THE INDONESIAN ARCHIPELAGIC BASELINES: TECHNICAL AND LEGAL ISSUES AND THE CHANGING OF ENVIRONMENT

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Abstract: On 13th December 1957, Indonesia, for the first time, established its territorial sea by introducing the concept of the archipelagic baseline through the Government Declaration, called Djuanda Declaration. The Declaration then promulgated in Law Number 4/Prp 1960. The new concept of archipelagic states itself was accepted by the international community in the Third United Nations Conference on the Law of the Sea as part of the new Convention (hereinafter: UNCLOS 1982). The UNCLOS 1982 entered into force in 1994 and Indonesia ratified it in 1985. The ratification gave a legitimacy to Indonesia to become one of the archipelagic states in the world.

Subsequent revision to the Indonesian archipelagic baselines was made in recent years, i.e. in 1998 and Indonesia published Government Regulation Number 61/1998 (GR. 61/1998), and in June 2002 GR Number 38/2002 was signed. The old provision of straight baselines from point to point was adjusted with the new straight archipelagic baseline as define in accordance to Article 47 of the UNCLOS 1982.

Even so, the latest development has to be made to the GR Number. 38/2002 in respect to the independence of Timor Leste in 2000, the decision of the International Court of Justice (ICJ) on the sovereignty of Pulau Sipadan and Ligitan on December 2002, and the existence of some natural features and low tide elevations in some areas. Finally, on May 2008, Indonesian government enacted GR Number 37/2008. Soon, Indonesia will submit the Indonesian Archipelagic baselines to the UN Secretariat General as demanded by Art 16(2) UNCLOS 1982.

This paper concluded with some remarks that have been encountered by Indonesia in completing and maintaining its archipelagic baselines which shows some complexities in implementing Art 14 of UNCLOS. We hope that our experiences could be shared for the purpose of further development.

1. Introduction

Being a country with approximately 17.500 islands, with an overall distance of more than 1900 km from east to west, the length of coastline almost 81.000 km, and nearly 80 % of its area are sea, put Indonesia as the largest archipelagic state in the world. Indonesia is located between two oceans, the Pacific and Indian ocean, also between the two continents of Asia and Australia. This strategic position gave influences to its social, cultural, political and economic life.

Based on its legislation upon an earlier Dutch law (*Territoriale Zee en Maritime Kringen Ordanantie* (TZMKO) - 1939), which rather restrictive, Indonesian territorial sea had only three nautical width, was only sufficient to safeguard the integrity of a coastal state. Beyond the territorial sea of a coastal state, there is the high seas where foreign ships were free to traverse upon, and to exploit and explorate the marine resources.

However, since the mid 1940s, the coastal and the island states always have been trying to extend the width of their territorial sea. Claims made by the coastal states on the marine resources on the natural prolongation of their adjacent landmass had been contended since The Truman Proclamation in 1945. The extended maritime jurisdiction permits the coastal states to claim rights over the adjacent sea, for a variety of purposes, over varying distances from the established basepoints.

Indonesia's first claim to its maritime jurisdiction was in 1950's, when it declared, through the Djuanda Declaration dated on 13th December 1957, the entire maritime area between the Indonesian Archipelago was under the sovereignty of Indonesia. The declaration was then legislized with Law Number 4/Prp.1960. Through this Law, Indonesia established its archipelagic baselines connecting basepoints located on its outermost islands.

Indonesia had long to get a recognition as an archipelagic state from the international law due to its special geographic configuration. A series of diplomatic efforts finally reached its momentum with the adoption of the concept of archipelagic state in UNCLOS 1982, in particular Par. IV. Indonesia ratified the UNCLOS 1982 with Law Number 17/ 1985. The UNCLOS 1982 itself is effectively entered into force on the 16th November 1994.

Under the legitimacy of UNCLOS 1982, as an archipelagic state, in 1996 Indonesia revised the Law number 4/Prp.1960 with the Law Number 6/1996 on the Indonesian Waters. Indonesia also constructed its new archipelagic baseline, using the new definition of straight archipelagic baseline in the UNCLOS 1982, through the GR Number 38/2002 on the Geographical List of Coordinates of the Indonesian Archipelagic Baselines. The law is one of the important instruments to protect Indonesia's territorial integrity. Besides that, it also becomes the basis of the Indonesian sea as an uniting factor of the archipelago.

Baselines represent the starting point from which the breadth of territorial waters and its maritime jurisdiction are measured. Indonesia has several maritime zones, i.e. internal waters, archipelagic waters, territorial sea, Continuous Zone, Exclusive Economic Zone, and, the Continental Shelf. There are commonly three types of baselines: normal, straight, and archipelagic baselines. Baselines are important as the starting points to delineating the outer limits of the continental shelf as it is clearly important to determine the 200

nautical miles limit. The definition of baselines is strongly related to hydrographic methodologies as it deals with the definition of the low-water lines.

Due to various political development and some special circumtances which are occurred and influenced the configuration of Indonesian archipelagic baselines, on 19th May 2008, Indonesian Government established GR Number 37/2008 that revised the GR Number 38/2002 on Geographical List Coordinates of Indonesia's Archipelagic Baselines.

2. Indonesian Archipelagic Baselines on the Law Number 4/1960

Through the Djuanda Declaration, the Indonesian Government declared its sovereignty over the maritime area in the entire Indonesian archipelago. On 18 February 1960, the Indonesian Government established the Law Number 4/1960 which has four basic paragraphs:

(1) straight baselines shall be drawn connecting the outermost points of the outermost islands;

(2) waters situated within those baselines, including the sea bed and its subsoil, as well as the airspace above them, and their resources, shall be placed under the country's full sovereignty;

(3) the breath of the territorial sea shall be 12 nautical miles;

(4) innocent passage through the archipelagic water shall be guaranteed, provided that it is not prejudicial to the country's interest and as long as it does not disturb its security and good order.

Under this law, the breadth of the Indonesian territorial sea was extended from three to 12 nautical miles, measured from the baselines, connecting the outermost points on the law water mark of the outermost island. The drawing of these archipelagic baselines resulted in substantial changes to the Indonesian territorial. This provision gave Indonesia an area of approximately 5,200,000 km^2, land and sea, plus its territorial waters by about 282.394,47 km^2.

The configuration of Indonesian baselines in 1960 were created from a series of straight baseline connecting the outermost points of the outermost islands and drying reef. Before that, Indonesia's original baseline was constructed from small scale mapping data, since it was difficult to measure, to map and to construct the whole basepoints which was very costly. Therefore, when the field survey was conducted, it was found that some baselines cut off some islands.

The law listed 201 basepoints, but the geodetic datum was not specified, and comprised 198 individual line segments. There were two lines attained length of 122,457 and 121,62 nm, they are basepoints between number 59 to 60 and number 71 to 72 respectively. The baselines system enclosed approximately 3.067.504,14 km^2 of archipelagic waters.

When the baselines system was declared in 1960, the eastern half of Timor island and the enclave of Oecusi were under jurisdiction of Portugese; and in the vicinity of *Kantong Natuna* was still under the regime of international water.

3. Indonesian Archipelagic Baselines based on the Government Regulation Number 38/2002

The government enacted Law Number 6/1996 on the Indonesian Territorial Waters using the principles embodied in the UNCLOS 1982. Basically, the Law upholds same old principle, for example the breadth of the territorial sea remains 12 nautical miles. The old provision of straight baselines from point to point is adjusted accordingly with the new straight archipelagic baselines. An illustrative map is attached to the Law showing the possible new baselines, the territorial sea, and the outer limit of the exclusive economic zones and the special lines showing the unfinished or still to be negotiated boundaries with Indonesia's neighboring countries.

As an archipelagic state, in applying the archipelagic baselines Indonesia have fulfilled four special conditions ruled in Article 47 UNCLOS 1982:

1) All of main lands of the archipelagic state must be a system of archipelagic baselines;

2) The ratio of water area and land area in the system of archipelagic baselines is between 1 to 1 and 9 to 1;

3) The lenght of the archipelagic baselines shall not exceed 100 nautical miles, except that up to 3 percent of the total number of baselines enclosing any archipelago may exceed that lenght, up to a maximum lenght of 125 nautical miles;

4) The drawing of the erchipelagic baselines shall not depart to any appreciable extent from the general configuration of the archipelago.

Indonesia conducted a series of field survey on its basepoints in order to satisfy the legal requirements of an archipelagic state as stipulated by UNCLOS 1982, especially Part IV Archipelagic States. There are various features in existence which have to be considered when establishing the baselines. There are three basic categories, they are low tide elevation, rocks, and full fledge island.

In the preliminary part of the survey, it was necessary to review Indonesian baselines proclaimed in 1960. As continuation, the Hydrographic Office of the Indonesian Navy had also concluded preliminary research to determinate the basepoints. Through the DMRM (Digital Marine Resource Mapping) project during 1994 – 1999, which followed with a collaborative research with the Coordinating Agency for Surveys and Mapping (BAKOSURTANAL), the exact location of the basepoints in the field was determined.

The project suggested a construction of some new basepoints, regardless of any consequences, this related to the 3% rule, legalizing that 3% of the lenght of the baselines of an archipelagic state might be drawn up to 125 Nm. The new archipelagic baseline using a combination of two technical methods; first the straight line is drawn between the nearest point on the low water line to the spesified coordinates, and the second method is if the straight line intersects the water line of a naturraly formed area of land, the normal baseline replaced the straight line.

The data and information collected were primary data; they are the results of the hydrograhy and geodesy field survey and mapping. Besides that, it is also important to identify the candidates of basepoints on the map. The survey to determine the basepoints

was conducted based on the accuracy standard specified by Special Publication IHO Number 44, *Standard of Competence for Hydrographic Surveyors*, more particular related to the National Geodetic Datum 1995 represented datum which related at the international datum World Geodetic System 84 (WGS 84). The surveys and mapping conducted were to determine the horizontal position of reference lines (benchmark), to measure the low tide, current and bathimetry (including zero depth line), the mapping of the coastline and the carthography of bathimetry, data processing and data presentation.

In 1996, Indonesia established Law Number 6/1966 on the Indonesia Waters, on June 2002 a revised set of basepoints was declared and implemented with GR Number 38/2002 on Geographical List of Point Coordinates of the Indonesian Archipelagic Baselines. A revised set of territorial basepoints in accordance with Indonesia's obligations to the provisions of Article 47 of the 1982 Convention. The legislation, which entered into force on its declaration, a list of geographical coordinates of 183 points in outer small islands.based on the World Geodetic System (WGS) 1984 datum, and identify name each features upon the basepoints are located. There are 179 archipelagic baselines segment that connect the outer most points of the islands to encompass aprroximately 3.067.504,14 km^2 archipelagic waters.

A series of larger scale maps are used for a detail view of specific coast lines. Furthermore, the points plotted on maps compiled at a scale of 1:200.000, so there are 64 charts officially published by the Indonesian Government. Indonesia's archipelagic baselines system now appears to satisfy the International rules.

4. Several Changes Configuration of Indonesian Archipelagic Baselines during period 1960 – 2008

After the enactment of the Government Regulation Number 38/2002, there are two development that force this Regulation to be reviewed. Two decisions of concerns, firstly related to ICJ's decision on the sovereignty of Pulau Sipadan and Ligitan that was handed down by on the 17th December 2002; and secondly is the independence of East Timor.

The following are the revisions to the configuration of Indonesian Archipelagic Baselines made during 1960 – 2008. They are the closing of *Kantong Natuna*, the legal status of Sipadan and Ligitan islands, and the status of the coast of the Timor Island.

a. *Kantong Natuna* Baselines

First revision was made in the vicinity of Kepulauan Riau to close the sea area within as part of Indonesian archipelagic waters; from Bintan to Anambas in the west, to Bangka Belitung in the south. This act known as enclosing Kantong Natuna and ruled with the GR Number 61/1998, which connecting the base point at Pulau Sentut (TD 01A) to the basepoint at Pulau Malangbiru (TD 22) with distances 87,73 Nm. This regulation eliminated 22 basepoints in the surrounding area.

b. Baselineas Configuration in the North West Part of Sulawesi Sea

In the appendix of the GR Number 38/2002, the Sipadan and Ligitan islands were among the location of Indonesian basepoints. Since those two islands are now belonging to Malaysia, after ICJ decision in December 2002, the configuration of

baselines around Sebatik Island and of Sulawesi Sea have to be adjusted. In order to prepare some alternative basepoints around Sebatik Island, Indonesia has done a series of research and survey in this region. From the research, it has been found some Low Tide Elevation's (LTE's) around Sebatik Island and Karang Unarang (Unarang Rock). To support the result of the research, BAKOSURTANAL together with PPGL-DESDM, and Hydrographic Office of the Indonesian Navy had conducted a survey to determine the basepoints around the area of East Kalimantan by during 2004 and 2006.

As a followed up of the researches and surveys, Indonesia has established 4 new points replaced the previous three points at Sipadan and Ligitan Island. These new points are low-tide elevations, which is ruled in article 13 of the UNCLOS 1982; saying that a low tide elevation is situated wholly or partly at a distance not exeeding the breadth of the territorial sea from the mainland or an island, can be used as the basepoints. The distance of Karang Unarang approximately 9 Nm from Sebatik Island. The eligibility of Karang Unarang is refered to Art 6 that says, "*In the case of islands situated on atolls or of islands having fringing reefs, the baseline for measuring the breadth of the territorial sea is the seaward low-waterline of the reef, as shown by the appropriate symbol on charts officially recognized by the coastal State*".

c. Amendment Baseline Surrounding Timor Island

In Timor island there has been three amandmends concerning the baselines due to political decesion.

Firstly, when the baseline system was declared in 1960, the eastern half of Timor island and the enclave of Oecusi were under jurisdiction of Portugese, so according to Law Number 4/1960, there were nine basepoints surrounding the area that now known as East Timor, one in Meatimiarang island (TD109), two basepoints (TD 114 &TD 115) which lies about 12 nautical miles offshore from Oecussi, TD 116 & TD 117 at the southern part of Timor Island, two basepoints (TD 110 & TD 111) in Leti island and another two basepoints (TD 112 & TD 113) in Wetar Island.

Secondly, there was Indonesian government political decision in 1978 to integrate Timor-Leste as a part of Indonesian territory. As established in the configuration of basepoints in GR Number 38/2002, there are five basepoints surrounding East Timor, one in Meatimiarang Island (TD109) and four basepoints (TD 115 to TD 118) which located on southpart of Timor Island.

Lastly, due to the independence of Timor-Leste, Indonesian Archipelagic Baseline arround Timor Island need to be revised again. However, a very crucial and complex situation occured when defining Archipelagic Baseline in the area, with refer to the Oecusi enclave and the position of Atauro island that belong to Timor-Leste.

In preparation to amendment baseline around Timor Leste, some consideration should be noticed. For example, the characteristic geographic around Wetar Strait which is located in the sea area between Wetar Island and eastern part of Timor Island belongs to Timor Leste. The position of Pulau Atauro (of Timor Leste) that lies between Pulau Wetar and Pulau Alor (of Indonesia) made this exercise more complicated.

In preparing basepoints at Timor Island, Indonesia used navigational charts number 375, 376 and 378 scale 1:200.000 and continued with conducting survey during 2003 to 2004, conducted by BAKOSURTANAL cooperated with Bandung Technology Institute. There has been specified 10 new basepoints, there are: two basepoints at Sea Timor (Tg. Karang and Tg. Kesioh at Leti Island); three at Wetar strait (Tutun Yen at Kisar Island, Tutun Eden at Wetar Island, and Lirang Island); two at Ombai Strait (Tg. Lisomu and Tg. Seromu at Alor Island), two at Sea Sawu (Tg. Sibera at Alor Island and Mota Biku at Timor Island) and one basepoint at Timor Island (Mota Talas at Timor Island).

d. The Configuration of Basepoints at Central Java

The change of configuration of the basepoints at southern part of Central Java, according to Article 3 (3) of GR Number 38/2002 and the rule of Article 47 UNCLOS, Indonesia can only have 5 segments of the baselines which have the length more than 100 nautical miles, or 3% from 183 of the baselines. Hence, it must be done the adjustment to fulfill the rule of the Convention on the Law of the Sea. It was decided to change the configuration of baselines at the southern part of Central Java, they are TD 140 to TD 143 which lenght was more than 100 nautical miles by specifying two baselines, TD 141 to Tg. Ngeres Langu and TD 142 to Batu Tugur and among them. Both information and data obtained from the digital surveying result of Digital Marine Resource Mapping (DMRM), which was conducted by BAKOSURTANAL, together with the Hydrographic Office, in 1995 to 1999.

5. The Disaster and Abrasion in Outermost Small Islands

Since 2005, through Presidential Decree (PD) Number 78/2005, the goverment of Indonesia gives a greater attention to all its outermost (small) islands, that from its point of view, they have strategic values especially as location of the basepoint to construct the archipelagic baselines. So far, there are 92 small outermost islands that spread over in 17 provinces in Indonesia, from Nanggroe Aceh Darusalam until Papua.

From those 92 islands, there are approximately 9 islands facing the open sea, while the rest should share border with ten Indonesia's neighboring states. Those small islands are very important for Indonesia, especially in delineating its archipelagic waters and other maritime zones. As in Article 121 of UNCLOS 1982, an island is entitled to claim maritime zone covering the territorial sea, the exclusive economic zone, and the continental shelf, regardless the size of that island.

For that reason, Indonesian Government has also released PD Nr. 78/2005 concerning Management of Outer Small Islands give expectation to the nation to work together in managing "the front gate of Indonesia". Such management of small islands can be realized by maintaining the integrated baselines and basepoints and renewing continuously, showing them on the sufficient chart, and there is pronouncement on the law products.

It has been discussed above, the phenomenon of the alteration of baselines and basepoints in Indonesia caused by both technical and juridical factors, but it also can be influenced by natural phenomenon. That is possible by the deformation caused by the eartquake, tsunami disaster, and abrasion at some part of coastal area in Indonesia.

However, it is needed to conduct technical study accurately to find out how significant the changes.

BAKOSURTANAL as the surveys and mapping agency, has conducted several activities related to the outer small islands, such as providing aerial photograph and mapping those outermost small islands.

Some outermost small islands, located in the west of Sumatra island, are possible to be struck by an eartquake and tsunami disaster. Eartquake occurs frequently here since the area is above the subdaction zone between Indo-Australia and Eurasia-Pacific Tectonic Plates. For instance, the island of Enggano, Simeulucut, Salaut Besar, Raya island and Rusa island. Some of those islands situated in a very remote area, with very low accesbility. But awereness remains to be put in priority considering that their location is very remote and facing to the high seas, so that abrasion can also occur anytime.

Tsunami that hit Nanggroe Aceh Darusalam on 26th December 2004 caused environmental and infrastructure damage in the west coast including surrounding small island, with no exception for Simeulucut island, Rusa island and Raya island that were located in the Indian ocean and share maritime zone border with India. The land that was eroded by the tsunami still appears in some parts of the coastal area of those islands.

Considering the importance of the islands as location of basepoints Number TD 170 and TD 171, Indonesia has evaluated and compared two data before and after tsunami using kinematic photograph taken in 2008 with the data obtained from Landsat 7 ETM + satelit image year 2002, especially the existing condition of the coastline where the basepoint area located, eventhough this was a tsunami disaster. However, it was found that there was no significant difference.

Indonesia Goverment also gives a special attention to other its small outermost island, that is Nipah Island. This island is administratively under Batam City Administrative of Kepulauan Riau Province. The area of island is about 0,6 km^2 during low tide, but it becomes smaller up to 0,36 km^2 during the high tide. On this island, there is base point number TD 189 that become one of the reference for territorial sea boundary delimitation between Indonesia and Singapura conducted in 1973. The environmental problem faced by small islands, for particular Nipa island is the exploitation of its sand to used in coastal reclamation in Singapore. The worst effects of this sand exploitation is that it can engulf the small island, including Nipah, so that the basepoints can be lost. Due to this condition, the Indonesian government has been reclamating the Nipah island.

Some efforts to maintain the basepoints and the reference point are needed. The efforts should include a spesific treatment to prevent the coastal region from abrasion caused by the wave, etc.

6. Concluding Remark

We all have known the role of baselines and basepoints of a archipelagic baseline. Pursuing the agreement of maritime boundary between Indonesia and its neighboring states is one of the attainments of border diplomacy. Other important duty of the government is to manage the maritime boundary better. At the maritime frontier area of Indonesia, the existence of the Indonesian archipelagic baselines and basepoints, located in 92 outer small islands, are primary important.

The Independence of Timor-Leste forced the government of Indonesia to revise its archipelagic Baseline around the Timor island. However, there is complexity in defining the baseline due to the location of the Oecusi enclave and the Atauro island of Timor Leste.

Furthermore, the ICJ's decision on the case of Ligitan and Sipadan on Desember 2002 also become one of the reason to review GR Number. 38/2002. As a consequences of that, Indonesia came accros to find some low tide elevations on the southeast of Sebatik island.

The provision of Art 47 of UNCLOS 1982 used by the Indonesian government as the legal basis to redraw its archipelagic baselines.

The availability of accurate geospatial data resulted from the Indonesian basemapping project, to update topographic and hidrographic maps, including the identification of more accurate features, possible to be for the construction of basepoints, are needed and very important.

Experiencing from the maritime boundary negotiation, the archipelagic states are obligate to consider intensively to the definition and provision of the archipelagic baselines. However, we argue that this provision need to be more elaborated in the TALOS, especially in relation to the use of wording, "*every point on the baseline.....*". Indonesia would also likely to recommend a further and deeper interpretation on the mathematical definition. This will also provide an implication to the additional option of software program, such as in CARIS-LOTS.

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