

Coastal Line Development of Jakarta Bay driven by its Economic Power by Jaap C Levara

- **Background**

Jakarta is located on the northwestern coast of Java Island, at the mouth of the Ciliwung River on Jakarta Bay, which is an inlet of the Java Sea. The northern part of Jakarta is constituted on a plain land, approximately eight meters above the sea level. And some the areas are below sea level because of the land subsidence occurrence every year as the consequence of very intense utilization of groundwater.

This contributes to the frequent flooding. The southern parts of the city are hilly. There are about 13 rivers flowing through Jakarta, mostly flowing from the hilly southern parts of the city northwards towards the Java Sea. The most important river is the Ciliwung river, which divides the city into the western and eastern parts. The city borders the province of West Java on its East and South side and the Province of Banten on its West side



FIGURE 1: Orientation Map of Jakarta

Jakarta (also DKI Jakarta), is the capital and largest city of Indonesia. It was formerly known as Sunda Kalapa (397-1527), Jayakarta (1527-1619), Batavia (1619-1942), and Djakarta (1942-1972). Located on the northwest coast of the Java Island, it has an area of 661.52 km² and an official population of 9,6 million in year 2010. Jakarta currently is the eleventh largest city, fifth largest metropolitan area and ninth most densely populated city in the world with 14,512 people per sq km. Its metropolitan area is called Jabodetabek and contains more than 26 million people, and is part of an even larger Jakarta-Bandung megalopolis.

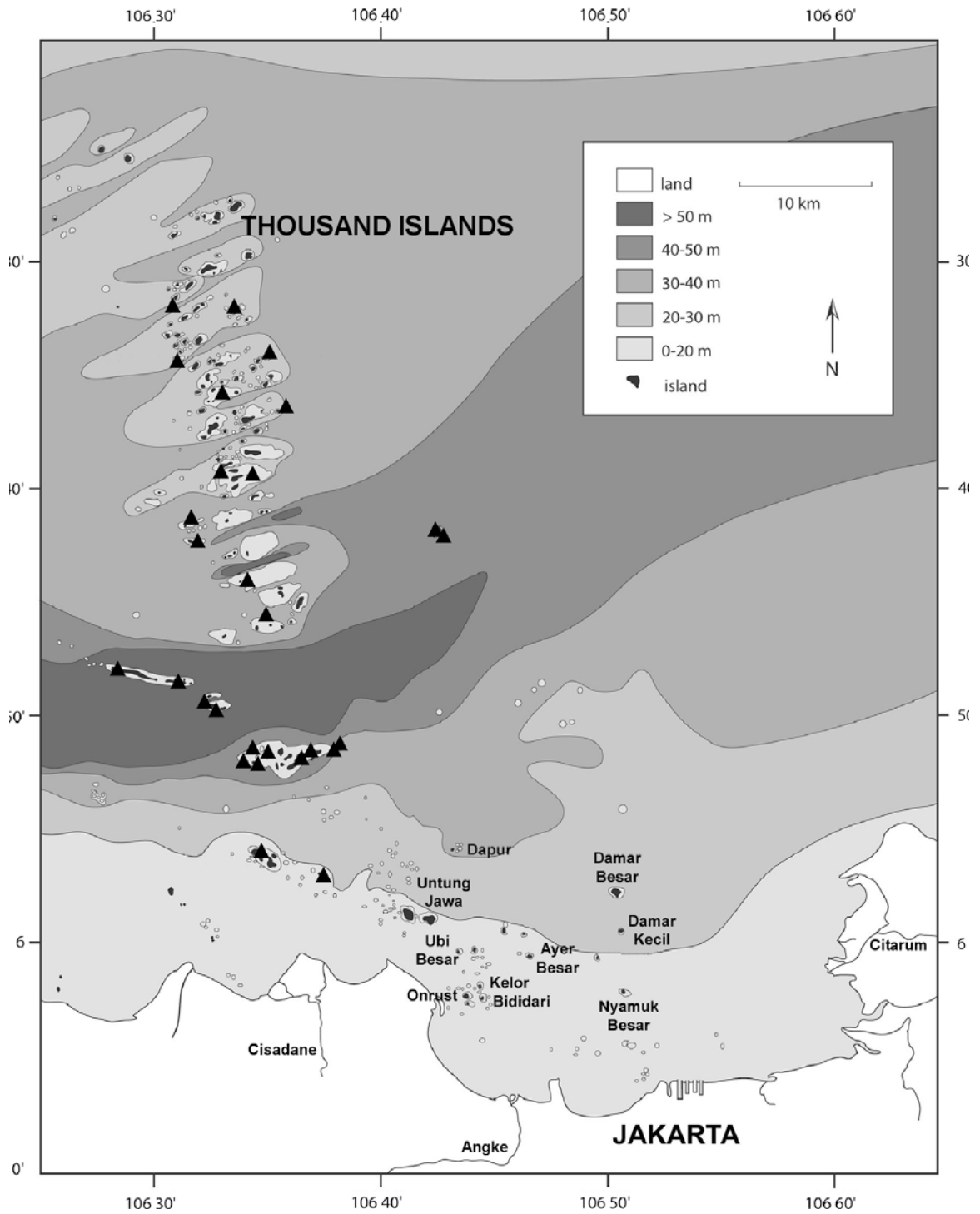


FIGURE 2: Jakarta Bay

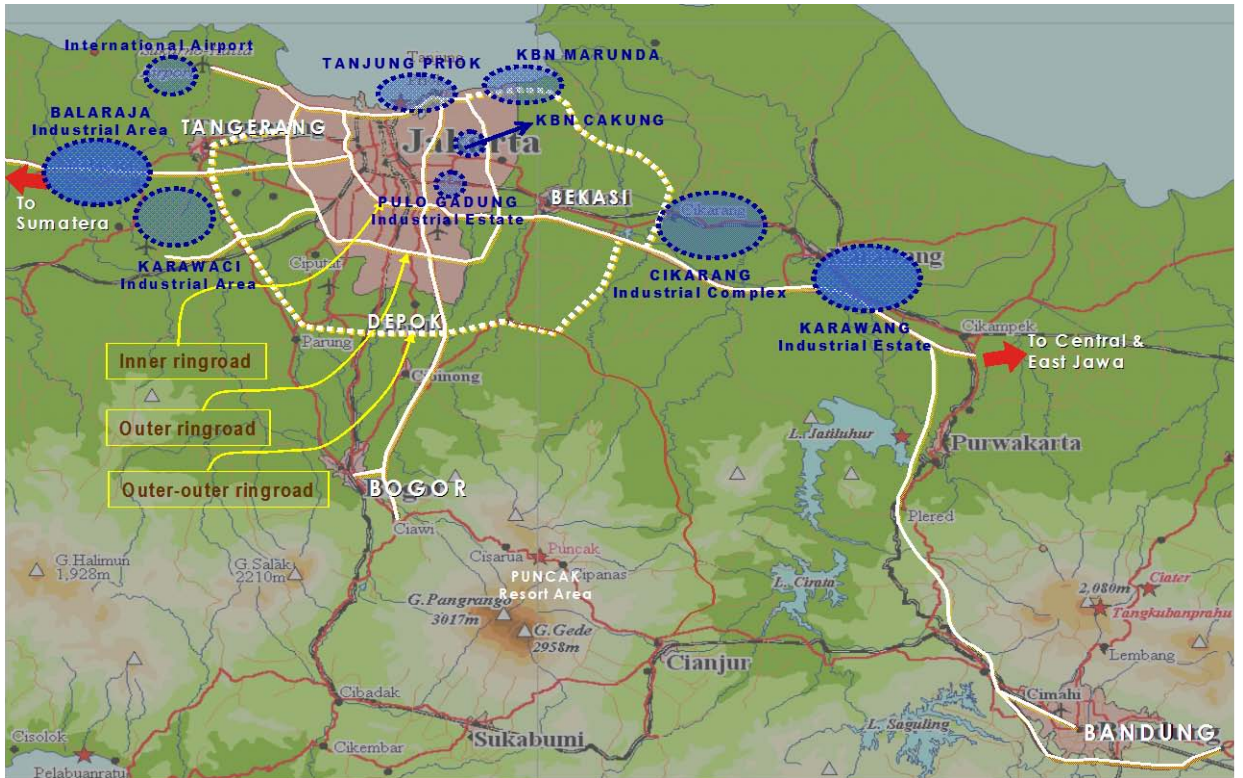


FIGURE 3: The Administration Boundaries of the City of Jakarta

- **Existing Condition of Jakarta Bay**

There are 11 ports located along the coastal line in the area of Jakarta Bay (within Jakarta administrative area) in which the distance one location to another is about 1-2 km only. In relation with the spatial plan of Northern Coastal Area of Jakarta, the position of those ports are as follows:

1. Western Area: Kawasan Barat : ferry port of Kamal Muara and fishery port of Muara Angke;
2. Central Area: Marina of Peral Coast (Pantai Mutiara), Fishery port of Muara Baru, Regional Public Port of Sunda Kelapa dan Marina Ancol;
3. Eastern Area: National Public Port of Tanjung Priok, Regional port of Kalibaru, and Fishery port of Cilincing dan Special Public Port of Marunda.

Beside those 11 ports and marinas there are some other type of activities such as recreation area of Ancol located in the Central of Coastal Area and also Luxury residential area of Pearl Coast which has also its facility of Marina.

Pearl Coast was originally a mangrove forest which had been converted into luxury residential areas 25 years ago. But afterwards it brings a problem with inundation that covered the only toll road connecting to the International Airport of Jakarta which has caused a serious problem with the Air Transportation of Jakarta.

Ancol Beach is the only beach that people of Jakarta can use for recreation purpose with some entrance fee in other words it is a commercial beach. At present Jakarta does not have a public beach that can be used for free which indicates that commercial purpose factor has been driving some policies in Jakarta development strategies.



FIGURE 4: Present Distribution of Main Ports along the Coastal Line of Jakarta

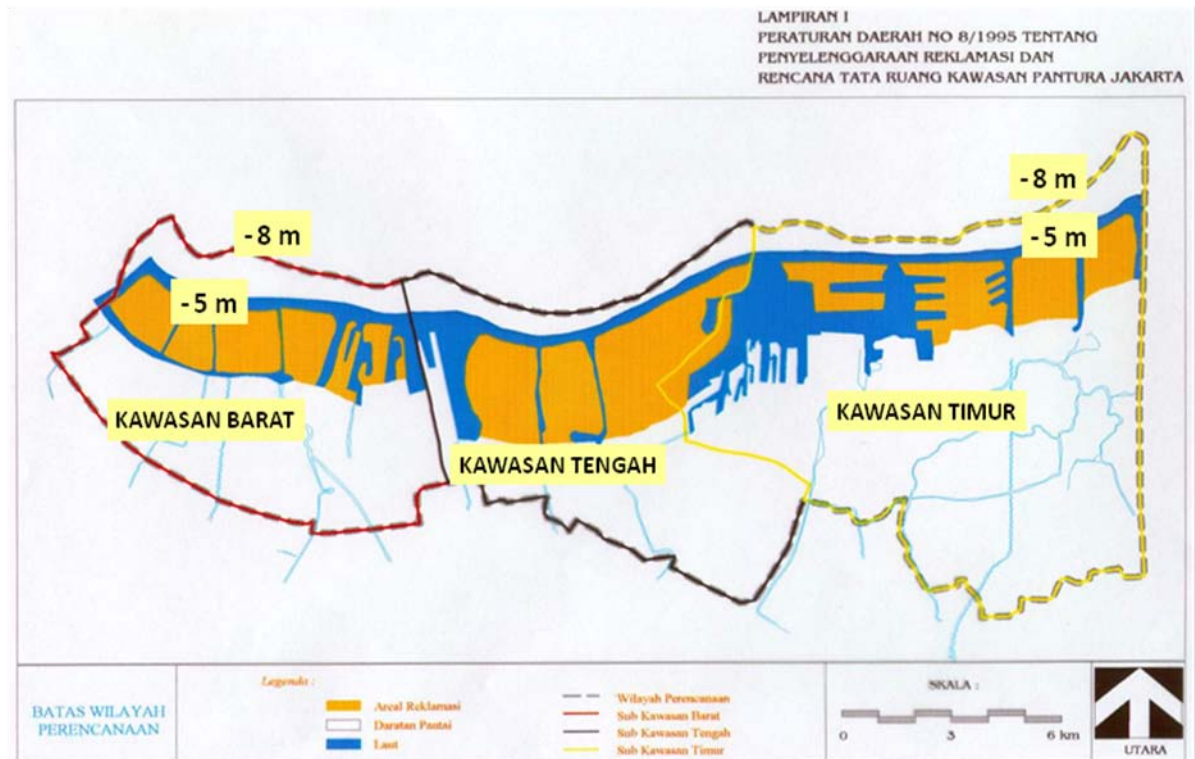


FIGURE 5: Development Area Division of Coastal Area of Jakarta

- **Issues on the Development Plan of Jakarta Bay**

As Jakarta has been growing not only as the Capital of Indonesia but also as the commercial center, education, and service center as well since it is surrounded by several important industrial estates located in Jakarta and its satellites within Jabodetabek Metropolitan areas, Jakarta has required to provide all facilities to support its functions.

Several issues of development related with its role and functions are as follows:

- The scarcity of land available to accommodate the needs of its activities such as commercial areas, residential areas, public service facilities and amenities (open space and green park etc)
- The land price has been sky rocketing in many strategic areas.
- The activities have been growing steadily from time to time which has made Jakarta as one of the richest province in Indonesia.

- The gap between the poor and the rich has been widening.

In relation with coastal development areas, the issues are as follows:

- The need to support the existence of Port of Tg Priok as the interface of Jakarta and its surrounding areas with outside world by providing more facilities in sea side and land side areas.
- The need to develop the Special Economic Zone at the North east Coast of Jakarta.
- The need to have more land available for future development.
- The need to maintain the existence of Fishery ports
- The need to provide the people of Jakarta with Sea side Recreational Areas as well as public beach which free of charge for low income people.
- The need to overcome the periodically inundated areas within Jakarta areas since some the areas are below sea level because of land subsidence.

- **Future Plan of Coastal Line of Jakarta Bay**

The Government of DKI has planned to make Jakarta to become a real big city in the future by changing its coastal line further toward to the sea of about 8 km from its existing position. It is planned that Jakarta will become a Water Front City as shown in figure 5 below.

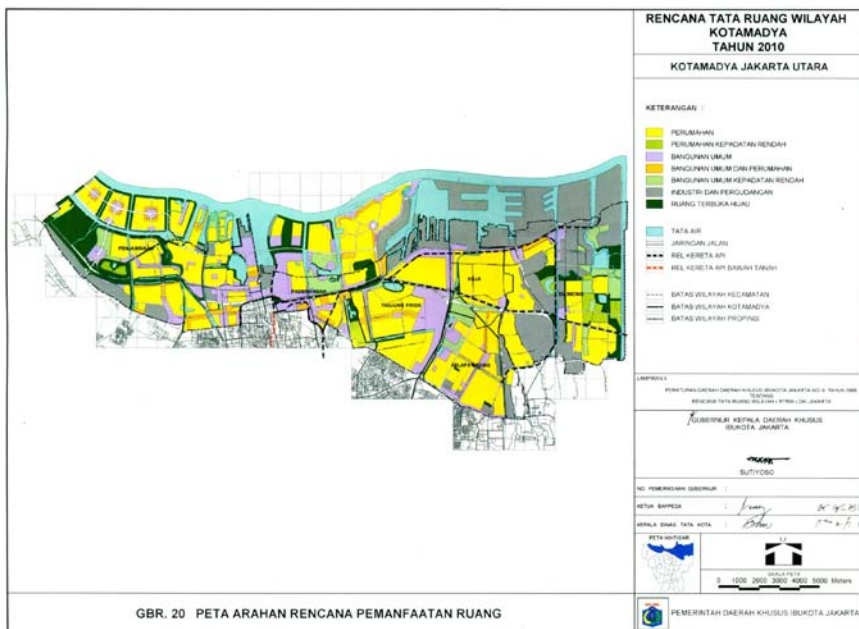
This Water Front City will cover the area of 5 km to the land side and 8 km to the sea side along its coastal line. The approach will be by constructing some small islands in the front of its shoreline instead of total reclamation to the whole water front area of Jakarta.

The government of DKI has confirmed that this approach will be implemented for the future needs of its development.

But still, some environmental observer such as the head of National Sea Garden of Thousand Island of Jakarta Bay said that this approach will damage the ecosystem of the ocean substantially as well as the fishery villages in some areas along the coastal line. According to the planning map as shown below, the islands which will be formed in the future seems will occupy most of the water front areas by which will off course change the character of ecosystem as well as the activities in along the coastal line such as recreation and fisheries.

The real calculation on the cost and benefit that might occurred because of this approach on environmental aspect must be undertaken not just merely on financial aspect. Quantitative calculation on every related aspects must be undertaken comprehensively and carefully in order ensure that this Water Front City plan is safe and acceptable by stakeholders.

Furthermore, the interest of low income people such as fishermen who are resided along the coastal line must be protected as well as public beach for low income people. The problem of inundated land and flooding in relation with tidal flow, and land subsidence must also be included.



GAMBAR 4.1. : TATA RUANG WILAYAH KOTA JAKARTA UTARA TAHUN 2010 PERDA NO. 6 TAHUN 1999

FIGURE 6: Future Plan of The Coastal Area of Jakarta Bay

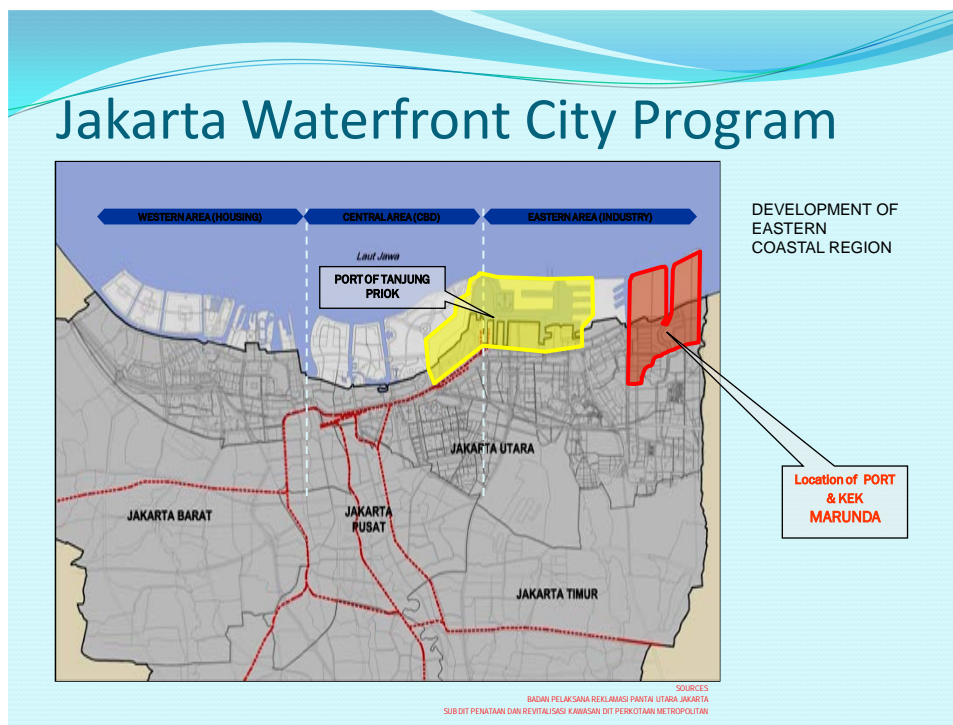


FIGURE 7: Water Front City Plan of Jakarta

The Ministry of Transportation has approved to develop the port of Tg Priok in the future by extending its land of operation to the shore of about 5 km through reclamation at the outer of its present breakwater as shown in figure 5 below.

This plan is also prepared by considering the future plan of the coastal area in which some adjustment had been made in order to meet the character demand of its type of activities such as container terminal. The existing capacity of the port of Tg Priok will be surpassed by container traffic flow by year 2010. So the demand to extend the areas for cargo handling facilities is urgently needed and can only be met by reclamation to the shore in which it will be in line with future plan of Coastal Line of Jakarta.

It means the length of the berths of the port are also extended to its optimum capacity in accordance with the availability of the space within the port area. Unfortunately, the space available can only cope the demand of the container traffic flow until 2019. It means two options will be considered to overcome the future problems. Firstly, extending the port area to the sea or constructing other terminal at the adjacent area such to the east or to the West with its consequences. Secondly to reclaimed the area of the West of the Port. At present, the Government of Jakarta is inclined to build new Terminal to the East of the Port by which it will consequently eliminate the fishery villages and port.

Conclusion

The strategy that has been adopted by the Government of Jakarta is to gain more land for future need of space to accommodate its activities since the land is very scarce and expensive. The reclamation will take place from the shoreline till – 8 m depth of sea. It means at the distance of about 6-8 km from the existing coastal line. It seems that reclamation is the only way of providing the additional space for varieties of activities as we can see to what happened in Singapore. But on the other hand the reclamation will create canals and ponds in between the original coastal lines and the reclaimed area. And it means the existing beach even the existing potential public beach will not have a direct connection to the open sea which will change substantially the character of the present recreation area.

In addition, the planning of building a new terminal of Tg Priok Port will also change even eliminate the fishery village at Kalibaru at the North East of Jakarta, since all of these areas will be reclaimed for providing the back up area of the Container terminal in order to support the existence of Special Economic Zone in the near future. While the fishery port can not be located in adjacent to the Container Terminal since they are operating in two different characters of vessels which may potentially cause serious accident or collision within the basin of port in the future.

The approach of developments for the coastal area that have been adopted by Government of Jakarta is still need in depth calculation for the harmony existence of different activities either commercial or non commercial activities. These considerations is unavoidable to ensure that all level of societies needs of Jakarta people can be fulfilled by the Government of Jakarta as much as possible.

The only commercial or economic based approach will sacrifice the needs of certain communities especially for low income people who need to be supported by the government for the sake of social justice in accordance with the constitution.

REFERENCE:

- Government of Special Area of Jakarta - Spatial Plan of Northern Coastal of Jakarta year 2010 — Local Government Regulation no 6 Year 1999
- Indonesia Port Corporation II - Port Master Plan of Port of Tanjung Priok – Jakarta — 2007
- Dinas Perhubungan Provincial Government of Jakarta - Feasibility Study of Marunda Port of Jakarta — 2009
- Mega Agung Company Ltd- Port Master Plan of Tarumajaya –Jakarta-2009
- Dinas Perhubungan (Communication Service) Provincial Government of Jakarta - Study on Port Configuration Arrangement at Jakarta Bay- -2009
- Sancia E.T. van der Meij ^{a,*}, Robert G. Moolenbeek ^b, Bert W. Hoeksema- Decline of the Jakarta Bay molluscan fauna linked to human impact - Marine Pollution Bulletin -2009
- DJ Archuleta – Jakarta Coastal City Strategy 2007-2020 - 2008