

The Effect of Transfer of Conservation Authority towards Marine Protected Areas in Sumatra Utara Province-Indonesia

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Abstract: The study was carried out descriptively, data collection with questionnaire, followed by observation and in-depth interviews with the head of Department of Marine and Fisheries, head of Environmental Services Department, head of District/City and Province Department of Culture and Tourism and the head of MPA which managed by the community in Sumatra Utara. The results of the study indicated that the Sumatra Utara Provincial Government was not ready to accept the transfer of conservation management authority from districts / cities in Sumatra Utara. MPA that has been determined were; (1) MPA Sawo-Lahewa in Nias Utara District in 2017 and (2) Limited Protected Area of Toli Shad in Labuhan Batu from 2016 to 2018 have not been managed. Thus, the 3 MPAs in Tapanuli Tengah, Nias Selatan and Serdang Bedagai which were previously managed by the District Government have not been managed by the Sumatra Utara Provincial Government and are still in the backup stage. The MPA proposal currently being carried out by Madina District Government, Batubara District Gov. and Sibolga City Gov. as well as the proposal of Batak Fish (*Neolissochilus sumatranus*) Limited Protection Area, Dara Shellfish in Asahan District and Turtle and Sea Cucumber in Asahan District had not been followed up by the Provincial Government. Similar to the data collection, coaching and mentoring of private MPAs managed by the community had not been well implemented by the Provincial Government.

1 INTRODUCTION

Law No. 32/2004 concerning Regional Administration authorizes District / City Governments to manage the sea as wide as 4 miles from the coastline. Therefore, the District / City Government managed the Regional Marine Protected Areas (RMPA) and fostered conservation areas managed by the community in the form of Marine Protected Areas (MPA). With the issuance of Law No. 23 of 2014 on Local Government, the District / City Government did not have the authority to manage the oceans, including conservation management.

Article 27 of Law No.23 of 2014 describes the transfer of authority from district / city to the Provincial Government. Provincial authority to manage natural resources in the sea at a maximum of 12 (twelve) nautical miles measured from the coastline towards the high seas and / or towards island waters. Such authorities include: (a).

exploration, exploitation, conservation, and management of marine assets outside oil and gas; (b). administrative arrangements; (c). spatial arrangement; (d). participate in maintaining security at sea; and (e). participate in maintaining state sovereignty.

This research was conducted to obtain the effect of the transfer of authority on the management of MPA in Sumatra Utara, where before 2004 MPA management was carried out by the District / City Government and there was no MPA that was managed by the Provincial Government. Therefore, this paper discussed the problems that occur due to the political policy.

Marine Protection Area (MPA) based on Government Regulation Number 60 of 2007 concerning Conservation of Fish Resources, as a protected water area, managed with a zoning system, to realize sustainable management of fish resources and the environment. The definition of fish refers to Law No. 45 of 2009 concerning Fisheries, is all

types of organisms that all or part of their life cycle are in the aquatic environment.

MPA according to the United Nations conservation agency (International Union Conservation Nature-IUCN) is a clear geographical space, recognized and managed effectively, to reflect the sustainability of natural resources including cultural values within them (Briggs et al, 2018). Agbeja (2017) detailed the protection in the sea, for fauna, flora, history and cultural improvement. MPA is as an effective management model for the sustainability of marine resources (Setyawati, 2014).

The results of the MPA study showed that the fish marked in MPA move in and out of the MPA, so that fishermen can catch fish abundantly outside the MPA (Clements et al, 2012). MPA can stop fishing and modify fishing models in other parts of the MPA (Machumu et al, 2013). Likewise the determination of core zoning (closed areas without fish catching throughout the year), has proven effective in increasing the amount of fish biomass (Ban et al, 2015), increasing biodiversity (Ban et al, 2015), (Charles et al, 2016), (Waltter, 2017), (Islam et al, 2017) therefore there has been an increase in the number and extent of MPAs in the last three decades (Ban et al, 2015).

The derivative impacts of MPA, it will restore fish resources (Pascall, 2011), (Charles et al, 2016), increase economic (Pascal, 2011), (Charles et al, 2016), (Ban et al, 2015), (Machumu et al, 2013), (Waltter, 2017), enhancing alternative livelihoods for local communities (Machumu et al, 2013), increasing social, cultural, development of ecotourism services (Pascal, 2011) and models for addressing habitat degradation and decreasing stock of fish (Machumu et al, 2013). On a macro scale the MPA is beneficial for reducing the adverse effects of natural resource destruction (Machum et al, 2013), maintaining a global, regional, national and local environment (Heinonen, 2013).

MPA also functions as an Integrated Coastal Management (ICM) implementation program for planning, management, land use, permit and marine zoning systems, conflict resolution of natural resources (Briggs et al, 2018), marine and coastal management, increased productivity and fish stocks and ecosystem recovery (Islam et al, 2017), increase resilience to over-exploitation and uncertainty, and prevent the collapse of aquatic resources (Sumaila et al, 2012). Because in its management, the government must involve the community (Waltter, 2017), by designing active participation of coastal

communities, fishermen and other marine users in designing and implementing MPA (Charles et al, 2016).

Globally there are approximately 5,000 MPAs, covering an area of 2.85 million km² or 0.8% of the 361 million km² of the world's sea, and 2.0% of 147 million km² of territorial sea (Agbeja, 2017). The 2015 global MPA was distributed in Chile (25.3%), the United Kingdom (21.9%), the United States (15.5%), New Zealand (15.2%), Kiribati (11.9%) and Australia (1.9%). By the end of 2015, the Palau Government had radically set 80% of its EEZ into MPA (Wilheml et al, 2014).

The global MPA area data is compared with the 2008 global sea area of 0.9% (Wilheml et al, 2014), in 2011 the MPA covering 1.3% of the sea area and 3.2% of the Exclusive Economic Zone (Leenhardt et al, 2014), or MPA of 1.6% (Jentoft et al, 2012). The MPA area is still small compared to the land conservation area of 11.6% of the 17.3 million km² of the world's land (Machumu et al, 2013). Most MPAs are near shore and shallow waters (Wilheml et al, 2014).

The target of the IUCN MPA expansion area is based on the 2010 Convention on Biological Diversity is as much as > 10% in 2020. But the MPA expansion is very slow at only 1.3% of the sea area and 3.2% of the EEZ, so based on the 2015 Sustainable Development Goal, the MPA is still targeting > 10% by 2020. The MPA target set at the IUCN World Conservation Congress 2016 is 30% in 2030 (Briggs et al, 2018).

Nationally, Indonesia's sea area is 5.8 million km², which consists of 2.95 million km² of island waters, 0.30 million km² of territorial sea, and 2.55 million km² of Exclusive Economic Zone and 17,504 small islands (Setyawati, 2014) Indonesia's MPA in 2012 covered 15.7 million ha (0.27%) of Indonesia's sea area. The Indonesian government has set MPA area in 2020 to reach 20 million ha (0.34%). In comparison, the percentage of Finland's MPA area is 46,000 km² (10%) of the national sea area (Heinonen, 2013).

2 RESEARCH METHODS

This research was conducted in early 2018 in Sumatera Utara Province. Respondents of the study were institutions of the Department of Marine and Fisheries, the Environmental Services Department and District / City Tourism Department, the Department of Marine and Fisheries, the Environmental Services Department and Department

of Culture and Tourism of the Province of Sumatera Utara and also the manager of MPA with community-management in Sumatera Utara. Data collection methods used questionnaires, interviews, observation and in-depth discussion. Data analysis was done descriptively.

3 RESEARCH AND DISCUSSION

3.1 MPA in Sumatera Utara

Sumatera Utara Province has 17 coastal districts / cities from 33 city districts, 8 districts / cities are on the East Coast and 9 districts / cities are on the West Coast of Sumatra Utara. Demographically, the coastal population inhabits 85 coastal sub-districts with 539 coastal villages. The area of Sumatera Utara is 72981 km², consisting of land area of 32384.62 km² and sea area of 40596.38 km² (55.63%), with a coastline area of 1299.5 km and has 192 small islands (DKP-SU, 2016).

The Provincial Government of Sumatera Utara has 6 (six) MPA locations, consisting of 4 (four) locations of Regional Marine Protected Areas (RMPA), and marine protected areas (MPA) managed by the community. The area of the RMPA in Sumatera Utara is 167483.35 ha, which is managed by the district government. The four RMPAs are: (1) RMPA of Tapanuli Tengah District covering an area of 81243.00 ha for protection of sustainable fisheries and marine tourism of coral reefs with the Decree of the District Head of Tapanuli District Number.1421/DKP/Th.2007. (2) RMPA of Nias District covering an area of 29000.00 ha for protection of sustainable fisheries, marine tourism of coral reefs and mangroves with the Decree of the District Head of Nias Number.050/139/K/2007. (3) RMPA of Nias Selatan District covering an area of 56000.00 ha for the protection of coral reefs and marine biota with the Decree of the District Head of Nias Selatan Number.523/371/K/DKP/2008. (4) RMPA of SerdangBedagai District covering 1240.35 ha for the protection of coral reefs and sea turtles with the Decree of the District Head of SerdangBedagai Number.97/523/2008. Within the RMPA area there is also Marine Protected Areas (MPA) at the village level as much as 17 locations.

After the enactment of Law No. 23 of 2014, the Sumatera Utara Provincial Government has 2 (two) MPAs that have had a determination from the government. First, the MPA of Sawo-Lahewa Aquatic Tourism Park and the Surrounding Waters,

Nias Utara, with the Decree of the Minister of Marine and Fisheries of the Republic of Indonesia Number 54/KEPMEN-KP/2017 dated December 22, 2017 covering an area of 29230.85 ha. This Marine Tourism Park (MTP) originated from Nias Regional Marine Protected Area which originally covered 29000 ha, which increased to 29230.85 ha. Second MPA, Limited Protection Area of Terubuk Fish (Tenualosailisha) in Barumon River, Labuhan Batu District, based on the Decree of the Minister of Maritime Affairs and Fisheries of the Republic of Indonesia Number 34/KEPMEN-KP/2016 dated August 2, 2016.

The Governor of Sumatera Utara through the Decree of the Governor of Sumatera Utara Number 188.44/629/KPTS/2017 dated November 21, 2017, has reserved the Regional Marine Protected Area (RMPA) covering an area of 138483.40 ha contained in (1). Tapanuli Tengah District; 81243 ha, (2). Nias Selatan District; 56000 Ha, and (3). SerdangBedagai District; 1240.40 ha. The area of the MPA and the planned allocation of RMPA in Sumatera Utara in the Sumatera Utara Coastal and Small Islands Zoning Plans (RZWP3K) are presented in table-1.

Table 1: Area of Sumatera Utara Province MPA

District / City	MPA's Name	Area (ha)	Legal Basis
Nias Utara	MTP.Sawo Lahewa	29.230,85	Kepmenkp-RI No 54/ KEPMEN-KP/2017 dated 22 December 2017.
	MPA P.Wunga	12.915,93	Space allocation RZWP3K-SU
	MPA Kec.Alasa	1.332,68	Space allocation RZWP3K-SU
Labuhan Batu	LPA Terubuk Fish	7.210,41	Kepmenkp No.54/KEPMEN-KP/2017
Nias Selatan	RMPA Nias Selatan	56.000,00	Gov. decree No. 188.44/629/KPTS/2017 dated 21 November 2017
	RMPA P.Simuk	8.146,5	Space allocation RZWP3K-SU
	RMPA P.Batu Timur	44.293,62	Space allocation RZWP3K-SU
	RMPA Laha sa and Toma District	17.947,91	Space allocation RZWP3K-SU
Tapanuli Tengah	RMPA Tapanuli Tengah	81.243,00	Gov. decree No. 188.44/629/KPTS/2017 dated 21 November 2017
	RMPA Sorkam Barat	1.763,71	Space allocation RZWP3K-SU

	District		
Serdang Bedagai	RMPA Serdang Bedagai	3.786,02	Gov. decree No. 188.44/629/KPTS/2017 dated 21 November 2017/ Space allocation RZWP3K-SU
Nias	RMPA Kec.Bawo Lato	4.986,84	Space allocation RZWP3K-SU
	RMPA Gido and Idanogawo District	4.502,56	Space allocation RZWP3K-SU
Nias Barat	RMPA Sirombu Dist.	27.409,80	Space allocation RZWP3K-SU
Langkat	RMPA Secanggang District	1.809,66	Space allocation RZWP3K-SU
Batubara	RMPA Tj.Tiram District	3.804,86	Space allocation RZWP3K-SU
Mandailing Natal	RMPA Mandailing Natal	1.405,99	Space allocation RZWP3K-SU
Tapanuli Selatan	RMPA Muara Bt.Toru District	7.724,46	Space allocation RZWP3K-SU
	RMPA Tapanuli Selatan	7.724,46	Space allocation RZWP3K-SU
	Total	323.238,90	Determination, reserve, allocation

3.2 Authority Transfer Issue

Based on the research data, the transfer of MPA management authority from the District / City Government to the Sumatera Utara Provincial government caused the Provincial Government's burden to increase. This transfer of authority raised the problem of marine conservation management in Sumatera Utara Province, including:

(1) There is no MPA institution and management

The Nias District Government since 2007 has set an MPA of 29000.00 ha, for the protection of sustainable fisheries, marine tourism of coral reefs and mangroves. In 2008, there was a division of Nias District into Nias District and Nias Utara District. Most MPA areas that have been established are in Nias Utara District, so there is no management of MPA anymore. When MPA management was transferred to the Province, the Sumatera Utara Provincial Government reserved an MPA of 29230.85 ha. Based on the Decree of the Minister of Maritime Affairs and Fisheries of the Republic of Indonesia Number 54 / KEPMEN-KP / 2017 dated

December 22, 2017 stipulates MPA Sawo-Lahewa, Nias Utara as a Marine Tourism Park.

The MPA's function is to protect, conserve, utilize fisheries potential and important ecosystems such as coral reefs, mangroves and seagrasses and important species such as sea turtles, dolphins, marta rays, napoleon, lola, dugong, clams, sharks, whales, sea bamboo, bahar roots, goat's head, triton trumpet, sea cucumber, and hollow nautilus. MPA serves to support the development of water tourism. This MPA is managed with 5 zoning, in the form of MPA-1 covering 2485.34 ha, MPA-2 covering 12562.50 ha, MPA-3 covering 7371.09 ha, MPA-4 covering 3948.80 ha and MPA-5 covering 2863, 12 ha.

In the decree stipulating the Sawo-Lahewa MPA, it was stated that the management was handed over to the Sumatera Utara Provincial Government. Although the Central Government has determined it as MPA Sawo-Lahewa since 2017, the Provincial Government has not established institutional, management, and budgeting activities. Thus, since the establishment of the MPA in 2007, from 2008 to 2018, there was no MPA management at all. MPA areas such as no man's land, no conservation functions are carried out. Conditions like this, cause a decrease in coral reef cover, an increase in the degradation of the marine environment and a decline in the economic and social community around the MPA.

(2) There is no new MPA determination

The District Government of Tapanuli Tengah since 2007 has managed an MPA of 81243.00 ha, The Nias Selatan District Government has managed MPA since 2008 covering an area of 56,000.00 ha and the SerdangBedagai District Government has managed MPA since 2008 covering an area of 1240.35 ha. Management has been stalled since 2014 because the conservation authority was taken over by the province. The administrative activities carried out by the Sumatera Utara Provincial Government in the form of MPA reserves covering an area of 138483.40 ha with the Sumatera Utara Governor Decree Number 188.44/629/KPTS/2017 dated November 21, 2017.

The Sumatera Utara Provincial Government, which has received the responsibility for MPA management since 2014, has not been able to manage the MPA because there is no stipulation. Therefore, there is no MPA management in the districts of Tapanuli Tengah, Nias Selatan and SerdangBedagai since 2014. With conditions without management, an open access area, it can be

ascertained that there has been a decline in coral reef cover, environmental damage and a decline in the economic and social conditions of the community around the MPA.

(3) The MPA proposal was abandoned

The transfer of authority to manage MPA from the District Government to the Provincial Government based on Law No. 23 of 2014 caused the proposal to establish MPAs become abandoned in various districts / cities in Sumatera Utara Province. The research results from the field, Batubara District, Sibolga City and Mandailing Natal District have prepared new MPA proposal documents. With the transfer of this authority, the District / City Government is not authorized to proposing the MPA. Therefore, Sumatera Utara Provincial Government should follow up on preparing the MPA proposal document. However, until 2018, the file of the proposed district / city MPA has no follow-up from the Provincial Government.

(4) The abandonment of the proposed Limited Protection Area

The Sumatera Utara Provincial Government has a Terubuk Fish (Tenualsailisha) Limited Protection Area, in LabuhanBatu based on Decree of the minister of maritime affairs and fisheries No. 34/KEPMEN-KP/2016 dated August 2, 2016. Although it has been established since 2016, until 2018 there is no institution, management, funding, and conservation activities in the field. In addition, the District / City Government have also compiled a proposal for a limited protection area for Batak Fish and KerangAnakDara in Asahan District, protection of Sea Turtles and Oysters in Tapanuli Tengah District and others. Because the authority of the conservation proposal has been transferred from the District / City Government to the Provincial Government, Sumatera Utara Provincial Government should continue to propose a limited protected area for fish species. The results of the study showed that the proposed limited protection area has not been continued by the Sumatera Utara Provincial Government.

(5) There is no private MPA coaching

The transfer of the authority of conservation management from the District / City Government to the Provincial Government led to the formation of private conservation institutions managed by small-scale communities such as "the animal loses its mother". District / city governments do not want to take care of because it was not their main tasks and functions anymore while the Provincial Government

does not have data, relations, development budget and the distance between the provincial capital and conservation locations in rural area which was far enough. Because there is no funding assistance and coaching, the private MPA has stagnated management. The conservation management community group expects guidance, placement of extension workers / instructor and funding assistance.

4 CONCLUSION

The Sumatera Utara Provincial Government through the Department of Marine and Fisheries is not ready to accept the delegation of the authority in the field of conservation from the District / city Government in accordance with Law No 23 of 2014 concerning Local Government. The transfer of authority does not make MPA management better, the MPA happens to be increasingly neglected. Negative impact of the transfer of conservation authority from District / City Government to Sumatera Utara Province, in the form of:

- a. The Sumatera Utara Provincial Government is obliged to manage MPAs that have been determined by the Central Government: (1) Sawo-Lahewa Nias Utara MPA in 2017 (established in 2007) and (2) Terubuk Fish Limited Protection Area in Labuhan Batu District 2016. But until 2018 it has not been managed, there is no institution, supervision management model, budgeting, and conservation implementation in the conservation area.
- b. Sumatera Utara Provincial Government has reserved 3 new MPAs in 2017 but because the Central Government has not yet been legalized it, the Tapanuli Tengah MPA (established in 2007), Nias Selatan (2008) and SerdangBedagai (2008) cannot be managed by the Sumatera Utara Provincial Government.
- c. Sumatera Utara Provincial Government has not followed up on the MPA's proposal and the proposed Limited Protection Area which has been delayed due to the transfer of management authority from the District / City Government to the Provincial Government.
- d. Sumatera Utara Provincial Government has not recorded private MPAs managed by the community, as well as no guidance, assistance and funding assistance.

REFERENCES

- Anonim. 2017. Kondisi Terumbu Karang Indonesia Mengkhawatirkan. *Republika.Online*. . 07 June 2017 23:03 WIB. <https://www.republika.co.id/berita/nasional/umum/17/06/07/or6px4361-kondisi-terumbu-karang-indonesia-mengkhawatirkan>
- Agbeja.Y.E.2017. Marine protected area: Prospective Tool For Ecosystem Based Fisheries Management in Nigeria.*International Journal of Biodiversity and Conservation*. Vol. 9(6), pp. 158-166, June 2017
- Ban.N.C, Louisa S. Evans, Mateja Nenadovic and Michael Schoon. 2015. Interplay of Multiple Goods, Ecosystem Services, and Property Rights in Large Social-Ecological Marine Protected Areas.*Ecology and Society* 20(4): 2
- Briggs.J, Stacy K. Baez, Terry Dawson, Bronwen Golder, Bethan C. O'Leary, Jerome Petit, Callum M. Roberts, Alex Rogers, dan Angelo Villagomez.2018.*Recommendations to IUCN to Improve Marine Protected Area Classification and Reporting*.February 6th 2018. Submitted by: The Pew Bertarelli Ocean Legacy Project
- Clements.C, Victor Bonito , Rikki Grober-Dunsmore, Milika Sobey.2012. Effects of Small, Fijian Community-Based Marine Protected Areas on Exploited Reef Fishes. *Marine Ecology Progress Series*. Vol.449: 233-243,2012.
- Charles.A, Lena Westlund, Devin M Bartley, Warrick J Fletcher, Serge Garica, Hugh Govan and Jessica Sanders. 2016. Fishing livelihoods as key to marine protected areas: insights from the World Parks Congress. *Aquatic Conservation : Marine and Freshwater Ecosystems*. 26 (Suppl. 2): 165–184 (2016)
- DKP-SU.2016.*Statistik Pengelolaan Wilayah Pesisir dan Pulau-Pulau Kecil Provinsi Sumatera Utara 2016*. Medan. Dinas Kelautan dan Perikanan Provinsi Sumatera Utara
- Heinonen,M.2013. *Applying IUCN Protected Area Management Categories in Finland*. Final version approved by the National IUCN Committee of Finland, June 17th, 2013. IUCN http://www.ilo.org/dyn/natlex/natlex4.detail?p_lang=en&p_isn=77116
<https://www.ecolex.org/details/legislation/law-no-272007-regarding-the-management-of-coastal-area-and-isles-lex-faoc107226>
- Islam.G.M , Shzee Yew Tai , Mohd Noh Kusairi , Shuib Ahmad , Farhana Mohd Noh Aswani , Muhamad Khair Afham Muhamad Senan , Ali Ahmad. 2017. Community perspectives of governance for effective management of marine protected areas in Malaysia .*Ocean & Coastal Management* (2017) 34-42
- Jentoft.S, Jose J. Pascual-Fernandez, Raquel De la Cruz Modino, Manuel Gonzalez-Ramallal , Ratana Chuenpagdee. 2012. What Stakeholders Think About Marine Protected Areas: Case Studies from. *Springer Science + Business Media*, Hum Ecol DOI 10.1007/s10745-012-9459-6, Februari 2012
- Leenhardt.P, Bertrand Cazalet, Bernard Salvat, Joachim Claudet, François Feral.2014. The rise of large-scale marine protected areas: Conservation or geopolitics? *Ocean & Coastal Management- XXX* (2013) 1-7
- Machumu,M.E and Amararatne Yakupitiyage. 2013. Effectiveness of Marine Protected Areas in Managing the Drivers of Ecosystem Change: A Case of Mnazi Bay Marine Park, Tanzania. *Jurnal Ambio*. 2013 Apr; 42(3): 369–380.
- Pascal.N.2011. Cost-benefit analysis of community-based marine protected areas: Five case studies in Vanuatu. *SPC Fisheries Newsletter - January/April* 2011
- Setyawati.2014.Managing Marine Protected Areas in Indonesia. *Jurnal Marine Biological Associated of India*, 56 (1), 13-18, January-June 2014
- Sumaila.U.S, Sylvie Guenette, Jackie Alder, David Pollard dan Ratana Chuenpagdee.2012. *Marine Protected Area: Guiding Principles and Benefits*. WWF
- Undang-undang Nomor 32 tahun 2004 Tentang Pemerintah Daerah = Law No. 32/2004 concerning Regional Administration
- Undang-Undang Nomor 27 tahun 2007 Tentang Pengelolaan Wilayah Pesisir dan Pulau-Pulau Kecil =Law No. 27/2007 regarding the Management of Coastal Area and Isles
- Walter,N. 2017. *Marine Protected Area Management in the Finnish Gulf of Bothnia Connections Between Underwater Nature, Human Activity and Management*. Faculty of Business and Science University Centre of the Westfjords Master of Resource Management: Coastal and Marine Management Ísafjörður, May 2017
- Wilhelm.T.A, Charles R.C,Sheppard; Annel S.Sheppard, Carlos F Gaymer, John Parks, Daniel Wagner and Naia Lewis.2014. Large marine protected areas – advantages and challenges of going big.2014.*Aquatic Conservation: Marine and Freshwater Ecosystems*. 24(Suppl. 2): 24–30 (2014)