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Typologi of Island City in Indonesia

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Abstract. As an archipelagic country, Indonesia consist of thousands of island. Some of them are big enough to contain growth and become the center of settlement and activity in Indonesia. However, growth and habitation are not only mushrooming in main island. Several small island also experience growth and become densely population places and simply become a city within island. This study aims to identify island city in Indonesia and creating the typology of the island city. This study is using exploratory approach and heavily rely on statistical figure of every single autonomous region as data sources. Eventually, this study found twelve (12) island cities in Indonesia, and three distinctive typology of island cities.

1. Introduction

Indonesia is one of five archipelagic countries which have been approved by United Nation on the Law of the Sea or UNCLOS along with Fiji, Papua New Guinea, the Bahamas and the Philippines. This approval issued within the UN Convention on the Law of the Sea which held on 1982. Based on the convention, article 46, Archipelagic State means “a State Constituted wholly by one or more archipelagos and may include other islands” (UNCLOS, 1982).

Around 300 million of Indonesian lived in 17,500 islands in Indonesia. Among them, there are five main island; Sumatera, Java, Kalimantan, Sulawesi and Papua. Besides, there are also group of island such as Maluku archipelago and Lesser Sunda. Apart from main island land and group of island, there are also smaller group of island, spread across Indonesia, from Natuna Archipelago, Kepulauan Riau, Kepulauan Seribu, Kepulauan Aru, and Kepulauan Talaud and dozens of other small islands.

Java Island, home of 141 million of Indonesian (BPS 2012), is the densest and most developed island in Indonesia, possessing six metropolitans; Jakarta Raya, Bandung Raya, Cirebon Raya, Kedungsepur, Kartamantul and Gerbangkertasusila. Java is growth center of Indonesia.

However, center of growth are not limited in main-island. Several smaller island, apart from main island, also experience advancement because of various push factors, whilst it populations are still not comparable with main island. However, some of them are granted administrative status such as City of Sabang in Weh Island (granted municipality status in 1965), City of Batam in Batam island (1999), City of Ternate in Ternate Island (2010), City of Tarakan in Tarakan Island (1997), City of Tual in Tual archipelago (2007), City of Mataram in Lombok Island (1993) City of Ambon in Ambon Island (1958).

This phenomenon indicates that smaller island in Indonesia have tendency to developed as urbanized places. However, Island tend to have limited natural resources and land area, complex geography and more vulnerable to disasters. (Bass & Dalal-Clayton, 1995). Those limitation means that smaller island have distinguish urban process from other places, along its extreme density since it located in smaller are, an island. (Grydehøj et al., 2015)

Purpose of the study is to acquire a comprehension of urbanized small-island in Indonesia by assessing every local autonomous regions based on their spatial, economic and demographic characteristic. This study will be a platform to develop new approach and perspective in managing cities and island. Therefore, several objectives are designed in order to comply the main purposes. Objectives in this study, are:
• To explore and identify island city in Indonesia
• To identify the typology of island city in Indonesia

2. Methods
The To understand small but urbanized island which have considerable amount in Indonesia, this study reflect on similar but not identical concept called island city as the root theory, but not applicable entirely. This study is using explorative approach, while the information and data for the study are collected from statistical document issued by Badan Pusat Statistic (National Statistical Bureau), published in 2015. Every region

But what is Island Cities? Is it a city located in island, or an island which already urbanized? (Tutt, 2014) argue that the concept of island city could be an oxymoron concept since it possess contradictive and paradoxical components; A city, which are huge, expanding progressively and chasing into the future; and an island which are obsolete, constrained and secluded. Yet, this paradox needs to be challenged since most of the densest place in the world are located on small island. (Grydehøj et al., 2015).

Table 1. Island City Classification

| No | Source                          | Island City Classification                                                                 | Example                  |
|----|---------------------------------|-------------------------------------------------------------------------------------------|--------------------------|
| 1  | (Tutt, 2014)                    | Cities which located in smaller island contagious to larger land mass, expand and diffuse with it surrounding, leaving insular characteristic | Singapore, Hong Kong, Montreal | Venice, Visby |
|    |                                 | Historical cities which bounded by the time and dying without tourism attraction which most of them are walled cities in the past |                          |                        |
|    |                                 | Modest cities with heavy limitation to expand, literally and metaphorically. Have subsistence activity | (examples are not given) |                        |
| 2  | (Grydehøj et al., 2015)         | Cities which are contagious with one or more small island                                  | Abu Dhabi, Lagos, Mumbai   |
|    |                                 | Cities which are located one or more dense and urbanized Small Island                      | Lagos, Montreal          |
|    |                                 | Cities located within mainland                                                             | Shanghai, Tokyo, Toronto  |
|    |                                 | Cities within small island or archipelagos that cannot be regarded as an urban zone, but already meet the requirement of urban function | Bahrain, Malta, Penang    |

Sources: Tutt (2014), Grydehoj et al (2015)

These classifications mainly talks in spatial context. The way city located, and city relation with main land are common variable in both classification. First analysis is identifying the spatial attributes of each region which classified based on their “islandess” characteristic or simply measuring how island an island, and its distance from main land. In broader context, every places in Indonesia have insular characteristic since Indonesia is a large group of island. However, in this study, five main
islands are not considered as an island. Rather, these five main islands are considered as a landmass area which don’t possess insularity. Remote, rural and distantly are true traits of island. Hence, in order to be eligible island city, a region must located outside Indonesian main island; Sumatera, Java, Kalimantan, Sulawesi and Papua island.

The second assessment is measuring urban characteristic of each region. Several definition of city that being used are shown in table 2. In summary, city is defined as a region which possess a certain amount of population and certain types of economic activity.

Table 2. Definition of City

| No | Source | City Definition |
|----|--------|-----------------|
| 1  | Law No 26/2007 on Spatial Planning | Regions which main activities are non-agriculture and have functions as a residential urban neighborhood, and possess concentration and distribution of government services, social services, and economic activities. |
| 2  | National Statistical Bureau (Rule No 37th 2010) | Total Population is more than 10,000 persons<br>Population Density is more than 5000 person/Km²<br>Less than 25% of total population work on primary sectors |

Sources : Law No 26/2007

Therefore, the definition of island city in Indonesia is “a region which located outside of Indonesian Main Island and fulfill urban characteristic; population density and economic structure”. To identify island cities in Indonesia, 506 regions (Kabupaten/Kota) are assessed. Although Indonesia recognized two type of autonomous region; Kota (municipalities), and Kabupaten (regencies) based on their legal status and capacities, these two classifications are considered in the same position, as a city. Facts that there are actual cities classification in Indonesia is ignored in order to accommodate regions which not have cities status but already fulfill characteristic of a city.

3. Typologi Island

For Based on analysis, there are only 12 autonomous region, from total 506 autonomous region which meet the features of island city. List of the regions is shown in Table 3.

Table 3. Typologi Island of The City in Indonesia

| No | Name          | Population | Density (Person/Km²) | % of Primary Sector | Typology                                      |
|----|---------------|------------|----------------------|---------------------|-----------------------------------------------|
| 1  | Kota Batam    | 1,037,187  | 1,450                | 1                   | Single zone on group of small island          |
| 2  | Kota Denpasar | 863,600    | 6,758                | 1                   | Part of small island, sharing with other region |
| 3  | Kota Mataram  | 450,226    | 7,345                | 3.12                | Part of small island, sharing with other region |
| 4  | Kota Kupang   | 390,877    | 2,168                | 3.64                | Part of small island, sharing with other region |
Most of the island cities in Indonesia already have municipality status, leaving Kabupaten Bintan as the only region with regency status. Kota Batam is the most populous island city with number of population is more than 1 million person, while Kota Sabang is the least populous island city. However, the densest island city is claimed by Kota Mataram, followed by Kota Denpasar as the second densest island city in Indonesia.

There are three typologies of island city based on the way they located. First typology is island city which located on group of small island, scattered. Kota Batam and Kabupaten Bintan are classified as this group of island city.

Second typology is island city which located on a single island. This island city occupy entire/most of the island as its territory. Kota Ambon, Kota Ternate, Kota Sabang and Kota Tarakan are classified into this typology.
Third group is island city which located in relatively-large small island and share the ownership of the island with other regions. This typology is the most common island city in Indonesia. This group consist of Kota Denpasar, Kota Bima, Kota Kupang, Kota Mataram, Kota Tanjung Pinang and Kota Pangkal Pinang.

Figure 2. (left) Map of Kota Ambon, (right) Map of Kota Ternate

Figure 3. (left) Map of Kota Tarakan and (right) Kota Sabang

Figure 4. (left) Kota Denpasar, (right) Kota Bima
4. Conclusion
Concept of island city arise because of densely populated city which have economic shifting from primary activity to secondary and tertiary activities located on land scarce area. As insularity, or islandess are strongly related to heavy limitation on land and natural resources. Consequently, the combination of growth rate and the limitation create a new characteristic of places and obviously have significant differences with other in Indonesia.

Furthermore, this study conclude that there are three distinctive type of island city in Indonesia and leads to different characteristic and traits in managing island city. This distinction means that each type of island city need differences managing approach. Assuming every island cities are similar might leads problems in foreseen future. Hence, the understanding of island city and the typology of island city are necessary.

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