Average increase of fishponds's extent in Indonesia is roughly 3.7%<sup>19</sup>.

As per data reported by Dept. of Marine and Fishery, until 2005 total extent of fishponds across the country has been 800,000 ha with an annually average increase of 14%. This figure excludes areas used for plantation and industry. It is no surprising that in last one decade, some 60% of total Indonesia's mangrove forested land had gone. In some coastal regions, the rate of mangrove forested land destruction has reached 90%.

Far-reaching watching found that a lot of land opening for developing ponds often refuse to comply with AMDAL guidelines (analysis on environmental impacts). In fact, fish farm is one of types of economic enterprise conditional on AMDAL analysis as

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<sup>17</sup> See, *Pengenalan Pengelolaan Ekosistem Mangrove*, DietrichBegen,PKSPL,IPB,Bogor, 2000,page 48-49

<sup>18</sup> *Tambak Udang Antara Harapan dan Ancaman*, Kompas, 23 August, 2000,page 14.

<sup>19</sup> See : Shrimp Behind the Mangroves or *Udang Dibalik Mangrove* can accessed at [www.dephut.go.id](http://www.dephut.go.id).

stated by Supplement of Ministerial Decree of Environment No.17/2001 on Business Enterprise and/or Activity subject to Analysis on Environmental Impacts.

Furthermore, the importance of community partaking in managing marine resources and fishery regulated in only few policies. For instance, Law No.23/1997 on Management of Environment, Law No.5/1990 on Conservation of Bio-resources and the Ecosystem, Law No.31/2004 on Fishery, Law No.32/2004 on Regional Governance, and Law No.27/2007 on Development of Coastal Areas and Small islands. The last two laws assign particular articles to regulate the economic empowerment of fishermen.

There are two of those released laws recognized as momentum to the development of marine and fishery, i.e. Law No.31/2004 on Fishery and Law No.27/2007 on Development of Coastal Areas and Small islands. Publication of both laws makes some other marine-and-fishery-related regulations irrelevant. These laws play a role as filler to an emptiness of law or an unavailability of regulation on management of marine resources and fishery all this time.

These laws have placed marine and fishery sector in a strategic position in the national development, and made it major reference to policy making related to marine and fishery either local level or national.

However, both laws still need to be criticized regarding some issues, i.e.

**Firstly**, Law No.31/2004: from forming process to its launching have less accommodated stakeholders of marine and fishery field. It is shown with few public consultation and representatives of fishermen. Thus, the law is less known mainly among the fishermen. Looking at its substance, the law gives priority to economic interests that confirmed with many articles to regulate fishery enterprise and fishery permits. One more weak point is not having firmness for trawl use prohibition. In addition, articles organizing the empowering of fishermen are not many. The law gives ambiguous definition for fisherman<sup>20</sup>, very much concerned that it will end in varied interpretations, mostly in field implementation. But, its conservation perspective seems to be excellent as it contains articles firmly regulating the introduction of genetic engineering, medications and alike that potentially endanger the survival of fish resources.

The establishment of Law No.31/2004 has terminated the legalization of other laws and regulations. For instance, Law No.9/1985 on Fishery (1985 Indonesian Govt.Official Gazette No.46, Additional Govt.Official Gazette No.3299), and regulations on fine punishment in Article 16 verse 1 of Law No.5/1983 on Indonesian Exclusive Economic Zone (1983 Indonesian Govt.Official Gazette No.44, Additional Govt.Official Gazette No.3260), in particular, those relating to criminal cases in fishery are stated expired.

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<sup>20</sup> In Governmental Regulation No.141/1999 on Fishery Enterprise, government has defined fisherman, in general speaking, as an individual whose livelihood is to fish farm. In contrast, in Law No. 31/2004 on Fishery, the government specifically gave explanation on small-scale fisherman as individual whose livelihood, to meet his daily needs, is fishing.

Additionally, a number of policies as derivative of technical implementation of Law No.9/1985 on Fishery (old) automatically needs adjustments (withdrawn or revised) to adhere to the new Law, among which are:

- PP No.15/1990 on Fishery Enterprise, PP No.46/1993 on Amendment of PP No.15/1990, and PP No.141/2000 on second Amendment of PP No.15/1990
- Regulation on fine punishment in Article 16 verse 1 of Law No.5/1983 on Indonesian Exclusive Economic Zone (has terminated in reference to Chapter: Final Decision with article 110).
- Ministerial Decree of Agriculture No.473a/Kpts/IK.250/6/1985 on Permitted Quota of Captured Fish within the Indonesian Exclusive Economic Zone.
- Ministerial Decree of Agriculture No.475/Kpts/IK.120/7/1985 on Permits for Foreign People/Legalized Entity to Fishing in the Indonesian Exclusive Economic Zone
- Ministerial Decree of Agriculture No.476/Kpts/IK.120/1985 on Establishment of Check Posts for Ships Permitted to Fishing in the Indonesian Exclusive Economic Zone
- Ministerial Decree of Agriculture No. 477/Kpts/IK.120./7/1988 on Taxes Alteration for Foreign People/Legal Entity to Fishing in the Indonesian Exclusive Economic Zone
- Ministerial Decree of Agriculture No.277/Kpts/IK.120/5/1987 on Permits for Enterprise in Captured Fishing in the Indonesian Exclusive Economic Zone
- Ministerial Decree of Agriculture No.816/Kpts/IK.120/11/1990 on Permits for Fishery Enterprise
- Ministerial Decree of Agriculture No.392/Kpts/IK.120/4/99 on Routes for Fishing

**Secondly**, critical issues require immediate anticipation respecting the implementation of Law No.27/2007 is about the article regulating release of *Hak Penguasaan Perairan dan Pesisir (HP3)* or Rights for Controlling Waters and Coastal Areas. On the one hand, the release of HP3 can minimize impacts of sea as an *open access* through its mechanism to present management right. On the contrary, the release is also very potential to drive management conflicts, mainly due to many areas still adopt *common property* without regulation of adat laws. The *common property* without basis on traditional or local customs does not have limitation to utilize natural resources, but it does not mean it has no ethics or moral values. It is quite different with community of *common property* since the HP3 precisely strengthens its status as management right holder. Besides HP3, issue on designating of conservation areas that shall obtain approval of minister also needs evaluation. This is very contradictive to spirit of autonomy as it is the authority of regional govt. to manage its marine resources.

Review to legislation regulation above reveals that the law has given legal mandate, either directly or not, to 14 development sectors to utilize marine and fishery resources. Activities regulated in the laws are generally by-sector and focused on exploiting particular coastal resources. The legislation regulation dichotomized to control the utilization of coastal resources, either only in lands or in waters. The 14 sectors include agrarian, mining, industry, transportation, fishery, agriculture, tourism, conservation, forestry, spatial, general works, finance, and local govt.

Investigation on its substance found the law, that regulates the utilization of natural resources including marine and fishery as explained earlier above, is very attentive to *state-based resources management* paradigm; putting by-sector approach in the front, and disregarding protection for human rights. Not only such paradigm disregards conservation importance, but also protection and sustainable functions of natural resources, and customary rights over controlling and managing these resources.

Its implication, to economic viewpoint, the law obliterates economic sources of local/*adat* community (*economic resources loss*). To social and cultural perspective, it has evidently destroyed system of science, technology, institution, tradition, and religion of local community (*social and cultural loss*). To ecological perception, it allows quality destruction and degradation, and quantity loss of natural resources as well (*ecological loss*). In addition, to politic of law development, it has disregarded the facts of legal pluralism in controlling and utilizing natural sources that actually living and growing within the community. And according to law and policy perspective, reflection and adherence of the paradigm as discussed above are observable in substances of legislation regulation pertaining to natural resources

In a general speaking, the marine and fishery policies at national level concluded as follows:

1. Still adhere to the *resources use-oriented* principles or not much recognizing the importance of conservation and sustainable function of natural resources;
2. Lack of consciousness of natural resources limitedness;
3. Have not put high priority to disaster risks;
4. *Capital-oriented* or take one-sided. This has become threats to the development of *adat*/local community's economic potentials;
5. Adopt *state-based resource management*, thus it oriented toward a centralized natural resources management;
6. System of natural resources management using by-sector approach, thus these resources not seen as an integrated ecological system or ecosystem;
7. By-sector authority and institution have resulted in less coordination or harmonization among sectors; and
8. Do not recognize and provide intact protection to human rights, chiefly the rights of *adat*/local community and legal pluralism in controlling and utilizing natural resources.

**Table 3 Matrix of Marine and Fishery Policies at National Level**

<b>Law No. 5/1960 on Basic Regulation of Agrarian Affairs</b>			
<b>No</b>	<b>Strategic Issue(s)</b>	<b>Content</b>	<b>Explanation</b>
1	Rehabilitation and conservation of marine and fishery resources	In this Law, no articles explicitly regulate the rehabilitation and conservation of an area, especially coastal and marine areas. Nevertheless, there is one article that slightly refers to it, i.e. Article 14 stated : 'At aiming Indonesian socialism, the Central Government arranges such general planning on provision, allocation and use of lands, waters, and space and natural resources contained in developing agriculture, farming and fishery production.'	
2	Participation of community in managing the resources	In Article 15 clearly stated that <i>land nurturing, including fertility replenishment and damage prevention</i> is the obligation of every person, law body, or institution related to the land legally. Thus, land nurturing is not only the owner or legal license holder's responsibility, but also every person, law entity, or institution related to the land legally. Every person in this case can be individual or group of people. While group of people includes traditional community.	
3	Economy developing of coastal community (livelihoods)	-	
<b>Law No 16/1964 on Fishery Joint Venture</b>			
<b>No</b>	<b>Strategic Issue(s)</b>	<b>Content</b>	<b>Explanation</b>
1	Rehabilitation and conservation of marine and fishery resources	The Law gives an opportunity to the provincial government to arrange regulation that obliged to fishpond owners to maintain and fix up fishpond irrigation system as well as canals and embankments existed in the fishpond areas.	
2	Participation of community in managing the resources	-	
3	Economy developing of coastal community (livelihoods)	The Law in principle manages fishery production sharing system. It emphasizes on collective interests over fisherman	

		owners and labors as well as fishpond owners. The Law aims at minimizing the exploitation by fisherman owners and fishpond owners to fisherman labors and fishpond labors. The rights of the labors flatly regulated in this Law. As for sea fishery enterprises with sailboats, fish-farm labors will get 75% at minimum while with motorboats at least 40% of the net outcome. As for land fishery enterprises with pisciculture, fishpond labors get 40% and with wild fish take 60% of the net outcome.	
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#### Law No.11/1967 on Basic Regulations of Mining

No	Strategic Issue(s)	Content	Explanation
1	Rehabilitation and conservation of marine and fishery resources	This Law does not provide regulations on mining rehabilitation and conservation in the coastal and marine zones. It only manages technical matters of mining such as: minerals management operation, form and organization of mining company, mining enterprises, mining authority, procedures and prerequisites to apply for mining authority, and relation between mining authority and land rights.	
2	Participation of community in managing the resources	-	
3	Economy developing of coastal community (livelihoods)	-	

#### Law No. 1/1973 on Indonesian Continental Shelf

No	Strategic Issue(s)	Content	Explanation
1	Rehabilitation and conservation of marine and fishery resources	This Law stipulates that Indonesian Republic has sovereignty over natural resources on its continental shelf. In exploring, exploiting, scientific studying on the resources, the country is <i>obliged to</i> preventing seawater pollution as well as the air over it. The Law underlines the strong domination of the government so that no opportunity given to other parties for exploitation and exploration. This could bring negative impacts when on behalf of the state, used to justify coastal and marine developments by sacrificing	

		people or to have collaboration with private entrepreneurs (covered privatization).	
2	Participation of community in managing the resources	-	
3	Economy developing of coastal community (livelihoods)	-	

#### Law No.5/1983 on Indonesian Exclusive Economic Zone

No	Strategic Issue(s)	Content	Explanation
1	Rehabilitation and conservation of marine and fishery resources	Nation welfare is achieved by utilizing the entire natural resources provided, either bio or non-bio resources. To cope with the targets, natural resources that located at the sea-base and its underground, also water spatial over it, measured from the outerest border i.e. 200 seamiles from Indonesia's maritime point, should be <i>protected and managed</i> properly, goals-oriented and wisely. The Indonesian Republic's rights of Exclusive Economic Zone are wide-scale; however, foreign fishermen use it mostly. in case of Indonesia has no sophisticated technology to carry out exploration, exploitation, management, and conservation on its natural resources, foreign boats supported by high technology would drain natural resources in Indonesia Exclusive Economic Zone illegally.	
2	Participation of community in managing the resources	-	
3	Economy developing of coastal community (livelihoods)	-	

#### Law No.5/1990 on Conservation Bio-resources and the Ecosystem

No	Strategic Issue(s)	Content	Explanation
1	Rehabilitation and conservation of marine and fishery resources	The aims are to actualize bio-resources continuity and the ecosystem balance. One of the activities is life-buffer system protection. The Law stated that life buffer system areas affected by natural damages and/or its uses and other causes are fol-	



		lowed by planned and continuously rehabilitation efforts. <i>The Law still focuses on land conservation management, therefore less attention given to marine conservation.</i>	
2	Participation of community in managing the resources	The law describes community participation (Article 37) (1) Community participation in bio-resources and the ecosystem conservation is led and motivated by the Government through various usefulness and effective activities (2) To encourage community participation as in verse (1), the Government develops awareness among community on bio-resources and the ecosystem conservation through education and counseling. (3) Further regulations as in verse (1) and (2) arranged into Governmental Regulation.	
3	Economy developing of coastal community (livelihoods)		

#### Law No.21/1992 on Shipping

No	Strategic Issue(s)	Content	Explanation
1	Rehabilitation and conservation of marine and fishery resources	To maintain marine and fishery resources, the Law maker made one special article on prevention and mitigation of ship pollution. The Article contains several regulations as given below: <ul style="list-style-type: none"> <li>▪ Every ship prohibited to dump waste or other materials if prerequisites unfulfilled</li> <li>▪ Every operated ship obliged to be equipped by pollution prevention instruments as part of ship eligible condition</li> <li>▪ Every sea captain or ship leader and/or ship crew must prevent environmental pollution from their ships</li> <li>▪ Every sea captain or ship leader must control pollution from their ships</li> <li>▪ The sea captains or ship leaders must report immediately to the nearest public servants or institution that have the authority, about sea pollution caused by</li> </ul>	

		<p>their ships or other ships or when they saw sea pollution.</p> <ul style="list-style-type: none"> <li>▪ Owners or ship operators are responsible for pollution from their ships.</li> </ul>	
2	Participation of community in managing the resources	-	
3	Economy developing of coastal community (livelihoods)	-	
<b>Law No.24/1992 on Spatial Planning</b>			
<b>No</b>	<b>Strategic Issue(s)</b>	<b>Content</b>	<b>Explanation</b>
1	Rehabilitation and conservation of marine and fishery resources	Spatial planning in marine sector not specifically regulated in this Law. The Law manages spatial planning process, spatial use, and spatial use control. Spatial in the Law covers land spatial, sea spatial, and air spatial as a unit area, where human and other creatures live and do their activities as well as maintain their life survival. One of the targets is to achieve high quality spatial use to actualize spatial function protection and to prevent and control negative impacts on the environment.	
2	Participation of community in managing the resources	The Law gives chances to every person to know about spatial planning and to participate in the process of spatial planning, spatial use, and spatial use control, including coastal and marine spatial.	
3	Economy developing of coastal community (livelihoods)	-	
<b>Law No. 5/1994 on Ratification of UN Convention on Biological Diversity</b>			
<b>No</b>	<b>Strategic Issue(s)</b>	<b>Content</b>	<b>Explanation</b>
1	Rehabilitation and conservation of marine and fishery resources	Convention determines that every nation has obligation to protect and maintain their marine environment. Besides, it also determines that every nation has authority to utilize its natural resources as well as its obligations to protect and sustain marine environment.	
2	Participation of community in managing the resources	-	
3	Economy developing of coastal community (livelihoods)	-	

**Law No.6/1996 on Indonesian Waters**

<b>No</b>	<b>Strategic Issue(s)</b>	<b>Content</b>	<b>Explanation</b>
1	Rehabilitation and conservation of marine and fishery resources	The Law has not protected Indonesian waters yet from foreign ships that made destruction and waters pollution from land activities carried out by Indonesia or neighbor countries. Nevertheless, the Law protects Indonesian waters from dangerous and poisoned materials (B3). In addition, it manages rights of crossing route, rights of transit, rights of communication access, waters' use, management, protection, and preservation. As for natural resources in Indonesian waters, their use, management, protection, and preservation carried out based on national and international laws.	
2	Participation of community in managing the resources	-	
3	Economy developing of coastal community (livelihoods)	-	

**Law No.23/1997 on Management on Environment**

<b>No</b>	<b>Strategic Issue(s)</b>	<b>Content</b>	<b>Explanation</b>
1	Rehabilitation and conservation of marine and fishery resources	Management on environment conducted along with spatial planning, non-bio resources protection, artificial resources protection, <i>bio-resources and the ecosystem conservation</i> , culture preserve, biodiversity and climate change. The Law also gives obligation to every person to maintain preservation of environmental functions, and prevent and control environment pollution and destruction, including marine environment.	
2	Participation of community in managing the resources	Sustainability of environmental functions is important to people, thus it calls for responsibilities, openness, and community participation, which can be performed through individual, environmental organizations, such as NGOs, traditional or <i>adat</i> community, etc. The Law formulates excellent community participation on environment management as indicated by Ar-	

		<p>Article 7: 'Community has the same and wide opportunity to take part in environment management'. Types of participation are to:</p> <ul style="list-style-type: none"> <li>▪ Increase community independency, development, and partnership;</li> <li>▪ Develop ability and pionership of the community;</li> <li>▪ Develop quick response of the community on social monitoring;</li> <li>▪ Give opinions;</li> <li>▪ Deliver information and/or reports.</li> </ul>	
3	Economy developing of coastal community (livelihoods)	-	

**Law No.41/1999 amended by Law No. 19/2004 on Forestry**

No	Strategic Issue(s)	Content	
1	Rehabilitation and conservation of marine and fishery resources	Forestry in this Law covers forested land as well as forested coast. Therefore, content of the Law is still relevant to conservation and rehabilitation of coastal forests in the coastal areas. It gives obligation to every person for conducting forest rehabilitation (including coastal forests) in regards with protection and conservation. Rehabilitation activities include reforestation and re-plantation. The activities based on specific biophysics condition. In the frame of conservation, the Law prohibits every person to clear-cut within the forests of a distance up to 130 times deviation between the highest tide and the lowest tide measured from shoreline. Violation to the Law can be sentenced to jail for 10 (ten) years at the most and fine up to Rp.5, 000,000,000.00 (five billion rupiahs).	
2	Participation of community in managing the resources	The Law provides space and opportunity to community to get directly involved in forest rehabilitation and conservation (including coastal forests). In Article 42 explicitly stated that 'Forest and land rehabilitation activities mainly focus on participative approach in order to develop potential and community. In rehabilitation,	

		community offered some chances to ask for supervision, service and support from NGOs, other parties or the government.	
3	Economy developing of coastal community (livelihoods)	-	

**Law No. 36/2000 on Perpu (Regulation Decision) No.1/2000 on Free Trade and Free Harbor Areas into Law**

No	Strategic Issue(s)	Content	Explanation
1	Rehabilitation and conservation of marine and fishery resources	This Perpu regulates free trade and free harbor areas. It also gives protection to natural resources, including marine and fishery resources. This clearly stated in Article 11 'Prohibited materials are not allowed for free trade and free harbor zones.' In more flatly description, it is mentioned that: quarantine regulation for human, animals, fish and plants for Indonesian authority areas are applied to Free Trade and Free Harbor Areas as well.'	
2	Participation of community in managing the resources	-	
3	Economy developing of coastal community (livelihoods)	In this Perpu, no any single article that manages economy developing of coastal community. However, further study on free trade and free harbor zones, certainly gives positive and negative impacts on community economic, specifically coastal community.	

**Law No. 19/2004 on Perpu (Regulation Decision) No. 1/2004 on Law Amendment No. 41/1999 on Forestry**

No	Strategic Issue(s)	Content	Explanation
1	Rehabilitation and conservation of marine and fishery resources	Several amendments to Law No.41/1999 and replaced by Law No.19/2004 showed no link to rehabilitation and conservation of marine and fishery resources.	
2	Participation of community in managing the resources		
3	Economy developing of coastal community (livelihoods)		

**Law No.31/ 2004 on Fishery**

<b>No</b>	<b>Strategic Issue(s)</b>	<b>Content</b>	<b>Explanation</b>
1	Rehabilitation and conservation of marine and fishery resources	<p>In regards to fish resources management, it is conducted ecosystem conservation, fish type's conservation, and fish genetic conservation. In conservation, the Law prohibits every person to:</p> <ul style="list-style-type: none"> <li>▪ catch fish and/or nurtured fish using chemical agents, biology agents, explosive, instruments and/or procedures, and/or building that threaten fish resources continuity and/or the environment;</li> <li>▪ perform activities that caused pollution and/or fish resources and/or the environment damages;</li> <li>▪ nurture fish that could harm fish resources, the environment, and/or human health;</li> <li>▪ nurture fish using genetic engineering which is dangerous to fish resources, the environment, and/or human health; and</li> <li>▪ use chemical agents in nurturing fish that could harm fish resources, the environment, and/or human health.</li> </ul> <p>Violation to the Law can be sentenced behind bar between 5 (five) and 10 (ten) years.</p>	
2	Participation of community in managing the resources	Fishery management for fishing and nurturing should consider traditional laws and/or local wisdoms along with community participation.	
3	Economy developing of coastal community (livelihoods)	<p>It clearly stipulated that visions and targets of the Law are idealistic and promising. It can be seen in Article 3 that fishery management aims at:</p> <ul style="list-style-type: none"> <li>- increasing livelihoods of small-scale fishermen and fish breeding fishermen;</li> <li>- increasing state's budget and income;</li> <li>- accelerating job variety and opportunities;</li> <li>- increasing provision and consumption of fish protein;</li> <li>- optimalizing fish resources manage-</li> </ul>	Law No.31/2004 gives significant action to national fishery policy development that has been unorganized all this time. However, the absence of trawling regulation shows that the law actually does not significantly give effects to the livelihoods of small-

		<p>ment;</p> <ul style="list-style-type: none"> <li>- increasing productivity, quality, additional values, and competition;</li> <li>- increasing basic materials availability for fish processing industries;</li> <li>- achieving the optimum fish resources use, fish breeding areas, and the environment; and</li> <li>- giving guarantee on fish resources sustainability, fish nurturing areas, and spatial planning.</li> </ul> <p>The keyword is fishermen welfare and fishery resources sustainability. Regretfully, in order to achieve that, the fishery management conducted as fishery business, which written in Fishery definition of this Law.</p> <p>The Government develops small-scale fishermen and fish breeding fishermen through:</p> <ul style="list-style-type: none"> <li>▪ Credit scheme for small-scale fishermen and fish farmers, whether as capitals or operational costs, in a simple procedure, low interest, and adjusted to their economy capability;</li> <li>▪ Education, trainings, and counseling for small-scale fishermen and fish farmers to develop knowledge and skills on fishing, fish farming, processing, and marketing;</li> <li>▪ Developing group of small-scale fishermen, fish farmers, and fishery cooperatives.</li> </ul>	<p>scale fishermen. By scanning the whole content of the law, there are only few that manage about small-scale fishermen. In Chapter X on Small-scale Fishermen and Fish Breeding Fishermen Development, there are only 5 articles, compared to regulation on fishery enterprises and fishery penalty. Based on the facts, it said that this law emphasizes more on state's investment security in fishery sector and business management for fishery enterprises.</p>
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**Law No.32/ 2004 on Regional Governance**

No	Strategic Issue(s)	Content	Explanation
1	Rehabilitation and conservation of marine and fishery resources	This Law gives authority to provincial government up to 12 miles and to district government up to 4 miles for marine resources exploration, exploitation, conservation, and management, and administrative and spatial planning management. Border friction between provincial and district government about the authorization might take place. In general, understanding of coastal areas not specifically mentioned.	

2	Participation of community in managing the resources	-	
3	Economy developing of coastal community (livelihoods)	-	
<b>Law No.26/2007 on Spatial Planning replacing Law No. 24/1992 on Spatial Planning</b>			
1	Rehabilitation and conservation of marine and fishery resources	<p>The Law regulates spatial planning in general. Spatial planning in marine sector not arranged particularly in this Law. Spatial in the Law is defined as an area covers land spatial, marine spatial, and air spatial, including spatial inside the earth as a whole area where human and other creatures live and carry out their activities and maintain their survival.</p> <p>The Law clearly not aimed at conservation and rehabilitation, however indicates the opportunity of it. As for marine, the Law analyzed through authority hierarchy. It can be seen implicitly that it manages spatial planning in the marine areas by underlining on islands as stated in the Article 14 part (3) verse a.</p> <p>Spatial planning in detail as written at verse (1) letter b consists of:</p> <ul style="list-style-type: none"> <li>a. island/s spatial planning and spatial planning of national strategic areas</li> <li>b. spatial planning of provincial strategic areas, and</li> <li>c. district/municipal detailed spatial planning and spatial planning of district/city strategic areas</li> </ul> <p>The existence of Article 14 part 3 provides chances for conservation and rehabilitation in marine sector. Furthermore, marine issues available in article 33 part 4 that stated ‘Spatial use on protected areas is given to the central government and regional government as first priority to receive diversion of land rights from the land rights’ owners if they disengage their rights on the lands.</p>	
2	Participation of community in managing the resources	Community participation in this Law also discussed, especially in marine spatial planning execution. It clearly stipulated in	



		Article 55 that states ‘The central government and regional government’s monitoring as in verse (3) is conducted by involving community participation. The participation as in verse (3) done by giving reports and/or complaints to the central government and regional government.	
3	Economy developing of coastal community (livelihoods)	Not available	
Law No.27/2007 on Development of Coastal Areas and Small islands			
No	Strategic Issue(s)	Content	Explanation
1	Rehabilitation and conservation of marine and fishery resources	<p>The Law mentioned that coastal areas and small islands management is held with goals: to continuously protect, conserve, to rehabilitate, use, and develop coastal areas’ and small islands’ resources and the ecology.</p> <p>Article 28 of the Law states: Coastal Areas and Small Islands Conservation are carried out:</p> <ol style="list-style-type: none"> <li>to maintain ecosystem sustainability of the coastal areas and small islands</li> <li>to protect fish and other sea creatures’ migration pathway</li> <li>to protect sea environment; and</li> <li>to protect traditional culture sites</li> </ol> <p><b>Verse 4 Article 38: Conservation areas in the Coastal Areas and Small Islands determined by Ministerial Decree.</b></p> <p>Article 28 verse (4) of the Law is contradictory with Law No.32/2004 regulating about regional authority on conservation. The decision of conservation areas not supposedly handled by the Minister anymore, but the District Head referred to the authority mentioned.</p>	Still found centralism in designating conservation area category.
2	Participation of community in managing the resources	The Law states that HP-3 is enterprise’s rights at sea surface and water column up to sea base surface (Article 16), with period of time given up to 20 years, and can	The article should give clearer explanation on community’s access to waters assigned as HP-3, so

		<p>be extended (Article 19). As in Article 60:</p> <p>(1) In managing coastal areas and small islands, community has rights to:</p> <p>a. Get access to waters designated as HP-3;</p> <p>b. Get compensation due to losing access to coastal and small islands resources that become their livelihoods caused by HP-3 according to regulations;</p> <p>c. Manage coastal and small islands resources based on traditional laws and not against the regulations;</p> <p>d. Get benefits on Coastal Areas and Small Islands management execution;</p> <p>e. Get information related to Coastal Areas and Small Islands Management;</p> <p>f. Hand in reports and complaints to authority about their loss in regards to the execution of Coastal Areas and Small Islands Management;</p> <p>g. Protest on go public management planning within certain period of time;</p> <p>h. Claim on pollution and/or destruction of the Coastal Areas and Small Islands that threatens their livelihoods to law enforcement authority;</p> <p>i. Convey accusation to the court on various problems in the Coastal Areas and Small Islands which harm their livelihoods; and</p> <p>j. Get compensation.</p>	<p>that it would not create any conflict in the future.</p> <p>Verse 1 (b) also acknowledges protection for community regarding the effect of giving HP-3 to the capitalist.</p>
3	Economy developing of coastal community (livelihoods)	<p>Points of economy empowerment are more detailed in this Law</p> <ol style="list-style-type: none"> <li>1. The Central government and Local Government are obliged to empower community in order to improve their welfare.</li> <li>2. The Government is responsible to motivate community livelihoods activities using different, usefull and effective ways on coastal and</li> </ol>	<p>Still found centralism as decision on empowerment guidance assigned by central govt. in this issue the Minister.</p>

		<p>small islands management.</p> <p>3. In order to empower community, govt. both central government and regional materialize, develop awareness and responsibilities of:</p> <ol style="list-style-type: none"> <li>a. decision making;</li> <li>b. management execution;</li> <li>c. joint-venture between community, enterprises, and the central government/local government;</li> <li>d. development and application of national policies in environment sector;</li> <li>e. development and application of preventive and proaction efforts to prevent the loss of support and relocation potency in the coastal areas and small islands;</li> <li>f. use and development of eco-friendly technology;</li> <li>g. distribution of information on environment; and</li> <li>h. giving appraisal to meritorious people on coastal areas and small islands management.</li> </ol> <p>4. Regulations on guidance for community's economy development further arranged with Ministerial Decree.</p>	
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**PP (Governmental Regulation) No. 15/1984 on Management Biodiversity Resources in Indonesian Exclusive Economic Zone**

No	Strategic Issue(s)	Content	Explanation
1	Rehabilitation and conservation of marine and fishery resources	Regarding biodiversity resources preservation, this Regulation prohibits fishing in Indonesia Exclusive Economic Zone using explosives, poison, electricity, and dangerous agent or equipment. Due to conservation, this Regulation gives authority to Minister of Agriculture (at present Minister of Marine and Fishery) to determine the amount of allowed capturing based on type or type group of biodiversity in some parts or all over the Indo-	

		nesian Exclusive Economic Zone. The numbers of allowed capturing is decided in regards with data of researches, surveys, evaluations, and/or fishing outcomes.	
2	Participation of community in managing the resources	-	
3	Economy developing of coastal community (livelihoods)	-	
PP No. 68/1998 on Nature Preserves and Conservation Areas			
No	Strategic Issue(s)	Content	Explanation
1	Rehabilitation and conservation of marine and fishery resources	<p>Nature Preserves and Conservation Areas management is held based on area function:</p> <ul style="list-style-type: none"> <li>▪ as protection areas of life buffer system;</li> <li>▪ as preservation areas of various plants and/or animals and the ecosystem;</li> <li>▪ as continuous use of biodiversity resources and the ecosystem.</li> </ul> <p>Buffer zone functions to maintain Nature Preserves and Conservation Areas out of any pressures or disturbances from outside and/or inside the areas that might cause either wholeness alteration or and/or area's function changes. Designation of a buffer zone is based on the following criteria:</p> <ul style="list-style-type: none"> <li>▪ Geographically, it is adjacent to nature preserves and/or conservation areas;</li> <li>▪ Ecologically, it has good influence either from inside or outside Nature Preserves and/or Conservation Areas;</li> <li>▪ It has ability to counter any obstruction either from inside and/or outside of nature preserves and/or conservation areas.</li> <li>▪</li> </ul>	
2	Participation of community in managing the resources	The PP does not regulate/give opportunity to community for participating in nature preserves and conservation areas management.	
3	Economy developing of coastal community (livelihoods)	-	

**PP No. 19/1999 on Pollution Control and/or Sea Destruction**

<b>No</b>	<b>Strategic Issue(s)</b>	<b>Content</b>	<b>Explanation</b>
1	Rehabilitation and conservation of marine and fishery resources	The rapid growth of activities in the land and sea as well as marine resources and their others' uses can result in pollution and/or destruction to the sea that finally reduce both of its quality and function. In order to prevent them, this PP prohibits caretakers of enterprises and/or activities to carry out such events that tend to create pollution and/or sea destruction. Furthermore, the caretakers are obliged to control the pollution and/or sea destruction caused by their activities. They are also obliged to refine sea quality.	The large-scale entrepreneurs have mostly done pollution, and/or sea destruction. They never conduct sea quality refining. On the other hand, the position of the community in this PP is very weak. They do not have access.
2	Participation of community in managing the resources	The PP does not give opportunity to community to participate in pollution control and/or sea destruction.	
3	Economy developing of coastal community (livelihoods)	-	

**PP No.25/2000 on Authority of Central Govt. and Provincial Govt. as Autonomous Region**

<b>No</b>	<b>Strategic Issue(s)</b>	<b>Content</b>	<b>Explanation</b>
1	Rehabilitation and conservation of marine and fishery resources	This PP regulates the Authority of Central Government and Provincial Government as Autonomous Region that stated in Law No.22/1999 Article 12. The authority of provincial government in marine sector includes: <ul style="list-style-type: none"> <li>▪ administration and management of waters in provincial sea jurisdiction;</li> <li>▪ exploration, exploitation, conservation and management of marine resources only within its provincial sea jurisdiction;</li> <li>▪ conservation and management of specified location germ plasma and fishery reserves in the provincial sea jurisdiction;</li> <li>▪ service on fish farming permits in the sea waters of the provincial's sea jurisdiction; and</li> <li>▪ monitoring on fish resources use in the provincial sea jurisdiction</li> </ul>	
2	Participation of community in managing the resources	-	

3	Economy developing of coastal community (livelihoods)	-	
PP No. 82/2001 on Water Quality Treatment and its Pollution Control			
No	Strategic Issue(s)	Content	Explanation
1	Rehabilitation and conservation of marine and fishery resources	Water is one of natural resources that have important function to human life. To maintain water quality, it needs water quality management and water pollution control wisely. This PP gives obligation to person-in-charge of the enterprises and/or activities waste away to the water or water sources to prevent and control water pollution. Violation to this PP will follow penalty procedure as in Law No.23/1997 on Environment Management.	
2	Participation of community in managing the resources	-	
3	Economy developing of coastal community (livelihoods)	-	
PP No. 54/2002 on Fishery Enterprise			
No	Strategic Issue(s)	Content	Explanation
1	Rehabilitation and conservation of marine and fishery resources	-	Need supports so that fishery enterprise will not destruct the environment
2	Participation of community in managing the resources	-	
3	Economy developing of coastal community (livelihoods)	Non-discriminatory use of fish resources is supposed to represent the protection to the small-scale enterprises such as fishermen and fish farmers, so that they can survive from big-scale enterprises' occupation. Therefore, they are motivated to establish cooperatives in order to develop the enterprises. Moreover, partnership between large-scale fishery enterprises and small-scale fishermen/fish farmers with mutualism profit-oriented, for instance, joint-venture is highly encouraged.	

PP No. 26/2008 on National Spatial Planning			
1	Rehabilitation and conservation of marine and fishery resources	General conservation issues frequently discussed in this PP. Particularly, in the coastal and marine areas, conservation issues presented in Article 6 part: (a) assigning protection areas in spatial of land, sea, and air, including spatial under the earth. Part (b) creating protected areas within an island with an area extent of at least 30% (thirty percents) of the total landmass according to the ecosystem; and part (c) rejuvenating and developing the utility of degraded protected areas due to by fish farming activities in order to maintain the entire ecosystem stability. Other articles that sufficiently clear and detailed about issues on conservation related to coastal and marine presented in Article 52 - 67 covering type and criteria of protection areas.	
2	Participation of community in managing the resources	Not available	
3	Economy developing of coastal community (livelihoods)	-	

**Keppres (Presidential Decree) No. 32/1990 on Management of Protection Areas**

No	Strategic Issue(s)	Content	Explanation
1	Rehabilitation and conservation of marine and fishery resources	<ul style="list-style-type: none"> <li>▪ Protection of coastal border intended to safeguard it from the areas from any activity potential to produce negative impacts on the coastal areas' function. Criterion for coastal border is land along the water's edge with a width proportional to the physical shape and condition, i.e. at least 100 m from the highest tide point toward the land.</li> <li>▪ Protection of marine nature preserve intended to safeguard biodiversity, type of ecosystem, natural phenomenon and uniqueness for the sake of germ plasma, tourism, and science. Criterion of marine nature preserve is an area such as sea waters, coastal areas, coral reefs, and atoll that have characteristics of di-</li> </ul>	

		<p>iversity and/or ecosystem uniqueness.</p> <ul style="list-style-type: none"> <li>Protection of coastal mangrove forests intended to safeguard the mangrove forests as creator of mangrove forest ecosystem, and place for various sea creatures besides as protector to shoreline and sea abrasion, and fish farming. Criterion of mangrove forest area is an area that has, at minimum, 130 times of difference of annual average between highest tide and lowest tide, measured from the lowest tide poin toward the land.</li> </ul>	
2	Participation of community in managing the resources	This Decree does not regulate/gives opportunity to community to participate in protection areas management.	
3	Economy developing of coastal community (livelihoods)	-	

**Keppres No. 33/2002 on Sea-sand Control and Surveillance**

<b>No</b>	<b>Strategic Issue(s)</b>	<b>Content</b>	<b>Explanation</b>
1	Rehabilitation and conservation of marine and fishery resources	Uncontrollable mining, dredging, transporting, and trading of sea-sand have ended in ecosystem degradation, economic loss to the fishermen and fish farmers, and falldown of sea-sand price. To avoid that negative impacts, to protect and develop fishermen, fish farmers, and coastal community, and to improve the price of sea sand, thus control and surveillance of sea-sand exploitation performed. To conduct the task, the President formed a team of sea-sand control and surveillance. One of the duties is monitor, evaluation, and surveillance on coastal and marine ecosystem condition caused by sea-sand enterprises and environment quality reclamation. The Decree emphasizes that every sea-sand mining enterprise and/or dredging is obliged to maintain marine ecosystem function and, to prevent and control the pollution and destruction caused by their activities.	
2	Participation of community in managing the resources	-	
3	Economy developing of		



	coastal community (livelihoods)	-	
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**Ministerial Decree of Agriculture No. 01/Kpts / Um /1 / 975 on Establishing of Sustainability of Assets within the Indonesian Fishery Resources**

No	Strategic Issue(s)	Content	Explanation
1	Rehabilitation and conservation of marine and fishery resources	<p>Rational utilization contained in fishery resources and efforts to preserve their sustainability are main subjects and general judiciousness of fishery development.</p> <p>In the frame work of establishing sustainability of assets contained in fishery resources according to its activity intensity divided into :</p> <ul style="list-style-type: none"> <li>▪ <i>Blocking areas/seasons</i> It includes: <ul style="list-style-type: none"> <li>• Closing certain areas for one or several, or all types of fishing activities;</li> <li>• Closing some or all fishing areas during certain seasons for one or some, or all type of fishing activities.</li> </ul> </li> <li>▪ <i>Controlling fishing activities</i> It includes: <ul style="list-style-type: none"> <li>• Determining type, size and numbers of ships operated;</li> <li>• Determines width of fishing net and type of other fishing instruments; and</li> <li>• Determining quota of fishing capture</li> </ul> </li> </ul>	<p>The Government should be proactive in conducting mentoring of sustainability wealth in Indonesian fishery resources. If failed, the Government sued to fulfill its responsibility.</p> <p>This Decree can complement one another with Ministerial Decree of Marine and Fishery No. 02/Men/ 2002</p>
2	Participation of community in managing the resources	-	
3	Economy developing of coastal community (livelihoods)	-	

**Ministerial Decree of Environment No 45/1996 on Sustainable Coastal Program**

No	Strategic Issue(s)	Content	Explanation
1	Rehabilitation and conservation of marine and fishery resources	To prevent pollution and/or environmental destruction of coastal areas, every person and/or caretaker of enterprises and/or activities has obligation to carry out pollution prevention and control in coastal areas. Sustainable coastal program aims to be:	
2	Participation of community in managing the resources		

		<ul style="list-style-type: none"> <li>▪ controllable pollution or destruction in coastal areas from various enterprises or activities;</li> <li>▪ community awareness on environment and community participation on coastal environment management; and</li> <li>▪ a better coordination among institutions related to management of coastal environment.</li> </ul>	
3	Economy developing of coastal community (livelihoods)	-	

**Ministerial Decree of Marine and Fishery No. 41/Men/ 2000 on Directive for Management of Small islands that Sustainable and Community-based**

No	Strategic Issue(s)	Content	Explanation
1	Rehabilitation and conservation of marine and fishery resources	<p>Policies on spatial planning of small islands should consider conservation areas and flora fauna endemic, including endangered species.</p> <p>The Ministerial Decree is aimed at being:</p> <ul style="list-style-type: none"> <li>▪ a character reference for the stakeholders, i.e. the Government, community, and business in implementating management of small islands that integrated, sustainable, and community-based in order to achieve optimum, efficient and effective utilization of available resources toward a better community's wellbeing and environmental capacity preservation.</li> <li>▪ a directive for the stakeholders in administering the mechanism of small islands management.</li> </ul> <p>Whereas the targets are:</p> <ul style="list-style-type: none"> <li>▪ the development of operational policies on small islands management in the provincial and district/municipality well-directed.</li> <li>▪ the mechanism of small islands management executed by either the government, community, or business by placing community as main actor while keeping on considering the environmental sustainability rules materialized.</li> <li>▪ plan and implementation of small islands management, both of the ongoing and the coming-up, along the lines of</li> </ul>	

		principles in sustainable development.	
2	Participation of community in managing the resources	The Decree has placed the community as main actor on management of natural resources and environmental service of small islands. While the Government and enterprises act as supporters.	
3	Economy developing of coastal community (livelihoods)	-	

**Ministerial Decree of Environment No. 04/2001 on Standardized Criteria of Coral Reef Destruction**

No	Strategic Issue(s)	Content	Explanation
1	Rehabilitation and conservation of marine and fishery resources	Coral reefs are natural resources functioning as habitat and shelter for marine bio-resources. The rapid development has ended in destruction on coral reefs. Accordingly, protection efforts have to comply with the benchmark criteria of destruction. The criteria of coral reefs destruction are tolerable threshold changes of physical and/or biological characteristics of coral reefs. The criteria are set based on percentage of living coral reef cover. In the framework of controlling destruction on coral reefs program, the governors/ district heads/mayors obliged to organize such program that include condition of coral reef considered damaging, preventive actions, controlling efforts, and recovery activities.	
2	Participation of community in managing the resources	-	
3	Economy developing of coastal community (livelihoods)	-	

**Ministerial Decree of Marine and Fishery No. 58 /Men/2001 on Guidance of Community Monitoring System in Marine and Fishery Resources Management and Utilization**

No	Strategic Issue(s)	Content	Explanation
1	Rehabilitation and conservation of marine and fishery resources	In order to reach optimum, responsible, and sustainable utilization of marine and fishery resources, monitoring by involving community conducted.	
2	Participation of community	The monitoring system that developed is	

	in managing the resources	<p>Community-based Monitoring System (SISWASMAS). SISWASMAS is a system that needs active participation from the community to monitor and control marine and fishery resources management and responsible utilization, so that the sustainable benefits can be coped.</p> <p>SISWASMAS targets on:</p> <ul style="list-style-type: none"> <li>▪ Community-based monitoring mechanism that integratively performed by the Government, community and NGO as well as enterprises still refers to prevailing laws and regulations determined;</li> <li>▪ Community participation on monitoring of marine and fishery resources increased.</li> <li>▪ Joint monitoring on marine and fishery resources by security team, law enforcement officials, and community performed.</li> </ul>	
3	Economy developing of coastal community (livelihoods)	-	
<b>Ministerial Decree of Marine and Fishery No. 02 /Men/2002 on Fishing Monitoring Guidance</b>			
<b>No</b>	<b>Strategic Issue(s)</b>	<b>Content</b>	<b>Explanation</b>
1	Rehabilitation and conservation of marine and fishery resources	<p>Along with the increasing utilization of fish resources, it is therefore required to focus on fishing and/or fish transportation. Monitoring on fishing sector carried out in order for maintaining fishing and/or fish transportation activities continually, while responsibly take care of fish resources and the environment. Monitoring on fishing sector includes:</p> <ul style="list-style-type: none"> <li>▪ Fishing routes;</li> <li>▪ Operational areas of fishing and fish transportation;</li> <li>▪ Fishery reserves;</li> <li>▪ Protected species of fish;</li> <li>▪ Rehabilitated fish resources environment;</li> </ul>	In the implementation, this Decree is in collaboration with Minister of Agriculture Decree No. 01/Kpts/Um/I/1975
2	Participation of community in managing the resources	-	

3	Economy developing of coastal community (livelihoods)	-	
Ministerial Decree of Marine and Fishery No. 33 /Men/2002 on Zone Division of Coastal areas and Sea for Sea-sand Enterprises			
No	Strategic Issue(s)	Content	Explanation
1	Rehabilitation and conservation of marine and fishery resources	<p>Zoning of coastal areas and sea for sea-sand enterprises purposes divided into protection zone and utilization zone. The activities only performed when sea-sand Mining Authorization is outside the protection zone. Protection Zone is a prohibited area for such mining. It covers:</p> <ul style="list-style-type: none"> <li>▪ Nature preserves: national park and nature tourism park;</li> <li>▪ Wildlife reserves: nature preserve and game reserve;</li> <li>▪ Ecosystem protection areas of coastal and small islands: consist of regional sea park, marine mammals sanctuaries, fishery reserves, migration areas of marine creatures, marine protection areas, coral reefs, and fish-breeding grounds and other marine creatures;</li> <li>▪ Waters of a distance less than or equal to 2 (two) seamiles measured from coastline toward island waters or open sea at the lowest tide level;</li> <li>▪ Waters of a depth less than or equal to 10 meters and directly border on the coastline measured from sea surface at the lowest tide level;</li> <li>▪ Undersea cables and pipelines installations and the safety zone measured 500 meters off left and right sides of the installations;</li> <li>▪ Indonesian Islands Sea Routes (ALKI);</li> <li>▪ Safety Zone of Sailing Navigation Supporting Facility (SBNP)</li> </ul> <p>Every activity of sea-sand enterprise must maintain :</p> <ul style="list-style-type: none"> <li>▪ Preservation of coastal areas and sea;</li> <li>▪ Stability of environmental geology of coastal area and sea;</li> <li>▪ Sustainable livelihood of fishermen and fishpond farmers; and</li> <li>▪ Harmonization with other coastal and sea uses</li> </ul>	

2	Participation of community in managing the resources	-	
3	Economy developing of coastal community (livelihoods)	-	
Ministerial Decree of Marine and Fishery No. 34 /Men/2002 on Coastal and Small Islands Spatial Planning Guidance			
No	Strategic Issue(s)	Content	Explanation
1	Rehabilitation and conservation of marine and fishery resources	<p>The objectives are to be :</p> <ul style="list-style-type: none"> <li>▪ a directive for stakeholders with authority to conduct Spatial Planning in coastal and small islands areas.</li> <li>▪ a directive of developing potential coastal areas, and a control measurement of potentially threats to coastal and sea ecosystem.</li> </ul> <p>The Law targets on:</p> <ul style="list-style-type: none"> <li>▪ The realization of harmonious and balanced spatial planning in developing human life and in managing various relationships among activities and spatial functions to achieve quality spatial planning;</li> <li>▪ Availability of spatial planning for coastal and small islands to become a guidance to manage the resources completely and in integrated, and a control on problems that could harm the ecosystem;</li> <li>▪ The fulfillment of all stakeholders' necessities in formulating spatial planning, thus significant role of community is achieved; and</li> <li>▪ Accessibility for both functions of protection and farming that widely accepted among all stakeholders, thus law assurance available for all planned-to-be-used locations for developing all resources and investment activities in the coastal areas.</li> </ul>	
2	Participation of community in managing the resources	Spatial planning in coastal and small islands conducted using participative approach. The planning using this approach can be described as given below:	

		<ul style="list-style-type: none"> <li>▪ Every person should have a Right to obtain information and access for complete information,</li> <li>▪ Communication structure in community happens in interactive dialogues and can be freely expressed,</li> <li>▪ Active participation in every decision making,</li> <li>▪ Access to distribute information,</li> <li>▪ Stakeholders' participation started from giving ideas about management, planning formulation, utilization, and control.</li> </ul> <p>Apart from participative approach, it should be community welfare- oriented.</p>	
3	Economy developing of coastal community (livelihoods)	-	
<b>Ministerial Decree of Environment No. 201/2004 on Basic Criteria and Guidance of Mangrove Destruction Specification</b>			
<b>No</b>	<b>Strategic Issue(s)</b>	<b>Content</b>	<b>Explanation</b>
1	Rehabilitation and conservation of marine and fishery resources	Mangrove is one amongst natural resources with specific functions such as breeding grounds and shelter for different marine bio-resources. Rapid development has left negative impacts on the mangrove forests. One of the controlling measurements to protect mangrove from any destruction is by recognizing level of destruction based on its standardized criteria. The criteria determined on the basis of the cover and density percentage of living mangrove. It is a method to determine the status of mangrove forests condition that classified as good (high density); fairly good (fair density); and damaged.	
2	Participation of community in managing the resources	-	
3	Economy developing of coastal community (livelihoods)	-	

### C. Analysis on Policy at N. Sumatera Province Level

As well as central policies, there are also provincial policies of N. Sumatera, among which are:

1. *Perda* (Provincial Regulation) No.8/1973 on Fishing in Sea, Bay, and Estuary in the Jurisdiction of N. Sumatera Province; the regulation is followed with Governor Decree No.529/II/GSU/ dated on 13 November 1974 on Delegating Authority of Releasing Fishing Permit in Sea, Bay, and Estuary along Coastal Areas of N. Sumatera Province. Another regulation related to this *Perda* is Governor Decree No.848/VI/GSU/ dated on 28 November 1977 that determining seven sets of law considering management and sustainability of sea-fish resources, and the importance of protection to small-scale fishermen to improve and balance their incomes.
2. *Perda* No.25/1980 on Results of Fish Public Sale; the set of law made for captured fish brought to public-sale mechanism through cooperatives. The regulation is to help fishermen control their price fish instead of the *toke*.
3. *Perda* No.5/1999 on Space Retribution of Vessel Disembarkation; both structure and amount based on size of vessel from smaller than 5GT to larger than 150GT.
4. *Perda* No.6/1999 on Examination Retribution of Fishing Vessel
5. *Perda* No.7/1997 on Amendment of *Perda* No.16/1998 on Retribution of Wholesale and or Retailing Markets
6. *Perda* No.15/1998 on Retribution of Selling Local Products
7. *Perda* No.3/2002 on taxes of motor vehicles and water vehicles
8. Governor Decree No.552/1206/K/1994 dated on 14 July 1994 on implementation of mangrove rehabilitation and protection with deep-pool model.
9. Governor Decree No.TK.188.341/2729 dated on 10 December 1997 on the establishment Affirmation and Use of *Rumpon* (barred enclosure for seafish) in N. Sumatera's waters
10. Governor Decree No.522.05/090.K/2001 dated on 16 April 2001 on the Establishment Affirmation of North Sumatra Province's Marine Integrated Administration System (*Samsat Kelautan Provinsi Sumatera Utara*)
11. Governor Decree No.050/1071-K on organization of Marine and Coastal Resources Management Project fiscal year 2004
12. Governor Decree No.136/3240.K on Strategic Planning of Marine and Coastal Resources Management of N. Sumatera Province of 2005-2010
13. Governor Decree No.074/2003 on Authority of Municipal and District Govt. in Collecting Retribution
14. Governor Regulation No.060/1649/K/2006 on Structure and Executive of Maritime Partners Program of N. Sumatera Region
15. Governor Regulation No.060/1430 K/2007 on Revision of Structure and Executive of Maritime Partners Consortium of N. Sumatera

Provincial policies publicized in fishery and marine sector are, in general, still far from expected condition. Most of issued local government decrees more regulate licensing and retribution collecting to increase its local revenues.

Since Reform Era, local policies have become worse and more exploitative. Compared to Old Order, the govt. had released some relatively good policies, in particular, those that considered conservation and small-scale fishermen. This indicated in Governor De-



cree No.848/VI/GSU dated on 28 November 1977; it released as regulation to technical implementation of Perda No.8/1983 on Fishing in Sea, Bay, and Estuary in N. Sumatera. Basis to publicize the decree conform the following preambles, i.e.:

- That in developing and safeguarding marine fishery sources needed special protection to small-scale fishermen to increase and organize income
- That with regard to it required a control and organization on fishing in the sea, bay, and estuary along the coastal areas of N. Sumatera Province

Meanwhile, in Reform Era model of policy on management of marine resources and fishery in the province is not much different from that come to pass nationwide. A number of policies prior to and subsequent to the release of Law No. 22/1999 on Local Governance has been intended to simply catch up regionally-generated revenues or PAD, for example various types of retribution and taxes

Besides policy in form of norm, attentiveness to organize the management of fishery and marine in N. Sumatera prudently performed. For instance, *COREMAP* (Coral Reef Rehabilitation and Management Program) carried out in west coasts of N. Sumatera, i.e. in Central Tapanuli and Nias Districts; *MCRMP* (*Marine Coastal Resources Management Project*), a project run by Provincial Development and Planning Board of N. Sumatera or BAPPEDA and funded by *Asian Development Bank* (ADB) through loan mechanism. The program executed in three districts in east coast of N. Sumatera, i.e. Deli Serdang, Langkat, and Asahan. Some of the MCRMP's programs are preparing Strategic Planning for Integrated Management of Coastal Areas; Zone Planning; and Planning of Coastal and Sea Policy. In addition, Maritime Partners Program as a joint program between N.Sumatera University and the Provincial Marine and Fishery Service has started.

Furthermore, via Provincial Marine and Fishery Service PEMP Program (Economic Empowerment of Coastal Community) and provision of *SPDN*<sup>21</sup> (Subsidized Diesel for Fishermen) has been in operation since 2001. Work areas cover Medan city, Deli Serdang, and Asahan. The programs do not show significant results. In contrast, these activities have caused problems as most of distributed aids are fishing equipments such as trawl.

MCRMP Program has currently had draft of regional regulation on Management of Provincial Coastal Areas, while *COREMAP* Program has managed to establish Strategic Planning of Nias District Coral Reef and Marine Conservation Areas of Nias.

In addition, in 2007 N. Sumatera Province Government declared program of agromarineopolitan development for coastal areas and small islands, and the outer islands. The project has two major programs, i.e.<sup>22</sup>

- program of accelerating development and increasing the most excellent sector

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<sup>21</sup> This program started out in 2003 through a joint plan with KP (*Ditjen KP3K & Ditjen Perikanan Tangkap*), Pertamina, and DPP HNSI. Thus far, realization of SPDN has mounted up to 112 units (Trust.No46 year IV, August-September, 2006)

<sup>22</sup> Agromarineopolitan Development Program of Coastal, Small islands, and Outer islands of N. Sumatera Province, Fishery and Marine Service, July 2006

- program of protecting natural perpetuation in coastal areas, small islands, and the outer islands

Those programs conducted by each related institution, and there is no synchronization between west coast and east coast of N.Sumatera. Agromarineopolitan program involves integrity of both areas, on the other hand only few parties have understood direction of the program.

Appraisal of assorted policies at national level has found that there is not available a **grand design** of policy that can act as reference for the management of fishery and marine resources at provincial level. Different programs as national policy derivative, in general, are still project approach-oriented; and not based on holistic development and principles emphasizing on the importance of community's partaking, sustainable natural resources, and justice. Process of planning and decision making of marine and fishery development program even now act upon top-down approach model.

Programs for community development and naturak resources management are degined at national level, and the implementation is under the responsibility of provincial and district/municipal govt. Even though the community is part of those programs, but there is no enough access to choose options and opportunities to talk about at the community level. Such situation has been due to cultural orientation of the program executives that perceive the community has no capacity to understand as well as analyze and formulate the problems, or, in other words, the community is positioned as group that need assistance from outside. It is no surprising that some programs, specifically those of fishermen empowerment with top-down method have many times failed and not prolonged as the community is less involved in thus they feel less responsible for both the program and the successfulness.

In fact, legal foundation for community's partaking in managing natural resources is very definite as stated in Law No.23/1997 on Management of Environment stating Right, Duties, and Participation of Community in Developing the Environment as per the following articles:

**Article 5**

- (1) Everybody has equal rights on a healthy and good environment.
- (2) Everybody has equal rights on information of environment that relating to roles in managing it.
- (3) Everybody has equal rights to take participation in managing environment in keeping with the prevailing laws.

**Article 6**

- (1) Everybody has the duty of caring perpetuation of environmental functions, and preventing and managing pollution and destruction on environment.
- (2) Everybody that involved in economic enterprise and/or activity has duty of providing correct and accurate information on environmental management.

**Article 7**

- (1) Society has equal and as widespread as possible opportunity to participate in managing the environment.

- (2) Implementation of verse 1 above carried out through:
- Developing independence, community empowerment, and partnership
  - Growing and stimulating ability and pioneering of the society
  - Growing immediate responsiveness of the society to conduct social control
  - Presenting ideas and constructive inputs
  - Delivering information and/or reporting.

In general, it is observable that substance contained in the policy on fishery management of N. Sumatera Province is still limited to the fulfillment of local revenues target. There is no enough access for public to participate. However, it has started synchronizing with national policies. It is still project-oriented and not yet in a holistic planning, and has no good coordination among related instances.

**Table 4: Matrix for Policies on Marine and Fishery in N. Sumatera Province**

<b>Perda (Provincial Regulation) No. 8 /1973 on Fishing in the Sea, Bay and Estuary of N.Sumatera Province</b>			
<b>No</b>	<b>Strategic Issue(s)</b>	<b>Content</b>	<b>Explanation</b>
1	Rehabilitation and conservation of marine and fishery resources	Although not mentioned directly the term of conservation, yet this Regulation explicitly described the prerequisites of fishing to maintain the continuity of resources adjusted to the situation.	This Regulation followed by Governor of N.Sumatera Decree No.529/II/GSU/ dated on 13 November 1974 on Authority Transfer of License Release for Fishing in the Sea, Bay and Estuary along N.Sumatera's shorelines. Later Governor of N.Sumatera Decree No. 774/II/GSU/ dated on 26 November 1977 on Withdrawal of Decree No. 529/II/GSU/Dated 13 November, 1974.
2	Participation of community in managing the resources	No points on community participation	
3	Economy developing of coastal community (livelihoods)	No points on development	
<b>Governor of N.Sumatera Decree No.848/VI/GSU/dated 28 November 1977</b>			
	<b>Strategic Issue(s)</b>	<b>Content</b>	<b>Explanation</b>
1	Rehabilitation and conservation of marine and fishery resources	There is no explicit description about rehabilitation and conservation, especially in 1977. Trawling still allowed. However, through this Decree, the provincial government begins to limit the use of trawlings by determining	

		that trawling inboard motor (pukat harimau) operated in the provincial waters only with 10 GT of capacity.	
2	Participation of community	Not available	
3	Economy development	It has been approved to give protection to small-scale fishermen in regards with increasing and equal income purpose, therefore law enforcement and coordination on fishing in the sea, bay and estuary along N.Sumatera's shorelines have been performed.	

**N.Sumatera Provincial Regulation No.10/1983 on First Revision of N. Sumatera Provincial Regulation No. 22/1980 on Provincial Tax on Waters**

No	Strategic Issue(s)	Content	Explanation
1	Rehabilitation and conservation of marine and fishery resources	No points that regulate Rehabilitation and Conservation	The consideration of this Regulation is that in practices the tax does not reach the tax payers.
2	Participation of community	No points on Community Participation	
3	Economy development	No points on Economy Development	

**N. Sumatera Provincial Regulation No. 25/1980 on Auction of Fishing Outcome**

No	Strategic Issue(s)	Content	Explanation
1	Rehabilitation and conservation of marine and fishery resources	No points regulate Rehabilitation and Conservation	
2	Participation of community	No points on Community Participation	
3	Economy development	Although fishermen economy development is not explicitly mentioned, yet this Regulation has shown good objective by applying auction or public-sale system to maintain price stability.	

**N. Sumatera Provincial Regulation No. 5/1999 on Fish Unloading Retribution**

No	Strategic Issue(s)	Content	Explanation
1	Rehabilitation and conservation of marine and fishery resources	No points regulating Rehabilitation and Conservation	This Regulation released based on upper regulation that Governmental Regulation (PP) Article 3 verse (2) letter I No.20/1997 on Regional Retribution

			tion that stipulates regions to collect retribution from unloading ships as their regionally-generated incomes.
2	Participation of community	No points on Community Participation	
3	Economy development	No points on fishermen economy development	

#### D. Analysis on Policy of Marine and Fishery at Nias District Level

There are several policies prevailing to Nias District, among which are:

1. District Regulation No.14/2002 on Fishery Enterprise Retribution and Letter of Fishing
2. District Regulation No. 15/2002 on Marine Production Selling Retribution
3. District Head Decree of Nias No.188.342/846/K/2002 on Technical Directive for the Implementation of District Regulation No.14/2002.
4. District Head Decree of Nias No.188.342/b59/K/2002 and No.188.342/847/K/2002 on Technical Directive for the Implementation of District Regulation No.15/2002
5. District Head Decree of Nias No.188.45/1445/K/2003 on Local Standard Price of Fish (HPIS) over Nias District
6. District Head Decree of Nias No.02/2006 on Strategy of Development of Underdeveloped Areas in Nias 2007-2009
7. District Head Regulation of Nias No. 20/2007 on Strategic Planning (*Renstra*) of Coral Reefs Management in Nias District 2007-2011
8. District Head Regulation of Nias No.050/139/IK/2007 on Designation of Marine Conservation Areas of Nias District
9. Village Conference Decree of Hinako of Sirombu Sub-district of Nias District No. 523/5217/XII/01/2006 on Coral Reef Conservation in Village Waters

Prior Tsunami, policies regulating administration of fishery and marine have not shown serious attentiveness toward the importance of conservation. The established Perdas were more regulating the price, retribution, and permits. For this reason, model of policies is not much different from that of national and provincial level. In most cases, policies publicized after the establishment of Law No.22/1999 simply directed to win economic interests suretribution of fishing enterprise, and standard pricing of fish.

Post Tsunami, issues on conservation and community's partakings achieved fixed place within several policies, for instance Nias District Head Regulation No.20/2007 on Strategic Planning of Coral Reef Management in Nias for 2007-2011, and designation of MSea Conservation Area of Nias District through a District Head Decree No.050/139/K/2007. In spite of that, these policies have not resulted in complicated description of marine and fishery problems, or in other words, these policies are one-sided.

The involvement of community in policy making has been present, this shown with village conferences such as Village Conference Decree of Hinako of Sirombu Sub-district

of Nias District No.523/5217/XII/01/2006 on Preservation of Coral Reefs in Village Waters. The decree regulates about protection and utilization of areas, local community's responsibility, penalty, surveillance, conflict resolution. This village policy is a forward movement as part community-based management model. The policy needs to be adopted as lesson learned in regionally policy making process. Nevertheless, the question following it is whether regulated issues are community's choices or just ideas of advisers that at the same time running their programs.

The presence of head district decree, head district regulation, and village conference decree altogether focusing on coral reefs preservation recognized as a step ahead, although still leaving problems behind that demand a thorough review. Early enough, the state issued a new ruling i.e. Law No.27/2007 on Management of Coastal Areas and Small islands or PWP&PPK. As per Article 18 point 4 of Law No.22/2007, conservation areas designated through ministerial regulation. Regional authority is responsible for managing conservation areas instead of designating conservation areas. As indicated by Law No.32/2004 Article 18 point 3 part b, designating conservation areas by minister can derive from both community and government. It is therefore Nias District Head Regulation on Conservation Areas obliged to submit to the higher Law.

Policy product other than that just mentioned above is District Spatial Plan of Nias or RTRW of Nias District. The plan provides two understandings of coastal areas spatial planning, i.e.:

### **1. Mangrove Forested Coasts**

Mangrove Forested Coasts are coastal areas that belong to natural habitat of mangrove that function to provide shelter to creatures living in the coast and the sea. The type of forest frequently found in sub-districts of Lahewa, Tuhemberua, Bawolato, and Sirombu.

### **2. Marine Reserves and other Waters Protection Areas**

Marine and other type of waters reserves are areas of sea, land, coastal, estuary, and coral island or atoll with characteristics such as diversity and or uniqueness of ecosystem. For Nias District, there are many areas of undeveloped as marine reserves in view of the fact that its region surrounded by ocean, but lacking further researches about it. Based on their potencies, several areas suitable for marine reserves are sub-districts of Sirombu (Hinako islands) and Lahewa.

In addition, there are other policies, as developed in the Renstra of District Nias, making some other issues linked to marine and fishery, among which are:

#### *Development of capture fishing*

Programs:

- Enhancing technology of capture and post-harvest
- Increasing quantity of ships and catching devices
- Developing both structure and infrastructure of sea fishery

#### *Exploitation of marine bio-resources or SDHL*

Programs:

- Developing both structure and infrastructure of location for marine fish farm
- Developing marine fish farm

*Improving community empowerment of coastal areas and small islands*

Programs:

- Enhancing community partaking of coastal areas and small islands as well as planning on improvement of productive activities through strengthening economic institutional capacity

*Developing coastal areas and small islands*

Programs:

- Rehabilitating and managing coral reefs and mangrove forests with community-based model

Activities: (1) building and developing local institution; (2) developing alternative livelihoods; (3) zoning and controlling protection areas through community-based approaches

*Monitoring, controlling, and surveillance of marine and fishery resources*

Programs:

- Organizing inventory and spatial plan for coastal areas and small island in an integrated method

Activities: (1) making inventory of coastal areas and small islands; (2) organizing spatial planning for coastal areas and small islands; and (3) carrying out conservation in coastal areas and small islands.

Furthermore, central government has determined four major policies to become references to the rehabilitation and reconstruction program of living environment and natural resources. These four policies include 1) restoring environmental capacity and safeguarding existing environment; (2) restoring community's economic activities that rely on natural resources; (3) involving community and employing locally social and cultural dimensions to administer disaster and development activity; and (4) recovering institutional system of natural resources and living environment as government level. The above-mentioned policies poured out in Master Plan of Areas and Life Rehabilitation of NAD Province's Community and Nias District called "**Blueprint**".

Policies on restoring and recovering environmental capacities and protecting presented natural resources. Huge scale destruction of natural resources and ecosystem caused by the quake and tsunami, mostly in coastal areas, highly needs extra special attention, and turns out to be considerations in conducting rehabilitation and reconstruction. Capability of environmental capacities for the development purpose has gotten to restore better than prior to the disaster. Meanwhile, potential of natural resources as well as condition of natural environment that out of harm's way obliged to protection and wise utilization, given that the development process of rehabilitation and reconstruction positively requires numerous natural resources as raw materials.

Strategy of recovering naturally environmental capacity of the coastal areas and the sea includes:

- Rehabilitate coral reefs  
Major activities comprise making inventory on coral reefs, renaming the coral reefs, and organizing institutional mechanism.
- Rehabilitate and build green belt, pond areas, and city forests according to Spatial Planning and coastal character.

*Green belt* is an expansive forested area that expected to remain existing and growing within a particular width, along the riverbanks or shoreline. Green belt normally found by the shoreline, by the river, or lakes/lagoons/dams, and works to save the shore or water's edge from destructive natural forces such as abrasion, erosion, wind, etc.

The next policy also included in Plan of Action, and Rehabilitation and Reconstruction of Areas of Nias islands of N.Sumatera Province. The policy contains basis of development and reconstruction process that integrated within (1) minimizing risks of disaster (2) reducing poverty level, and (3) planning spatial or land uses of island that based on marine and island method that will be a key reference to all Nias reconstruction program, specifically intended for Nias and S.Nias Districts<sup>23</sup>.

Meanwhile, in a directive of spatial or land use, Nias islands based on Perpres No.30/2005 has set on the following scenarios<sup>24</sup>:

1. Development of coastal potencies required to protection;
2. Settlement areas putting up with total destruction ought to rebuilding with better safety and protection facilities;
3. Development of existing cities equipped with better facility coping with quake and tsunami;
4. Areas of governmental functions, social functions, economic functions, and settlement located in zone potential to high destruction relocated to longer-term safe places, become a new city or new settlement center. Relocating capital city and center of settlement carried out with time;
5. Areas of village town (community of fishermen and agriculture) located near the beach maintained by developing *buffer zone* and safety zone, and rearranging protected areas the length of shoreline; and
6. Areas not suitable for dwelling converted into buffer zone.

Based on the above scenarios, thus directive of spatial planning of Nias District explicated as follows:

1. to develop *buffer zone* the length of W.Nias coastline;
2. to control and to prevent city expansion in coastal areas of W.Nias;
3. to rebuild new settlement in both city and village in line with criteria of land appropriateness;
4. to relocate new settlement hit by tsunami to the safe, closest location to the center of economic activities, and provided road access mainly to new residence in remote area or village;
5. to build temporary settlement;
6. to re-arrange old settlements to become suitable for buffer zone, green open space, tourism, agriculture, plantation, or other functions of lower activities;
7. to re-arrange old areas with key activities as harbors, trading centers, and distribution services by building supporting facilities such as public housing that limited only for workers and visitors of the old areas;

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<sup>23</sup> Ministry for National Development Planning. May 2007. 2007-2009 Action and Rehabilitation and Reconstruction of Areas in Nias Island of N. Sumatera Province Post-Quake

<sup>24</sup> *Ibid*



8. to provide protection to village, settlement of fishermen, agricultural and plantation areas maintained in villages by expanding buffer zone and safety zone that easily reached;
9. to re-develop and re-arrange infrastructure, roads, irrigation, clean water, drainage, etc. for both of maintained settlements in city and village;
10. to re-build buffer zone by re-arranging protection zone, buffer zone, and free utilization zone.

Besides regulations in the *Blueprint*, policed by a Presidential Regulation No.30/2005, the central government also established other policies in form of regulation. The regulations include Law No.10/2005 on Board of Rehabilitation and Reconstruction of Areas and Life of Community in NAD Province and Nias islands of N.Sumatera Province, and Perpres No.69/2005 on Participation of Foreign Institution/Individual in the framework of Grants Rehabilitation and Reconstruction of Areas and Life of Community in NAD Province and Nias islands of N.Sumatera Province.

BRR has made plans for particular policies regulating marine and fishery as follows:

- building fishery infrastructures including
  - building 8 units PPI/TPI
  - constructing 10 units dock yards
  - dredging 16 packets estuaries
- developing fishery structures including
  - providing 700 units motorized boats
  - providing 700 units fish catching devices
  - providing 1000 unit operational costs
  - fish farming
- rehabilitating community's ponds
  - rehabilitating pond canals as long as 313 Km
  - providing fish-farming funds
- developing small-scale fishery enterprise
  - providing joint working capital
  - developing business group (processing)
  - building human resources and fishermen groups capacity

Other than rehabilitating pond program, the BRR has also launched fish farm program. The program has just operated thus has not shown significant results to the fishermen, fish farmers, and fishery businessmen. The program has been facing some dilemmas such as lower human resources, less accessible natural resources, culture, local institutional, funds, and management system. There are at least five major problems going up against the fishery empowerment. However, these problems have existed longer prior to the tsunami, but have remained unresolved.

*Firstly*, fish catching. Fishermen have very limited skills, and can only employ knowledge derived from older generations. The fishermen have not been able to meet standardized quality of catching and storing fish during hold of a ship. The benchmark criteria not well understood. Furthermore, fishing equipments such as boat capacity, catching devices, navigation and communication system, storing and cooling-off system are far below the standardized qualifications. Consequently, readiness and capability to far

distance and longer trip are very limited, and the capturing both quality and quantity is automatically limited too.

*Secondly*, fish farm production. In general, the fish farmers can only produce small-scale production. Their adeptness in either planning or technical implementing has not yet met the standard; neither the preparation phase (including preparing the land for *tambak* or *kolam*, and other public waters) nor the provision of production structures phase (including preparing sprouts, feeding, and other materials or supporting equipments).

*Thirdly*, fish processing. Fish processing treatment or post-catching activity definitely requires particular knowledge to produce proper selling products. This skill not yet completely owned by community involved in fish processing activity, besides their minimal instruments and low technology.

*Fourthly*, fish marketing. Proficiency on searching and managing market information is very little, thus forming and involving in market network is limited. Business expansion is narrow and conventional.

*Fifthly*, conserving environment as results of production process, distribution process, and community's consumption process. In relation to it, stakeholders directly engaged include fishermen, fish farmers, and fish traders. None of the stakeholders has produced green products, since such kind of product is not too familiar to them.

Unfortunately, there are no serious and comprehensive measurements conducted to administer those five difficulties. These economic activities performed partially; the stakeholders run their production, distribution, and farming activities individually.

In connection with enhancing coastal environment and the sea, the BRR has settled on the vision that is to conduct sustainable rehabilitation and reconstruction efforts in coastal areas and the sea that always consider principle of steadiness between utilization and environmental capacity that always go along with synchronization and most advantageous of land uses. In order to achieve the vision, the BRR has established three policies as the following:

- Total extent of mangrove forest restoration: 60% of it required to be converted, and the rest 40% goes to sustainable pond cultivation as source of revenues.
- To restore coral reefs through artificial reef and transplantation methods. In buffer zone, artificial reefs can also function as *rumpon* or barred enclosure of seafish to maintain artisanal fishery activity (Fisheries involving skilled but non-industrialized operators; typically a small-scale, decentralized operation; normally subsistence fisheries although sometimes the catch may be sold. Usually fishing trips are short and inshore and fishing vessels are small but in developed countries may apply to trawlers, seiners or longliners. Also called small-scale fisheries)<sup>25</sup>.
- To alternating restore coastal forests with other commercial trees such as coconut tree up to 40% while the rest can be coastal pine, *ketapang* tree a kind of local almond tree, *bimba* trees, and coastal palm trees.

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<sup>25</sup> Definition based on glossarium at <http://www.fishbase.org/glossary/Glossary.cfm?TermEnglish=artisanal%20fisheries>

Furthermore, District Head Regulation No.20/2007 on Strategic Planning (RENSTRA) of Coral Reefs Management of Nias District of 2007 fiscal year declares points regulating issues on community's participation, economic empowerment, and conservation.

Objective 1.b Improving community's participation in coral reefs management, indicators:

1. Increasing active community's participation in coral reef management; starting from planning, implementing, monitoring, and evaluating.
2. Increasing number of community that of attentive and responsible for the coral reefs preservation.
3. Increasing number of stakeholders' attentiveness on the coral reefs management and restoration.

Objective 2.a Developing alternative livelihood, indicators:

1. Increasing number of fishermen with alternative skills
2. Improving skills of local community in catching, fish farm, and processing technology
3. Various alternative incomes to meet daily needs
4. Improving status of local community's nutrition
5. Decreasing number of community tied in usury scheme
6. Increase of local revenues
7. Improving skills on financial management

Objective 3-a Protecting resources of fish and coral reefs, indicators:

1. Increase of fish population
2. Decreasing use of bombs and chemical by local fishermen
3. Decreasing use of destructive catching device
4. Increase of *live coral reef cover*
5. Increase of marine biodiversity

The strategy 3.a refers to proposal of policies, i.e.:

1. developing marine protecting area through community based approach
2. socializing the existence of marine management area
3. preparing Perda to put a stop to illegal fishing
4. developing village regulation or Perdes to give protection to coastal resources
5. raising program on awariness of law

In the identification problem also mentioned the unavailability of spatial planning or land uses of coastal areas, therefore the *Renstra* also emphasizes the necessity on Perda to legalize spatial planning of coastal areas and sea. The presence of *Renstra* is essential steps forward, in particular, to the preservation of coral reefs in Nias. Nevertheless, problem over damaging coral reefs is only one of complicated crisis of marine and fishery resources in Nias District.

In overall, district policies prevailing in Nias, prior to Tsunami, are very similar pattern to that of national or central policies; economic-oriented such as regulation on retribution, taxes, fish pricing and have not emphasized on the significance of sustainability and local community participation. Meanwhile, post-Tsunami, there have distinguished

the importance of sustainability, local community participation, and economy empowerment. In spite of that, as these policies are still immediate response toward the catastrophe that has just stricken Nias, thus it can be concluded that less focused on more specific directive on marine and fishery management. For that reason, more focus policies are highly required based on two major justifications below:

*Firstly*, geographic position of Nias islands is susceptible to natural disaster and common coastal disasters;

*Secondly*, management problems of marine and fishery that such complicated; and

*Thirdly*, assets or natural resources belong to Nias islands.

**Table 5 Matrix of Policies on Marine and Fishery in Nias**

District Regulation No. 14/ 2002 on Fishery Enterprise Retribution and Letter of Fishing			
No	Strategic Issue(s)	Content	Explanation
1	Rehabilitation and conservation of marine and fishery resources	<p>Although the Regulation manages Retribution, however in Article 30 verse (2) letter b and c covers fish resources conservation and the environment. Every person or Law Body with Fishery Enterprise Permit (IUP) and Letter of Fishing (SPI) in Nias Regency, prohibits:</p> <ul style="list-style-type: none"> <li>▪ Fishing and/or fish breeding activities using harmful agents or destructive equipments that threatening both fish sustainability and the environment.</li> <li>▪ Destructive actions potentially generate pollution toward fish resources and/or the environment.</li> </ul> <p>The use of explosives, poisons, electric current, and others not only can kill the fish but also can cause environment destruction and losses to fishermen and fish farmers. In case of the condition mentioned above takes place, the rehabilitation would need quite long time or even extinction. Therefore, their uses must not be permitted.</p> <p>Fish resources pollution in this Regulation is defined as a condition where fish resources are mixed with other creatures, energy elements, and/or other components caused by human actions so that the resources' function is decreased or invalid and/or dangerous to whom that utilize them. While fish resources environment destruction is a situation in certain marine area that had been through physic, chemi-</p>	

		cal and biological changes, so that it can no longer appropriate as living place, survival, breeding or protection of fish resources.	
2	Participation of community in managing the resources	No articles in this Regulation manage the community participation in marine and fishery resources management.	
3	Economy developing of coastal community (livelihoods)	Small-scale fishermen and fish farmers or individuals that conduct their activities as their livelihoods to meet daily needs are free from obligation to obtain Fishery Enterprise Permit (IUP) and Letter of Fishing (SPI). The criteria is determined by Head of Regency Decree, i.e. Boats without motor or outboard or motorboats with size 0.5 GT or the engine less than 5 (five) horse power (HP).	

#### District Regulation No. 15 /2002 on Marine Production Selling Retribution

No	Strategic Issue(s)	Content	Explanation
1	Rehabilitation and conservation of marine and fishery resources	As well Regional Regulation No.14/2002, Regulation No.15/2002 is also about Retribution. The aim is regional genuine income purpose. It does not regulate rehabilitation and conservation of marine and fishery in any article.	
2	Participation of community in managing the resources	No articles mentioned about community's participation on marine and fishery resources management.	
3	Economy developing of coastal community (livelihoods)	No articles clearly regulate economy developing of coastal community.	

#### District Head Decree of Nias No. 188.45/1445/k/2003 on Local Standard Price of Fish (HPIS) across Nias District

No	Strategic Issue(s)	Content	Explanation
1	Rehabilitation and conservation of marine and fishery resources	Like District Regulation No.14/2002 and No.15/2002, this Decree purpose is also about regional genuine income. No articles regulate rehabilitation and conservation of marine and fishery resources.	
2	Participation of community in managing the resources	No articles mentioned about community participation on marine and fishery resources management.	

3	Economy developing of coastal community (livelihoods)	No articles clearly regulate economy developing of coastal community.	
<b>District Head Decree of Nias No. 188.342/846/k/2002 on Operational Guidance of District Regulation No.14/2002 on Fishery Enterprise Retribution and Letter of Fishing</b>			
No	Strategic Issue(s)	Content	Explanation
1	Rehabilitation and conservation of marine and fishery resources	As Regional Regulation No.14/2002, this Decree's objective is the process of enterprise permit retribution carried out in the field, therefore regional genuine budget achieved.	
2	Participation of community in managing the resources	No articles mentioned about community participation on marine and fishery resources management.	
3	Economy developing of coastal community (livelihoods)	No articles clearly regulate economy developing of coastal community.	
<b>District Head Decree of Nias No. 050/139/2007 on Marine Management Areas in Nias District</b>			
No	Strategic Issue(s)	Content	Explanation
1	Rehabilitation and conservation of marine and fishery resources	The Decree allocated marine conservation areas as of 29,000 ha. The conservation areas's boundaries instructed in boundary administration and zone division adjusted to the land use and management planning.	The Decree is contradictory between Law No.27/2007 Article 28 point 4 that stated conservation areas in the coastal areas and small islands assigned by Minister, and Law No.32/2004 that acknowledged the regional authority in marine areas.
2	Participation of community in managing the resources	Not explicitly organized	
3	Economy developing of coastal community (livelihoods)	In dictum 2 (two) of the Decree described that conservation areas can be used for continual fishery, marine tourism, researches, social economy development of the community, and the sustainable uses of other marine resources. No points on participation	

**District Head Regulation of Nias No. 20/2007 on Strategic Planning (Renstra) of Coral Reefs Management in Nias Regency**

<b>No</b>	<b>Strategic Issue(s)</b>	<b>Content</b>	<b>Explanation</b>
1	Rehabilitation and conservation of marine and fishery resources	<p>Issue of conservation found in this Regulation makes a target to protect fish resources and coral reefs with indicators as follows;</p> <ol style="list-style-type: none"> <li>1. Quantity of fish population increased</li> <li>2. Use of explosives and potassium poison by fishermen decreased</li> <li>3. Use of non-ecofriendly fishing equipments decreased</li> <li>4. Living coral reefs' cover increased</li> <li>5. Biodiversity of marine creatures increased</li> </ol>	RENSTRA is an operational unit of Rehabilitation and Management Program of Coral Reefs in Nias Regency (COREMAP II) budget year 2006
	Participation of community in managing the resources	<p>Renstra mentioned Community Participation in Coral Reefs Management with indicators below:</p> <ol style="list-style-type: none"> <li>1. Active participation of the community in coral reefs management, started from planning, execution, surveillance, monitoring and evaluation, increased.</li> <li>2. Numbers of people that care and be responsible on coral reefs sustainability increased.</li> <li>3. Stakeholders' attention on management and rehabilitation of coral reefs increased.</li> </ol>	
	Economy developing of coastal community (livelihoods)	<p>In economy developing, RENSTRA targets Alternative Livelihoods Development, with indicators:</p> <ol style="list-style-type: none"> <li>1. Numbers of fishermen with alternative skills increased</li> <li>2. Community skills on fishing technology, waters' nurturing and processing technology increased</li> <li>3. Community livelihoods to meet their daily needs varied</li> <li>4. Community nutrition status increased.</li> <li>5. Numbers of people deal with 'ijon system' decreased</li> <li>6. Local rupiah income increased</li> <li>7. Community skills on financial management increased</li> </ol>	

**Law No. 10/2005 on Regulation in Lieu of the Law (Perpu) No. 2/2005 into Law on The NAD-Nias Rehabilitation and Reconstruction Agency**

No	Strategic Issue(s)	Content	Explanation
1	Rehabilitation and conservation of marine and fishery resources	<p>In order to overcome earthquake and tsunami disaster in Province of NAD and Nias Island of N. Sumatera Province, the Government assigned The NAD-Nias Rehabilitation and Reconstruction Agency (BRR). BRR is an institution established to accelerate rehabilitation and reconstruction in disastrous areas. Organization structure of BRR consists of Consultative Board, Monitoring Board, and Operational Agency. Some major duties of the Operational Agency include formulating operational strategies and policies; arranging detailed planning of rehabilitation and reconstruction based on the Master Plan by giving space to community's of disastrous areas aspiration and need; carrying out rehabilitation and reconstruction through a joint venture with other parties; and organizing and coordinating rehabilitation and reconstruction that implemented by central government, regional governments, and other related parties.</p> <p>To perform the duties, BRR has <i>authorities</i> to manage rehabilitation and reconstruction implementation, to organize available resources, either human resources, natural resources or financial and technology resources, tie good relation with other parties to carry out the activities that not supported by <i>APBN</i> or national budget; BRR in conducting its duties makes coordination with central government, regional government and other linked parties.</p>	
2	Participation of community in managing the resources	<p>It is stated that: rehabilitation and reconstruction in areas affected by earthquake and tsunami disasters should be carried out special, systematically, goals-oriented, simultaneously and completely by <i>involving participation</i> and acknowledging aspiration and needs of the community. Also, found in Article 6. Reha-</p>	



		bilitation and reconstruction performed based on <i>participative</i> aspect.	
3	Economy developing of coastal community (livelihoods)	-	
Presidential Regulation No. 30/2005 on Master Plan of Rehabilitation of Areas and Community Life in NAD Province and Nias Regency of N. Sumatera Province			
No	Strategic Issue(s)	Content	Explanation
1	Rehabilitation and conservation of marine and fishery resources	The Regulation contains Rehabilitation and Reconstruction Master Plan of Aceh and Nias Areas that consists of Main Directory on Master Plan and Detailed Directory on Rehabilitation and Reconstruction Planning by field division. Chapter V number 13 of Main Directory mentioned about recovery of environment support ability. One of the strategies is to rehabilitate coral reefs and create <i>green belt</i> according to coastal characteristics. The principal activities are rehabilitation of mangroves and pioneer vegetation in coastal areas. At point 5.5.3 on non-nurturing areas, stated that management of shoreline and coastal areas function performed by restoring the functions and land uses of coastal/shoreline areas as before, based on disaster mitigation.	
2	Participation of community in managing the resources	In Main Directory of Master Plan, there is one special chapter on community and enterprises' participation. Moreover, one of the basic principles in rehabilitation and reconstruction is participative element. It means that the Regulation accomodates community interest, particularly victims, excellently. Community is not treated as an object in this activities, however as main actor during rehabilitation and reconstruction period.	
3	Economy developing of coastal community (livelihoods)		

**Presidential Regulation No. 69/2005 on Participation of Foreign Institutions/Individuals as Grants for Rehabilitation and Reconstruction of Areas and Community Life in NAD Province and Nias Regency of N. Sumatera Province**

No	Strategic Issue(s)	Content	Explanation
1	Rehabilitation and conservation of marine and fishery resources	In rehabilitation and reconstruction execution, the Government gives opportunities to every party to participate, including foreign institutions/individuals. Their involvement needs to be organized so that in harmony with Rehabilitation and Reconstruction Master Plan. To participate, they should apply such proposal program to the Operational Agency. One of the programs is rehabilitation and reconstruction coastal and marine resources.	
2	Participation of community in managing the resources	Foreign institutions/individuals participation as grants for rehabilitation and reconstruction of areas and community life involves community/local partner in conducting their programs. It available in Article 2 verse (2) and (3).	
3	Economy developing of coastal community (livelihoods)	-	

## **CHAPTER IV**

### **POLICY RELEVANCE TOWARD THE SUSTAINABLE MANAGEMENT OF MARINE AND FISHERY RESOURCES POST-DISASTER IN NIAS OF N. SUMATERA PROVINCE**

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A close investigation on policies ahead of Tsunami disaster in Nias, from central, provincial to district concerning marine resources and fishery development, confirms that there was lacking relevance among regulations issued. This is observable in a number of contradicting policies between those announced by central govt. and by local govt. Some central policies had not been major foundation for the local regulations, and even brought about overlapping that resulted in disadvantage to local, small-scale fishermen. Such situation exacerbated in the course of reformation era, when policies had more drawn attention to increase PAD or regionally generated revenues.

On the contrary, after the devastating Tsunami, central govt and regional govt. have shown concurrence and consistency in their policies toward current condition in Nias through:

1. BluePrint on rehabilitation and reconstruction of Nias district. The document is an entry point to design a long-term plan for managing of marine and fishery resources in Nias.
2. 2007-2009 action, and rehabilitation and reconstruction plan for Nias islands of N. Sumatera Province post-25 March 2005 earthquake.
3. Law No. 27/2007 on management of coastal areas and small islands
4. Strategic planning for coastal areas of N. Sumatera Province
5. District-head regulation on marine conservation areas in Nias islands
6. Position of local govt. in making policy regarding coastal and marine areas is very strategic seeing that Law 32/2004 on Local Governance, in particular, Article 18 respecting the district authority in a sea territory of one-third of 12 miles.
7. Rules at village level regulate coral reefs preservation.

Although the policies, those focusing on marine and fishery resources for Nias subsequent to the quake and Tsunami, have proven grave consideration to the importance of conservation, spatial, and community's partaking aspects, they can be said less synchronized and one-sided, are not in one frame of regional policy and the operational is not yet the best possible.

The ongoing process of rehabilitation and reconstruction certainly requires more technical works, thus process of policy making into more specific regulations as contained in the Strategic Planning, Action Plan, and the Reconstruction and Rehabilitation Body's programs has not given main concern to marine and fishery issues. It is therefore imperative to endorse local govt. to make comprehensive policies.

## CHAPTER V

# RECOMMENDATIONS TO POLICY DIRECTION ON THE DEVELOPMENT OF MARINE AND FISHERY RESOURCES OF NIAS ISLAND

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Rehabilitation and reconstruction works continuing in Nias currently focusing on marine and fishery resources restoration. It is an important moment of towards better management. Based on identification and analyses done earlier, thus policy direction on developing marine and fishery must be able to consider several things such as that:

1. *relating to marine and fishery resources destruction generated by the tsunami and the earthquake*: thus major priority of the policy is to restore ecosystem of marine and the fishery in Nias island. The restoration is governmental mandate for restoring resources after the Tsunami. The restoration has also to involve re-inventory of the current resources availability. More sophisticated data on marine and fishery reserve is necessary as stock calculation of current resource availability and as reference for future utilization. The data can be converted into dimension to examine on how much resources can be utilized, what kind of resources can be and cannot be exploited, and how to make the most of them. The data can identify risks and count losses driven by either natural disaster or human's destructive actions, thus those risks and losses kept in check as early as possible.

In order for the destruction kept under control, designation of conservation areas, cultural situs, exploitation region, and coastal border is urgently required. Also, a strict control on quantity, compensation due to utilization impacts, economic activity permitted and not permitted through tighter permit issue, penalty, and natural disaster mitigation. To keep the data periodically up-to-date thus a database center for Nias District considered essential.

2. the upcoming policies on fishery and its marine potency have to be tied in with institutional improvement. The presence of local entities, for example: *Panglima Laot* in NAD and *awig-awig* in Lombok, is believed able to safeguard the sustainability of their marine resources. All this time, difficulties on all sides of natural resources management are not free from less awareness toward the importance of role of local institutions and the traditional wisdom. Centralized management model, top-down, needs to change into a bottom-up as it grants more chances to community's partaking, or community-based management model. Moreover, integrity among stakeholders has done through organizing schedule for coordinating meetings. These meetings considered vital seeing that they are not only media for updating any achieved progress, but also for sharing information and knowledge. The involvement of local govt. is also significant to monitor and to synchronize each stakeholder's program.

In order to make the institutional improvements actual, it is therefore acknowledgement to coastal community's rights is required; coastal resources management has to be community-based, small-scale fishermen are the priority of the economy empowerment program, there must be conflict resolution, integrity in the midst of the stakeholders, and involvement of local govt. In addition, these enhancements tied in with building stakeholders' capacity.

3. *relating to economic values of marine and fishery resources of Nias Island that are very prospective to the regional revenue increase:* thus the related policies shall not be trapped by simply economy oriented. These natural resources treated as "cash dispenser" by local govt, but as funds and forces to set development to improve the livelihoods of the people. Non-economic values for instance mangrove forests and coral reefs as well in providing protection to the coastal areas given top priority. In view of that, exploitation of marine resources and fishery shall give consideration biological, ecological, and social aspects.

To avoid economic values becoming the major orientation thus developing sustainable resources to make better living for each economic actor, more than ever community in coastal areas, needs much deeper consideration mostly by maintaining equilibrium between human being and the natural environment. Managing marine resources and fishery to increase local revenues shall be in the company of transparency and accountability, precautionary approach, integrity, and sustainability.

From the above rationalization, it is therefore essential that in the future the policy makers establish policies with respect to

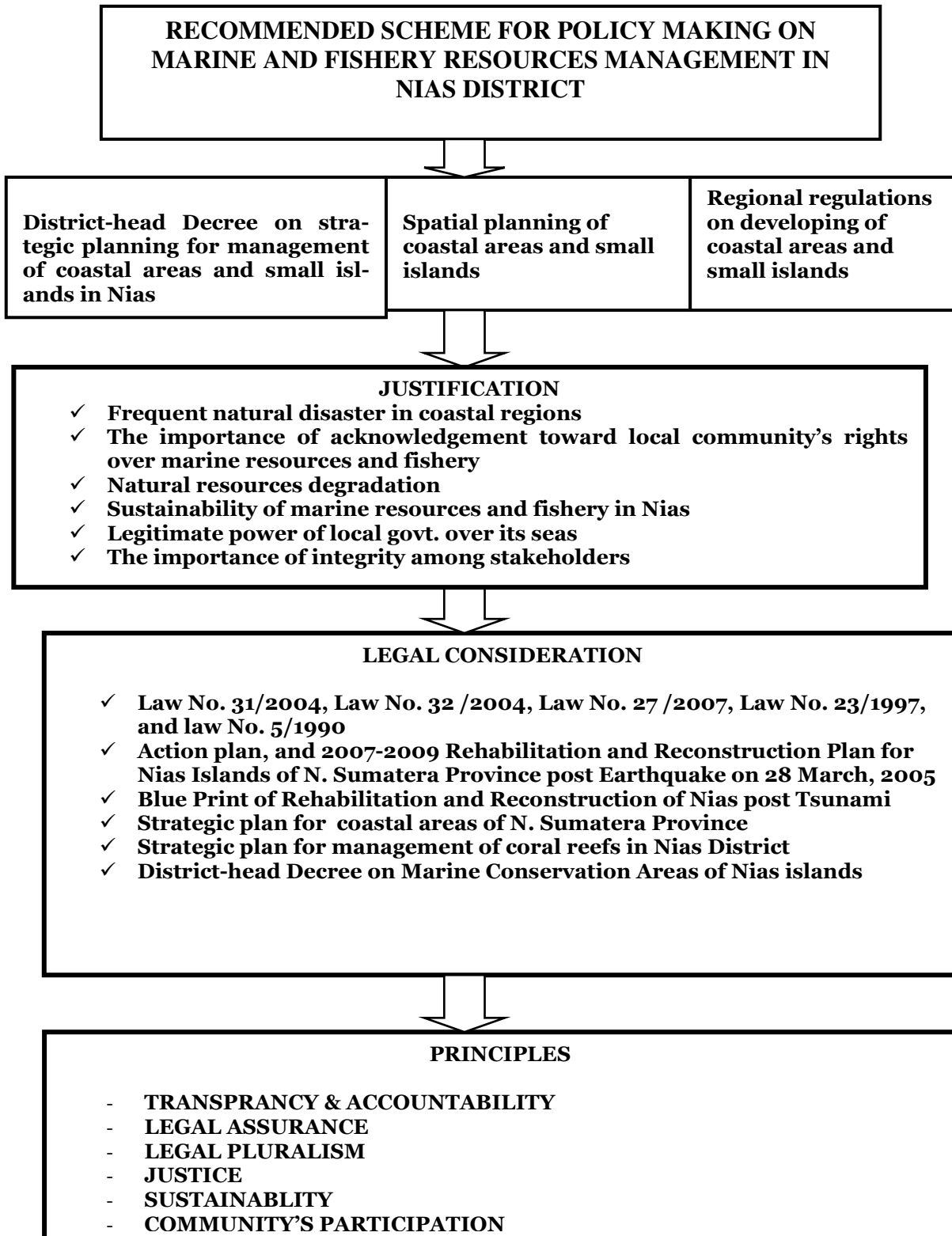
1. Strategic planning for managing coastal areas and small islands or the peripheral islands of Nias islands;
2. Spatial planning for coastal areas and small islands;
3. Management planning for coastal areas and small islands or the outer islands in Nias District

The followings are two justifications underlying the recommendations above:

*First*, emergence of natural disaster, lower acknowledgement toward coastal people's rights, and centralized development of coastal resources have ended in coastal degradation. Decreasing quality of coastal resources due to varied reasons, overlapping authorities amongst sectors, and no accordance in policies by central and provincial, and district govt. as well.

*Second*, regional regulations aimed at improving welfare of coastal people, and totally and sustainably conserving coastal resources. Therefore, the enactment of those regulations gives more opportunity to the optimum and sustainable utilization of economic potentials and environmental services. However, Nias and a number of smaller islands saving abundant resources have not won exclusive position among the regional policy makers. Special treatment on those islands is required in view of the fact that their existences have raised frequent disputes between either regions or neighboring countries.

The next is a scheme proposed to policy-making process that has based on the two major validations dicussed above.



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