The concept of an archipelagic Province in Indonesia

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Abstract. Indonesia is an archipelagic state consisting of 17,504 islands connected by the sea. Two-thirds of Indonesia's area consists of the sea which has natural resource potential that has not been optimally utilized due to the government's orientation which still prioritizes development on the land. Based on the mandate of Law Number 23 of 2014 concerning Regional Government and Law Number 1 of 2014 concerning the Zoning Plan for Coastal Areas and Small Islands (RZWP3K), that the boundaries of provincial authority in marine areas are as far as 12 nautical miles from the coastline. Several provinces in Indonesia have archipelagic characteristics, which have a sea area larger than the land. The management in RZWP3K only regulates the area of the sea area based on the provisions as far as 12 miles from the coastline, while the provincial sea area characterized by islands is not yet fully covered by the area of the RZWP3K. Provincial sea regulation cannot be equated with a province without archipelagic characteristics. Therefore, the management of archipelagic province needs to be reviewed using the concept of an archipelago based on the United Nations Convention Law of The Sea III. By implementing the concept of an archipelagic state for Provinces with archipelagic characteristics and following existing laws and regulations, there will be a development of a marine management concept for the archipelagic province. The results of this study are in the form of a provincial marine management concept that can optimize the management of natural resources contained in it.

1. Introduction
Indonesia is an archipelagic country whose land is connected by oceans. The concept of an archipelago nation was first voiced by Indonesia in international forums known as the Djuanda Declaration [1]. This concept changes the paradigm of determining the maritime boundaries of a country with archipelagic characteristics, which was adopted in the United Nations Convention Law of the Sea (UNCLOS) III which was held from 1973-1982. With the content of the concept of an archipelagic country in UNCLOS III, all countries that have ratified UNCLOS III can apply the concept of an archipelago country as long as it meets the requirements as an archipelago [1] [2].

A State can claim to be an archipelago if it meets the requirements for land and sea area in the ratio 1: 1 to 1: 9. The concept of determining the area is carried out with special treatment which is part of the characteristics of an archipelagic country. The basepoint is determined by the concept of placing a point on the low water line with the provisions of the outermost point at outermost Island, which is then used as the basis for determining the baseline. Based on the provisions of UNCLOS III article 47 paragraph 2, it states that archipelagic baselines can be drawn up to 100 nautical miles, with additional provisions that archipelagic baselines can be drawn up to a maximum of 125 nautical miles with a total of 3% of the total baseline as a whole [2]. Indonesia itself has ratified UNCLOS III so that it applies the concept of an archipelago state in determining maritime boundaries [1].

An area with archipelagic characteristics has different management needs from an area that is not characterized by islands. This is a problem in the management of provinces in Indonesia, some of which have the characteristics of an archipelago states. Provinces with archipelagic characteristics are defined as provinces that have geographic characteristics with a sea area that is wider than the land in
which there are islands forming a group of islands so that they become a geographic and socio-cultural unity [3]. Referring to this definition, there must be strong connectivity between the islands to form an integrated unit.

Determination of the provincial sea area is determined as far as 12 nautical miles from the coastline to the open sea or archipelagic waters [3]. In particular, Law Number 23 of 2014 concerning Regional Government discusses provinces characterized by islands with written provisions that differentiate them from other Provinces. However, technically, the determination of the area uses the concept of a coastal state, as is the case with other provinces that do not have archipelagic characteristics. The determination uses a line drawing as far as 12 nautical miles from the coastline. In determining regional boundaries, the coastline used is the high water line found on the islands in the Province, so that if there are more than 24 nautical miles between islands in the province, there will be gaps in the sea area that are not managed by the Provincial Government.

The authority of the Provincial Government covers the management of all-natural resources in the region, except Oil and Gas [3]. When referring to the concept of an archipelagic state, achieving the goals of National Development is manifested in the archipelago concept which includes the creation of the archipelago as a single political, socio-cultural and economic unit [4]. The same concept needs to be applied in the province to realize an integrated regional development between islands.

2. Materials and Method
This study uses a quantitative method by calculating the ratio of the sea area formed by the RZWP3K data and the sea formed by the application of the concept of an archipelago states. The data used are vector data of RZWP3K of East Nusa Tenggara Province and vector data of Rupa Bumi Indonesia (RBI) of East Nusa Tenggara Province. The results of data processing are used as the basis for analyzing the impact of the application of the archipelagic state concept for provinces in Indonesia.

2.1. Field work
This research was conducted in the Province of East Nusa Tenggara which has archipelagic characteristics. This province is part of 8 Provinces which claim to be a archipelagic province. The map of East Nusa Tenggara Province is presented in Figure 1.

![Figure 1. East Nusa Tenggara Province (source: Badan Informasi Geospasial (BIG))](image)

Apart from East Nusa Tenggara, seven provinces that claim to have archipelagic characteristics are the Riau Islands, West Nusa Tenggara, Maluku, North Maluku, Bangka Belitung, North Sulawesi, and Southeast Sulawesi.
2.2. Data Analysis

The data used in this study are spatial data to calculate the comparison of the sea area that applies the island concept to other provinces. The data used are RZWP3K vector data for East Nusa Tenggara Province and vector data for the Rupa Bumi Indonesia (RBI) map of East Nusa Tenggara Province. From the RBI vector data, the coastline data is extracted as the basis for determining the provincial basepoint which is determined based on the concept of the outermost point at the outermost island.

The RZWP3K and RBI data are data used in determining the sea area for an archipelagic province that has not met the criteria as the application of the Archipelago State concept. As a result, among the islands in the province with archipelagic characteristics, there is a sea whose management is not carried out by the Provincial Government, while for development activities based on community activities it is not integrated between islands. RBI and RZWP3K data are shown in Figure 2.

![Figure 2. Province Sea, base on RZWP3K](image)

Based on the calculation of the provincial sea area which refers to the RZWP3K data, it is found that the sea is 86,055,892 km². Area calculations are carried out in the Universal Transverse Mercator Zone 51 South projection system.

To apply the archipelagic state concept to the province of East Nusa Tenggara, a basepoint is determined as the basis for drawing baselines to be used in determining sea boundaries. Illustration of basepoint determination at vertical position is presented in Figure 3.

![Figure 3. Basepoint Determination](image)
The basepoint is determined from the meeting of the sea level with the coastal topography which will form the coastline. The coastline consists of the high water line, the mean water line, and the low water line [5]. Determination of shoreline in determining sea area using high water line [6].

The baseline used is a combination of normal baselines and straight baselines for islands. The normal baseline is a zero depth contour line whose shape follows the coastal topography. The straight archipelagic baseline is a straight line connecting two basepoints with a maximum length of 100 nautical miles, with the additional provision that it can reach a maximum of 125 nautical miles which is 3% of the total number of straight base lines of islands used [2]. The results of basepoint determination and provincial baseline are shown in Figure 4.

![Figure 4. Basepoint and Baseline East Nusa Tenggara](image)

From the predetermined baseline, a sea area will be formed which will cover the inner sea of the baseline, and the sea drawn 12 nautical miles from the baseline. The determination of the provincial sea based on the application of the archipelagic state concept is shown in Figure 5.

![Figure 5. Province Sea, base on Implementation of Archipelagic States Concept](image)
Based on the calculation of the provincial sea area which refers to the application of the archipelagic state concept, the sea area is 152,450.83 km$^2$. Area calculations are carried out in the Universal Transverse Mercator Zona 51 South projection system.

3. Result and Discussion

3.1. Area Comparison
Provinces with archipelagic characteristics that apply the concept of an archipelago will have a larger area than an ordinary province. Following the concept of an archipelagic country, the ratio of land and sea areas should be in the range of 1:1 to 1:9. The comparison of the provincial sea area formed from the RZWP3K data and the provincial sea formed from the application of the concept of an archipelagic country is depicted in Figure 6.

Figure 6. Comparison of Regional Sea Area East Nusa Tenggara Province

From the calculation results, the data is tabulated in Table 1. From the tabulated data, a significant increase in sea area will be obtained by the Provincial Government of East Nusa Tenggara. Based on the requirements stipulated in UNCLOS III regarding the comparison of land and sea areas, both the provincial sea formed from the RZWP3K data and the implementation of the concept of the archipelagic nation meet the requirements. However, the difference lies in the inter-island connectivity which supports the creation of geographic and socio-economic unity as part of the management of marine areas. Apart from increasing the area, the application of the concept of an archipelagic state for provinces in Indonesia also supports integrated management between islands because they are not separated by archipelagic waters managed by the Central Government.

Tabel 1. Provincial sea area comparison

| No | Domain                                         | Area (Km$^2$) | Ratio |
|----|------------------------------------------------|--------------|-------|
| 1  | East Nusa Tenggara Land                       | 46,137.87    | 1     |
| 2  | Regional Sea base on RZWP3K                   | 86,055.89    | 1.86  |
| 3  | Regional Sea base on Archipelagic State Implentation | 152,450.83  | 3.3   |
3.2. Implications of the Difference in Area of Archipelago Provinces
The increase in area that occurred after applying the concept of an archipelagic country had implications for an increase in management funds. One of the parameters used in the provision of the General Allocation Fund (DAU) is the size of the area. Apart from the DAU, there is also a Special Allocation Fund (DAK) which is determined through the suitability of development in the area in accordance with the national development priorities [5]. The impact of the application of the archipelagic state concept to provinces in Indonesia is the increase in funds that must be allocated by the central government for provinces characterized by islands. With the increase in the DAU, the capacity of the Provincial Government in managing natural resources in its territory will increase, especially in terms of financing. Geographically, the province is characterized by an archipelago which demands higher mobilization costs using ships, so that inter-island connectivity can be guaranteed to carry out development coordination. Increasing the DAU for provinces characterized by islands needs to be accompanied by an increase in the capacity of the Provincial Governments in managing natural resources in their territories, so as to increase development that has a positive impact on the welfare of their people.

3.3. Implementation of the concept of an archipelagic province within the framework of the Unitary State of Indonesia
Since the beginning of the decentralization era in Indonesia, regional autonomy has become a special concern in the management of natural resources in the province. Law Number 23 of 2014 concerning the Regional Government leads to decentralization. If we refer to the theoretical model of the relationship between the central government and regional governments according to Clarke and Steward, this kind of decentralization includes The Agency Model. The model in which the local government does not have significant power so that its existence is seen more as an agent of the central government in charge of carrying out Central Government policies. Therefore, in this model, various detailed instructions in legislation as a control mechanism are very prominent. This is a consequence of the form of a unitary state, where the central government controls the administration of government. The form of central government control is manifested in the transfer of functions through the formulation of norms, standards, procedures, and criteria (NPSK) which are compiled by the central government as a basis for local governments to carry out functions that have been given by the central government. In addition, the central government also carries out guidance and supervision of the administration of Government Affairs which is the authority of the Regions. government affairs between ministries and regional governments, the President delegates the authority to the Minister of Home Affairs to act as coordinator [7].

With the spirit to reduce the centralization of power, a decentralized government can open a space for effective management and has specific characteristics for certain regions, so that it can be carried out effectively. The wider the room for the Provincial Government to move in managing its territory, the more opportunities for effective management by involving community participation as the spearhead of natural resource management. With the increase in the provincial sea area and the strengthening of the connectivity between the islands, the development paradigm in an archipelago-characterized province can be changed to be oriented towards the ocean. With this paradigm, maritime-based development can develop and optimize the management of natural resources in the provincial sea area.

4. Conclusion
Archipelagic provinces have different geographical characteristics from other provinces that require special treatment from the Central Government. The calculation of area using the concept of the Archipelago State adds the area and connectivity between islands so that an integrated development between islands can be realized without any division of authority with the Central Government. The
fewer agencies involved, the simpler the coordination pattern and minimizing the overlapping authorities in managing an area.

This research shows that the determination of archipelagic provinces in Law Number 23 of 2014 concerning the Regional Government is not consistent in the formation of their territories. The sea area of a province is determined by determining the sea of the coastal state which will reduce the sea area of the archipelagic provinces. Recommendations from this research are directions to achieve consistency in the application of the archipelago concept in the provinces. The sea area of a province must be determined by the method of forming archipelagic waters, using archipelagic baselines that will cover a series of islands in an archipelagic province.

By applying the concept of an archipelagic state as a whole in an archipelagic province, the management of marine areas can be realized optimally with inter-island connectivity which is fully managed by the Provincial Government. This condition is the basis for developing a maritime-based development paradigm, as a manifestation of the insight of the Indonesian as archipelagic states.

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