Spatial Study of Indonesia’s Historic Bay: A Case Study in Tomini Bay

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Abstract. To become a global maritime axis, Indonesia needs to strengthen the security of its maritime region. Indonesia has adopted the United Nations Convention on the Law of the Sea (UNCLOS) to determine its water boundaries. One of the points in UNCLOS that has not been implemented in Indonesia is related to internal waters. Until now Indonesia has not yet determined the extent of its internal waters. This study aims to examine the potential of Tomini Bay as a historical bay, especially spatial terms so that it will increase the area of Indonesia's internal waters. The methods used were literature study of the cases in other countries, determination of the area, and extensive calculations using basic data on topographic maps of Indonesia (Peta Rupabumi Indonesia/RBI), such as toponym data, and coastline data. Based on this study, Tomini Bay has an area of 56,948.51 km², but according to UNCLOS it is not a juridical bay since the width of its opening is more than 24 nautical miles. Some small juridical bays in the Tomini region have an accumulative area of 418.49 km², only about 0.73% of the Tomini area. In order for Tomini Bay to meet the provisions of UNCLOS as a bay, Indonesia needs to define Tomini Bay as a "historical bay", because in this study it was found the defining potential. By recognizing Tomini as a historical bay, Indonesia can change the status of the waters inside it from archipelagic waters to internal waters, so that Indonesia's authority over the region becomes stronger.

Keyword: UNCLOS; historic bay; Tomini bay

1. Introduction

The United Nations Convention on the Law of the Sea (UNCLOS) is the legal basis used by various countries to determine maritime boundaries. Indonesia ratified UNCLOS through Law No. 17 of 1985 concerning the Ratification of the UN Convention on the Law of the Sea. There are several Indonesian jurisdictions according to UNCLOS, namely territorial sea, archipelagic waters, and internal waters.

For an archipelagic country like Indonesia, internal waters can consist of waters that are on the inner side of river mouths, ports, and bays. The bay is a juridical bay if its mouth width is less than 24 nautical miles and the area of water that has been restricted to the mouth of the bay must be greater than the area of a semicircle with a diameter equals to the mouth width. Exceptions to these provisions exist for "historic" bays as mentioned in article 10 of UNCLOS, but further provisions regarding historic bays...
are not explained. The Technical Aspect of the Law of the Sea (TALOS) manual also does not mention the definitions or conditions for determining historic bays.

The definition of the historic bay is found in IHO Special Publication No.32, Hydrographic Dictionary. The historic bay definition at IHO is as follows: "Historic bays are those over which the coastal state has publicly claimed and exercised jurisdiction and this jurisdiction has been accepted by other states. Historic bays need not match the definition of "bay" contained in the United Nations Convention on the Law of the Sea[1]. Based on the description, it can be concluded that the Historic bay is a bay that is: (a) Claimed by a coastal country; (b) The coastal state exercises its jurisdiction in the bay; (c) Received by other countries; and (d) It does not have to be in accordance with the bay definition in UNCLOS.

The term "historic" not only appears for a bay, but also can appear as in the term "historical waters" which includes islands, straits, and other waters. Historical waters first emerged from the ICJ decision regarding the case of maritime boundaries between Britain and Norway in 1951. In determining the presence/absence of "historical" status, there are three factors to consider [2]: (1) Authority of a country claimed as "historic waters" (including historic bays), (2) Continuation of that authority, and (3) The attitude of foreign countries.

Some countries have claimed bays in their territories as historical bays. On April 26, 1977, Italy enacted a decree which led to the drawing of a straight line and declared the Gulf of Taranto as a historical bay [3]. South Australia in 1987 proclaimed four historical bays, including Encounter Bay, Laccadive Bay, Rivoli Bay, and Anxious Bay, which received protests from the United States [4]. Later in 2006 Australia proclaimed the four historical bays, revised and updated the geographic coordinates of the baselines and sea-ward limits by changing the coordinates and datum they were used [5]. In 2016 Australia again declared its proclamation over the four historical bays, by replicating substance of the previous proclamation without changing the coordinates and definitions of the bays [6]. Libya also claimed the Gulf of Sidra as a historical bay [7]. This claim was submitted by Libya to the United Nations in 1973, making the bay as part of internal waters and that Libya had sovereignty over it. This claim, however, was refused by the United States because they regularly had conducted naval and air exercises in the area since a long time ago. Thus, the claim had caused many incidents in the area [8].

Indonesia, in its legal regulations, does not yet have rules regarding historic bays. Law number 6 of 1996 concerning Indonesian Waters states that inland waters consist of inland seas and inland waters. Government Regulation number 38 of 2002 concerning the List of Coordinates of the Indonesian Archipelagic Lines in Article 6 sets out the bay cover lines. The regulation says if there are islands between the mouths of the bay, the maximum length of the line used to close the bay is 24 nautical miles. Following the rules stated in the Government Regulation above, large bays in Indonesia which have a length of longer than 24 nautical miles cannot be declared as bays, including Tomini bay located on the island of Sulawesi.

Tomini Bay is one of the large bays in Indonesia whose length of the closing line between the two mouths is more than 24 nautical miles long. The bay is part of the Fisheries Management Area (Wilayah Pengelolaan Perikanan/WPP) 715 [9]. The Tomini bay region has an abundance of phytoplankton as primary producers and zooplankton as primary consumers in the marine ecosystem chain, whose distribution is concentrated around the bay mouth in the West season, and is spread evenly during the Transition I season [10]. In the bay of Tomini found the emergence of the Whale Shark (Rhincodon typus), one of the species that is threatened with vulnerable status because the population is believed to
decline [11]. Tomini Bay is bordered by the Maluku Sea which is part of the Indonesian Archipelagic Sea Lane III so that many foreign ships pass near the area. Based on these considerations, historical bay research was conducted at Tomini bay.

This study aimed to calculate the Tomini bay area and compare the area if current regulations were applied to the area if the bay was defined as a historic bay. In this study, the suitability of Tomini bay as a historical bay was also examined when compared to the results of research on the historic bay.

2. Research Method

Tomini Bay is a bay located on the island of Sulawesi and is administratively located in the area of three provinces, namely Gorontalo, North Sulawesi, and Central Sulawesi. The east side of the Tomini bay is open and adjacent directly to Molucca sea. Location of Tomini bay and Molucca sea is illustrated in Figure 1.

The research method began with the study of literature, especially the case of historic bays in other countries, then calculated the area, and survey. In-depth interviews were also conducted with the Central Sulawesi provincial government, Poso district government, Parigimoutong district government, and academics from the Teaching and Science Faculty of Tadulako University. The data used is the digital topographic maps of Indonesia (RBI) from the Geospatial Information Agency, by taking toponym data. In this study, 2013 shoreline data were used to calculate the bay area (using GIS software) and data analysis.

The method of calculating the area of internal waters inside the bay closing line according to UNCLOS is as follows:

1. Calculate the length of the closing line between the two mouths of the bay, it must not exceed 24 nautical miles;
2. Calculating the area of a semicircle formed from the diameter along the bay's cover line;
3. Calculating the total bay area (including the coast as part of the water);
4. Comparing the area of the semicircle and the total bay area, if the semicircle is narrower, then it qualifies as a juridical bay.
3. Result and Discussion

3.1. The History of Tomini Bay on the Maps

Maps drawn by European cartographers in the 18th and 19th centuries have given rise to Tomini, with different toponyms. On 1794 map, the bay of Tomini was drawn with the name Gunong Tellu Bay (Figure 2A). On 1810 map, it was written as B. Tomini (Figure 2B), on 1855 map as Tominie or Goenong Tella Bay (Figure 2C), and on 1893 map as Golf van Tomini (Figure 2D).

The coast around Tomini was controlled by the first community, the Bajo who controlled the waters and the coast of the region [12]. With the entry into force of the Teritoriale Zeeën en Maritieme Kringen Ordonantie 1939 (TZMKO 1939) Staatsblad 1939 No. 442 or the 1939 Netherlands Indies Ordinance, the waters that can be controlled are three miles from the mainland. Through the Djuanda declaration, corroborated by the third United Nations Convention on the Law of the Sea and the issuance of Law No.4 on Indonesian Waters, the waters in the region are entirely part of the waters of the Indonesian archipelago.

Figure 2. Naming of Tomini Bay: (A) Part of 1794 Dunn and Laurie and Whittle Map [13]; (B) Part of 1810 Tardieu and Lapie and Malte-Brun Map [9]; (C) Part of 1855 Colton Map [14]; (D) Part of 1893 Witkamp Map [15]

Indonesia issues Government Regulation No. 32 of 2004 concerning Regional Government which separates water authority. In the regulation, an area as far as twelve nautical miles from the coastline becomes the maximum limit of resource control by the province, and one-third of the provincial authority becomes the district's authority. Outside the area is the authority of the central government. The coast around Tomini was controlled by the first community, the Bajo who controlled the waters and the coast of the region.
Government Regulation No. 23 of 2014 concerning Regional Government changes the previous regulation. According to the new regulation, there is no circumvention authority from the regency/city government over the waters in Tomini bay, but all of them are the provincial authority. Beyond these limits is the authority of the central government remains.

The management of Tomini bay by the local government is known based on the results of a survey conducted during the study. North Sulawesi Province, Central Sulawesi Province, and Gorontalo Province have incorporated in the BKPRS forum (Badan Koordinasi Penataan Ruang Sulawesi or Sulawesi Spatial Planning Coordinating Board), one of which is to discuss Tomini bay. The forum consists of the Heads of Regions and Work Units of the Office of the three Provinces. Mandate Law No. 1 of 2014 concerning Management of Coastal Areas and Small Islands, local governments (provincial) have the obligation to prepare coastal and small island management plans, one of which is the Zoning Plan for Coastal Areas and Small Islands (RZWP-3-K), a planning document spatial in nature and set forth in the form of a map.

3.2. Tomini Bay Boundary

IHO has published the first, second and third editions of Special Publications No. 23, Limits of Oceans and Seas. The publication is a collection of geographical boundaries of ocean names (such as bays, seas, straits, and oceans) in the world. The "Gulf of Tomini" boundary first appeared in the third edition of the publication. The Tomini boundary is located in the east, which is bordered by the Molucca Sea as illustrated in Figure 3.

![Figure 3. Map of the third edition of Special Publications No. 23, Limits of Oceans and Seas [16]](image)

In the draft of the fourth edition of Special Publication No.23, Limits of Oceans and Seas, the name was changed to "Teluk Tomini" which has the same meaning, Tomini bay. According to the document, the boundary of Tomini bay is the island of Sulawesi around it and a line joining Pasir Panjang cape (0°39' S - 123°25' E) to Tombalilatu cape (0°18’ N - 123°21’ E). Figure 4 is the boundary of the Tomini bay and Molucca sea taken from the publication.
The research data was used to find the Tombilalatu cape on the south coast of Tomini (Central Sulawesi), and the Pasir Panjang cape (Gorontalo), on the north coast of the Tomini bay. The search was performed using toponym data to search for the name of the cape and coastline data to find the coordinates of the headland. Based on the search for toponyms, there were no cape named Tombilalatu and Pasir Panjang. For this reason, the Tomini bay boundary point used in this study used a beach curve that protruded into the sea at coordinates according to the IHO definition, so that two boundary points were used, namely point A on the north side with boundary coordinates (0°18'33.1" N; 123°21'16.2" E), and Lonsulit cape on the south side with border coordinates (1°20'37.7" S; 123°24'41.4" E), as in Figure 5.

3.3. Area of Tomini Bay

Using a line connecting point A and Lonsulit cape, it was known that the length of the Tomini bay covering line was 57.7 nautical miles. This length certainly did not qualify as a bay according to
UNCLOS, unless Tomini bay is a historic bay. The small coves in Tomini waters which had a length of line covering less than 24 nautical miles were found 327 bays, with the total area of 418.49 km². The coves can be seen in Figure 6.

![Small bays in Tomini](image)

**Figure 6. Small bays in Tomini**

In figure 6, bays that conform to the UNCLOS juridical definition of bays are the red ones. Shown in the picture is the largest bay located on the southern coast of Tomini, in the province of Central Sulawesi. The bay is a combination of small bays in it, namely Bolo bay, Malandang bay, and Poh bay, with a total area of 294.36 km².

With a length of 57.7 nautical miles, a semicircular that was formed had an area of 8,968.58 km². The overall area of the Tomini bay calculated using GIS software was 56,948 km². Compared to data on the area of archipelago and inland waters of Indonesia which reached 3,110,000 km² [18], the area reached 1.83%.

3.4. **Tomini Bay as A Historic Bay**

The Tomini bay area is entirely within the waters of the Indonesian archipelagic waters so that Indonesia has full sovereignty over the bay. Indonesia follows international sea law in drawing baselines and establishing an island nation. This, of course, makes Tomini bay under IHO's description of a historic bay, which is claimed by a coastal country [1]. Indonesia's sovereignty over the coast also indicates that the state has authority over Tomini waters, thus fulfilling the historical factors contained in the UN document [2].

Indonesia uses archipelagic baselines to delimit maritime boundaries with neighbouring countries. The use of this method can be interpreted that the countries negotiating with Indonesia agree on waters
within the archipelagic line is Indonesia's sovereignty, thus it meets the description of the IHO and the UN related to recognition by other countries [1], [2].

The Tomini bay area is managed by the Indonesian government and incorporated into the WPP RI-715 through the Decree of the Minister of Maritime Affairs and Fisheries of the Republic of Indonesia Number 82/KEPMEN-KP/2016 regarding the Fisheries Management Plan of the Republic of Indonesia's State Fisheries Management 715. In addition, North Sulawesi province, Central Sulawesi province, and Gorontalo province also manage natural resources in the Tomini bay starting from the coastline to the 12 nautical miles boundary from the coastline in accordance with Law No. 23 of 2014 concerning Regional Government and Law No. 1 of 2014 concerning Management of Coastal Areas and Small Islands. It can be interpreted that Indonesia operates its jurisdiction in the region as a historical description according to the IHO [1].

Other studies related to historic bays are the research of Obregon (2015) and Kaye (1994). Obregon (2015) mentions that three legal requirements make up the historic water doctrine, namely 1) official claims of a country, 2) effective and sustainable implementation of relevant jurisdictions, and 3) international agreements [19]. Kaye (1994) in his research related to historical bays in Australia mentioned four basic requirements of Historical bays, namely: Sovereignty, Time, Acquiescence, and Vital Interest [4]. The comparison between the Tomini bay position and the results of the two studies is tabulated as shown in Table 1.

| Obregon (2015) [19] | Kaye (1994) [4] | Tomini Bay Position |
|---------------------|-----------------|---------------------|
| a. Claimed by a coastal country. | State sovereignty over the bay. | Tomini bay is located in the baseline of the Indonesian archipelago which makes it an area of Indonesia’s sovereignty. |
| b. Approval from other countries. | Other countries' recognition. | The existence of an archipelagic country is supported by international sea law, and with the recognition of an archipelagic country, all waters within the archipelagic lines become Indonesia’s sovereignty. |
| c. There is an effective and sustainable implementation. | There was treatment in the area for a substantial period of time. | There is management of Tomini bay by the province (through the BKPRS forum) and by the central government (part of the WPP RI 715) which is strengthened by Law number 23 of 2014 concerning Regional Government. |
| d. | Being a vital interest of a country. | The existence of Tomini bay supports the lives of fishermen around the bay, and it has been the pride of the community that the three provincial governments surrounding the area formed a forum to discuss about the management of the bay. |
4. Conclusion

Tomini bay has a cover line length of more than 24 nautical miles, so it does not meet the juridical bay requirements in UNCLOS. However, Tomini bay has the potential to be declared as a historical bay because it fulfills several factors that have been mentioned in previous studies. Historical bays may open the possibility to change the status of the waters inside it as stated in UNCLOS. When Tomini bay is proclaimed as a historical bay, the status of the waters inside it will change from archipelagic waters into internal waters. Within the internal waters, Indonesia has the right and should take necessary actions to prevent any activities performed by non-innocent foreign passages. In the case of Tomini bay, since its location is closed to the Indonesian Archipelagic Sea Lane III where many foreign passages occur, and considering the richness of its marine ecosystem, it is very important to protect the area. The Government of Indonesia needs to initiate studies over other similar potential bays in order to make proclamation of Indonesia’s historical bays, so that Indonesia's sovereignty over the waters becomes stronger.

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