

Revitalization of Spatial Planning in Indonesia : Toward Sustainable Urban Development

By :

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SPATIAL PLANNING AND ECOLOGICAL ISSUES

- ◆ Spatial planning as a policy process and policy tool, governs development activities towards livability, safety, productive, and sustain human settlements.
- ◆ Within the framework of national development, the role of spatial planning is :
 1. to ensure the integration of inter sectoral and inter regional development as well as synchronizing the policy with the stakeholders, including the government, the private sector, and the community
 2. Ensuring the above integration to be sustained from economic, social, and environmental perspective
 3. Becoming an integral part of solutions in responding to actual dynamics in development.

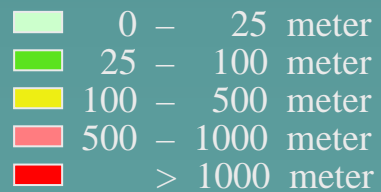
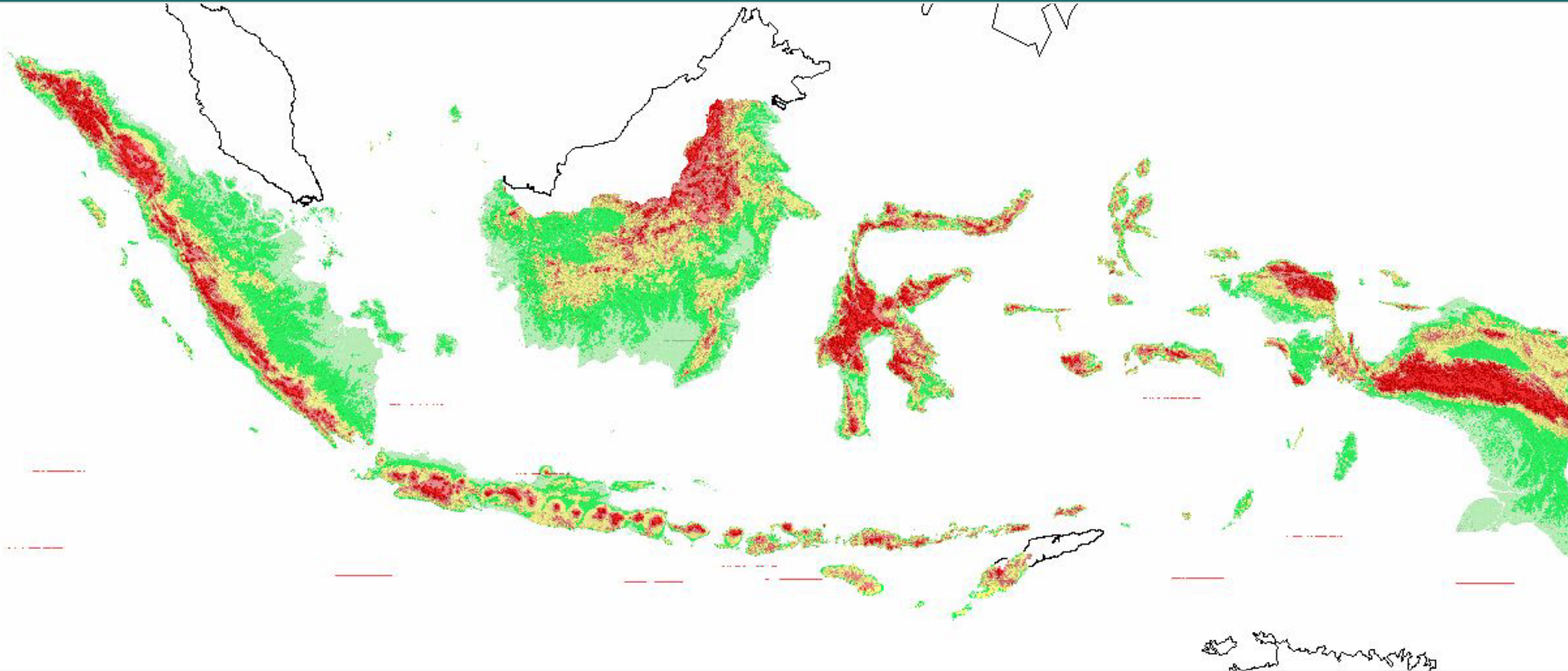
IMPLEMENTATION OF SPATIAL PLANNING

(1)

- ◆ Accordingly in spatial planning, there need to be precise determination :
 1. in allocating space for protection from erosion, for water retention, and conservation for flora and fauna. These areas must be strictly protected from development for the sake of sustainability.
 2. In allocating space for development are stratified into areas in which the development is allowed with certain requirements, and areas in which the development is promoted.
 3. Based on the above allocation the spatial plan is formulated.

INDONESIA

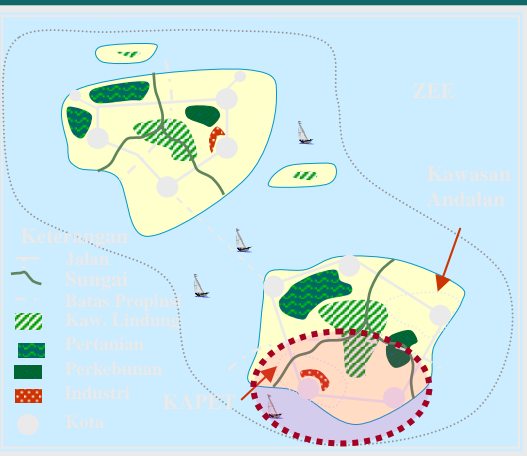
Based on Topography/Slope



IMPLEMENTATION OF SPATIAL PLANNING

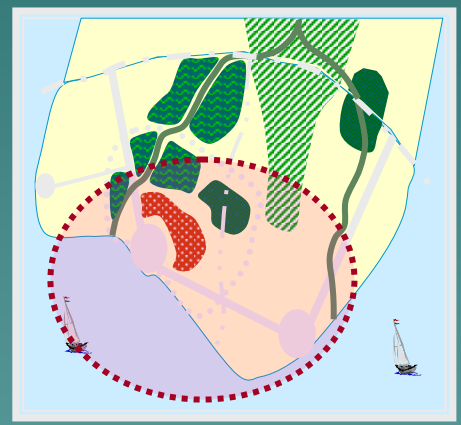
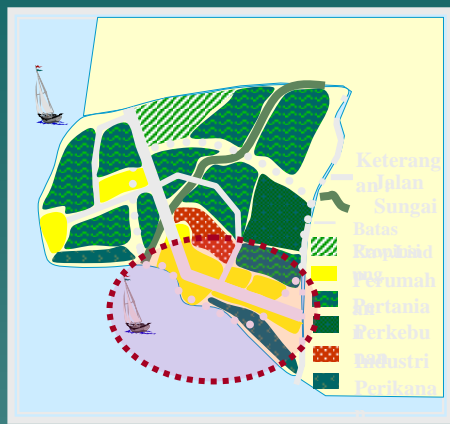
(2)

- ◆ Based on the above allocation the spatial plan is formulated in regard with government administrative and spatial function.
- ◆ The formulated spatial plan administratively to be stratified into national, province, regency, and city. Those spatial plan are hierarchical and complementary to each other.
- ◆ Considering that activities may located beyond administrative areas especially in the major urban areas, spatial plan based on function are developed among others spatial plan for metropolitan areas.

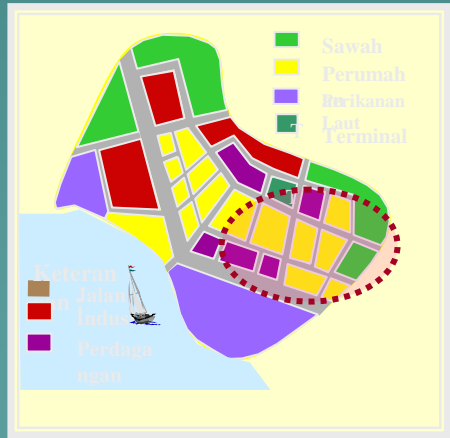


NATIONAL SPATIAL PLAN

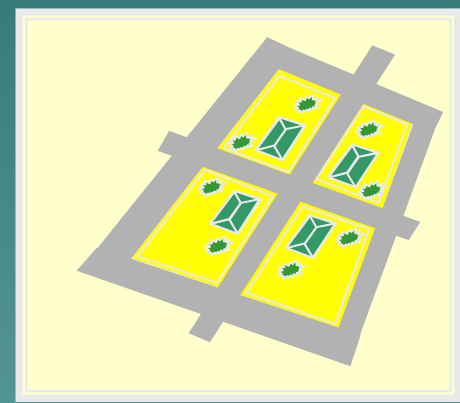
REGENCY SPATIAL PLAN



PROVINCE SPATIAL PLAN



CITY SPATIAL PLAN



DETAILED SPATIAL PLAN

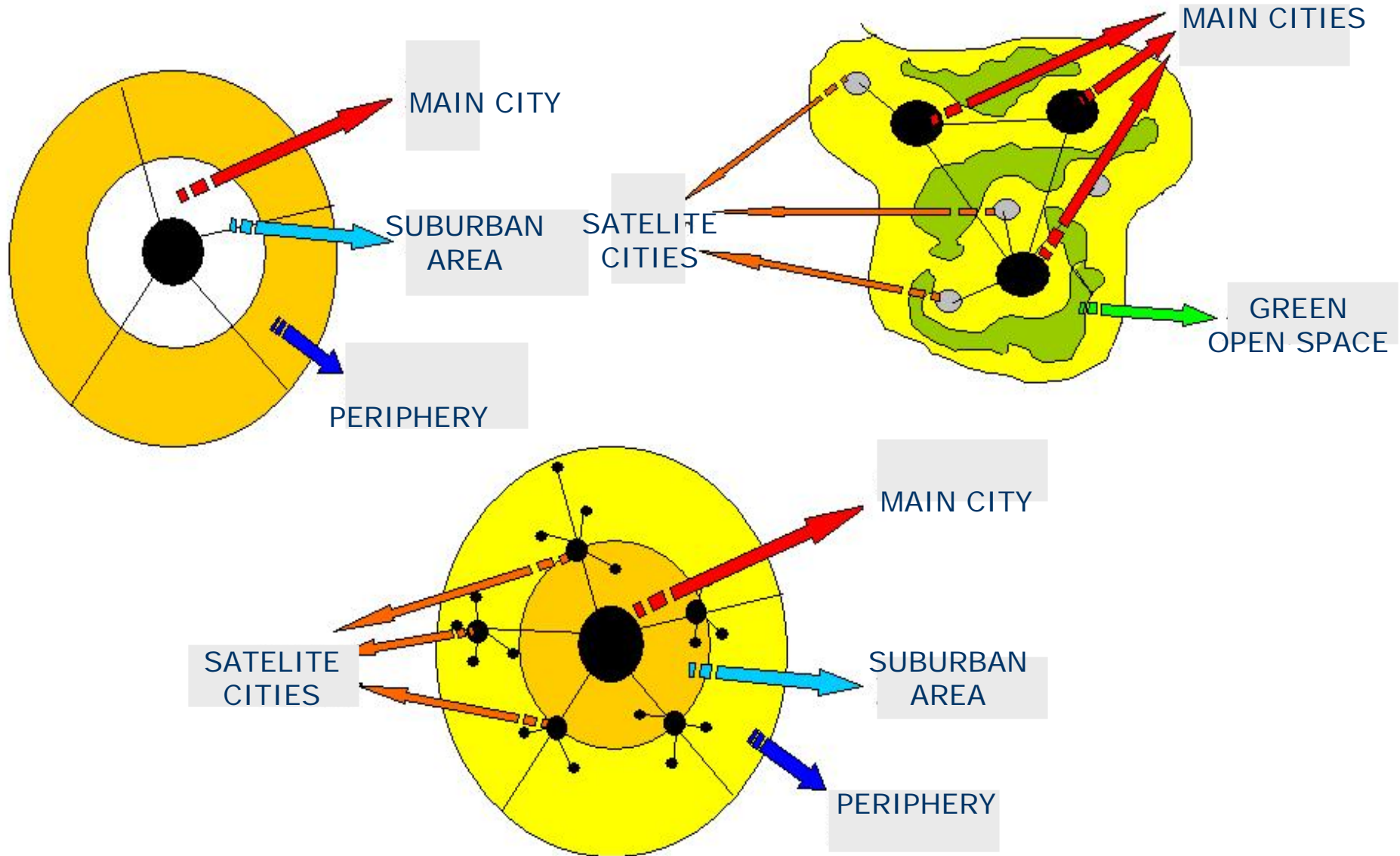
SPATIAL PLANNING SYSTEM
 (Regulated according to gov. adm.)

SPATIAL PLAN FOR METROPOLITAN AREAS

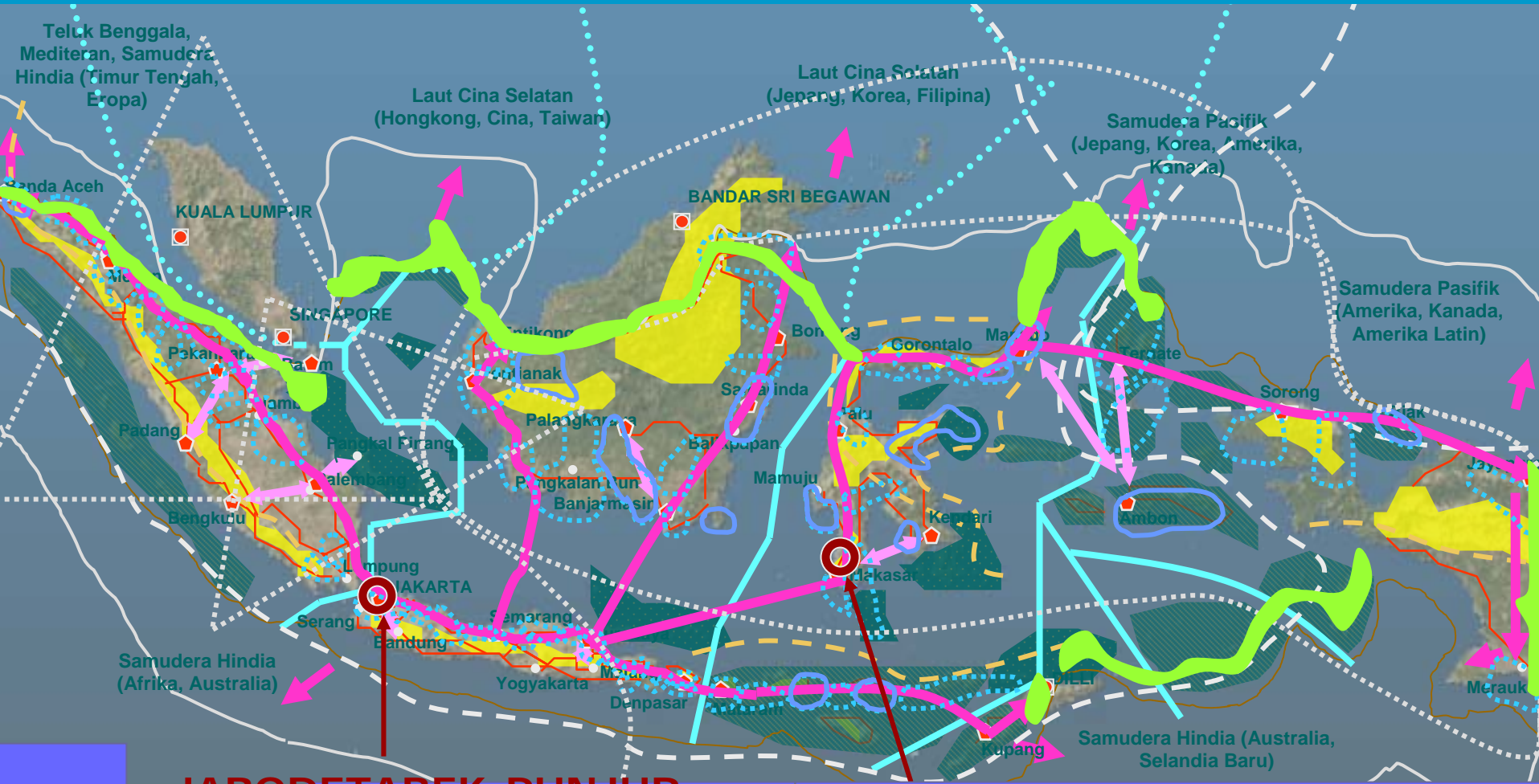
Spatial plan for metropolitan areas become more important in Indonesia considering :

- ◆ Over the past six decades since Indonesia's independence, Indonesia has been experiencing rapid urbanization (from only 15.5% in 1961 to 46% in 2005)
- ◆ Urbanization has mostly taken place in Java Island where 1/3 of Indonesia's most populated cities can be found in Java.
- ◆ The main characteristic of Indonesia's urban growth is urban sprawl, where growth has been dominated by the ever-increasing size of the large cities or metropolitan in concentric pattern.
- ◆ Problems such as, among others, traffic congestion, pollution, bottlenecks in waste management, flourishing of slums and squatter settlements, flooding and erosion.
- ◆ There are more than 10 metropolitan areas that require spatial plan, and in this paper there are which will be elaborated. Those are JABODETAKJUR (Greater Jakarta/capital city) and MAMMINASATA (Greater Makassar).

STRUCTURE OF METROPOLITAN



NATIONAL FRAMEWORK OF SPATIAL PLANNING (ECONOMIC DIRECTION)



JABODETABEK-PUNJUR

MAMMINASATA

JABODETABEK-PUNJUR METROPOLITAN AREA CASE

- ◆ Jabodetabek-Punjur Metropolitan Area consists of **Jakarta – Bogor – Depok - Tangerang – Bekasi – Cianjur (9 administrative gov.)**, with Jakarta as the Primate City. With the area 6400 km² and population 28 million.
- ◆ The rapid growth of Jakarta has led to a massive urban sprawl. The growth of Jakarta extends to its adjacent regions and the municipalities and sub-district of Bekasi, Bogor, Depok, Tangerang and Bekasi became inseparable with Jakarta. The economic activities in these areas are fueled by the concentration of residential areas for the population working in activities related to Jakarta.

Urban Growth in Jakarta, Indonesia



1976 (population 6 million)

Urban Growth in Jakarta, Indonesia



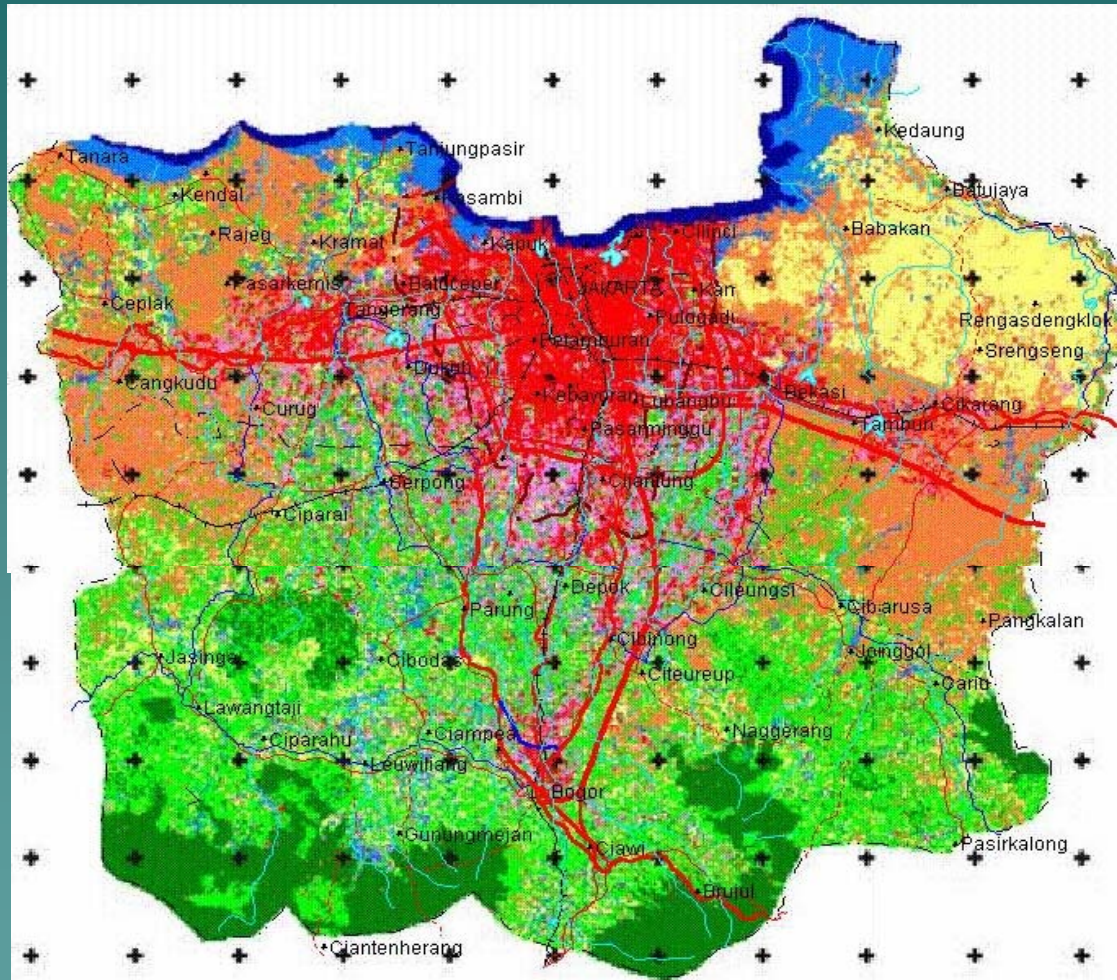
1989 (population 9 million)

Urban Growth in Jakarta, Indonesia



2004 (population 13 million)

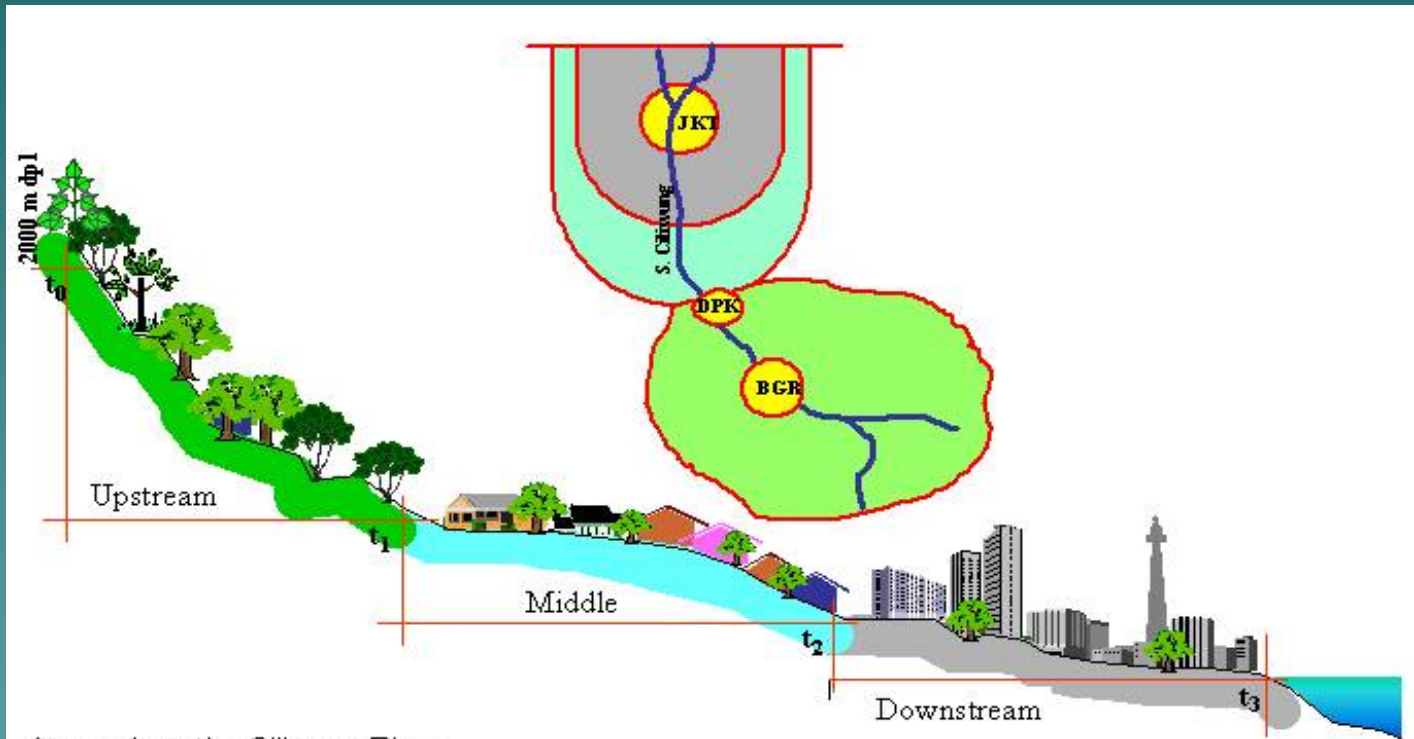
JABODETABEK LAND USAGE MAP 2001



JABODETABEK-PUNJUR METROPOLITAN AREA CASE

- ◆ The interdependence between Jakarta and its adjacent areas encompasses economic, social and environmental or ecological linkages and has spread beyond the administrative boundaries as the governance of these regions can no longer be done on an individual jurisdictional area basis. Ecological interdependence between Jakarta and Cianjur has caused detrimental impact when Cianjur put the green spaces in the losing side.
- ◆ Realising the need for an integrated policy making, which incorporates sustainable urban development, the JABODETABEK PUNJUR integrated planning region was established. According to the Government Regulation on National Spatial Plan, this area is formulated by means of Presidential Decree.

JABODETABEK-PUNJUR METROPOLITAN AREA CASE

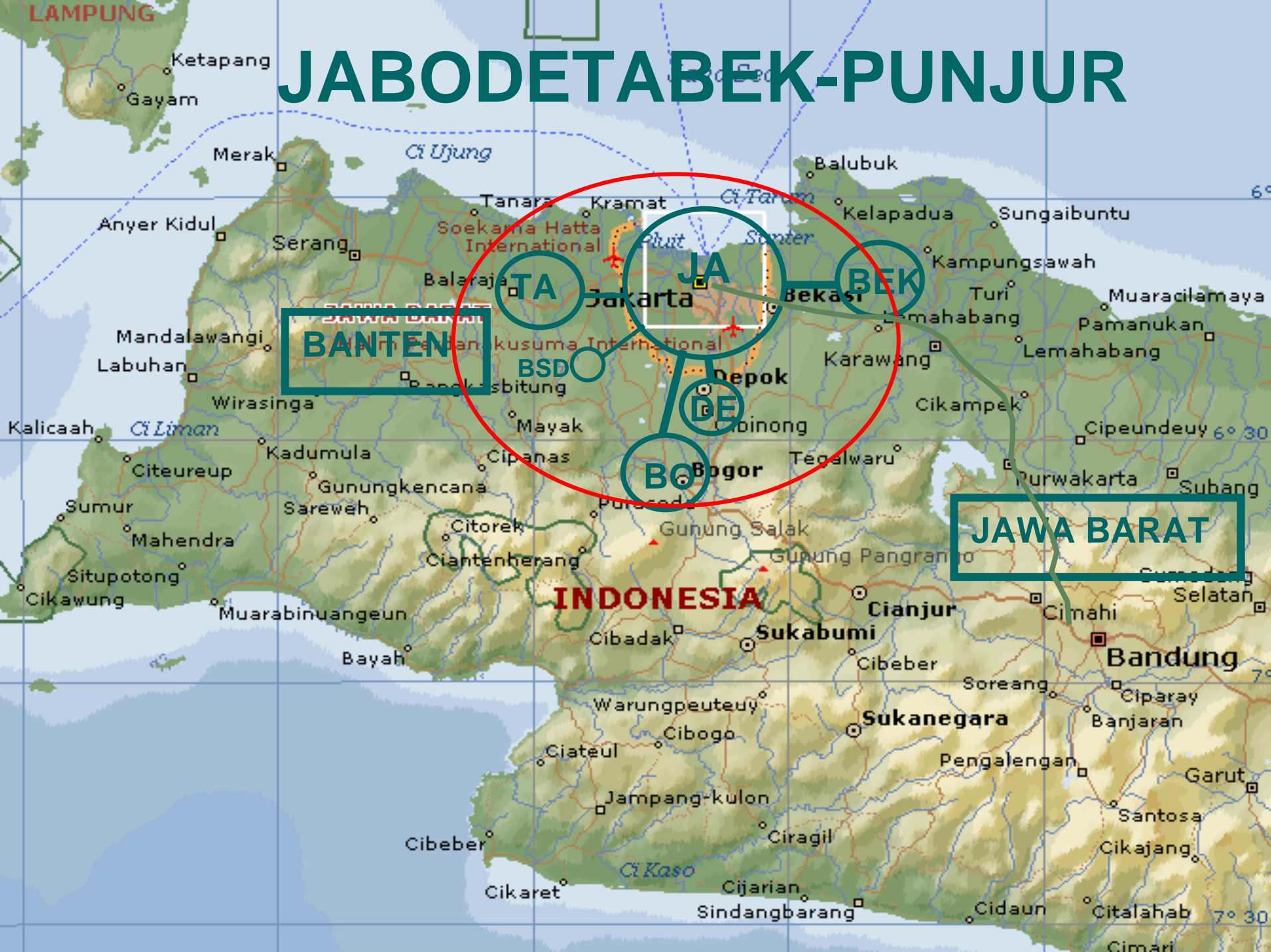


Areas along the Ciliwung River

(according to PP 47/1997 about RTRWN) :

1. Upstream Region : Bopunjur Primary Region
2. Middle Region : DKI Jakarta Buffer Zone Primary Region
3. Downstream Region : DKI Jakarta Economic Primary Region

JABODETABEK-PUNJUR



JABODETABEK-PUNJUR METROPOLITAN AREA CASE

- ◆ The expansive urban growth in Jabodetabek-punjur created many problems faced not only Jakarta but also in surrounding area. This include :
 - The massive land conversion from green spaces to built up areas in Puncak.
 - Jakarta as the economic centre of the region is burdened by the excessive influx of commuters and visitors from the satellite area (BODETABEK).
 - The flourishing of slums/ squatter settlements.
 - The difficulties in finding suitable land for final disposal site.
- ◆ Realising the need for an integrated policy making, the development cooperation body was set up. Considering the huge problem faced by this body, the body is being considered to be strengthened (through Jakarta Metropolitan Law being discussed in the Parliament), including the idea of megapolitan.



One of the most problematic issue in Jakarta is Slum / Squatter area



As of late, trash management has become a major concern for the citizen and local government of Jabodetabek-Punjur



Since 1996, Flood has become an annual event for the citizen of Jakarta

POLA PEMANFAATAN RUANG JABODETABEK-PUNJUR

Legenda :

	Kota Kota		Jalan Kolektor
	Kota Kabupaten		Jalan Kota Api
	Batas Provinsi		Stasiun Kota Api
	Batas Kabupaten		Sungai / Deras / Waduk
	Jalan Tol		Batas Kawasan
	Jalan Arteri		

KRITERIA DAN POLA PEMANFAATAN RUANG KAWASAN LINDUNG JABODETABEK-PUNJUR

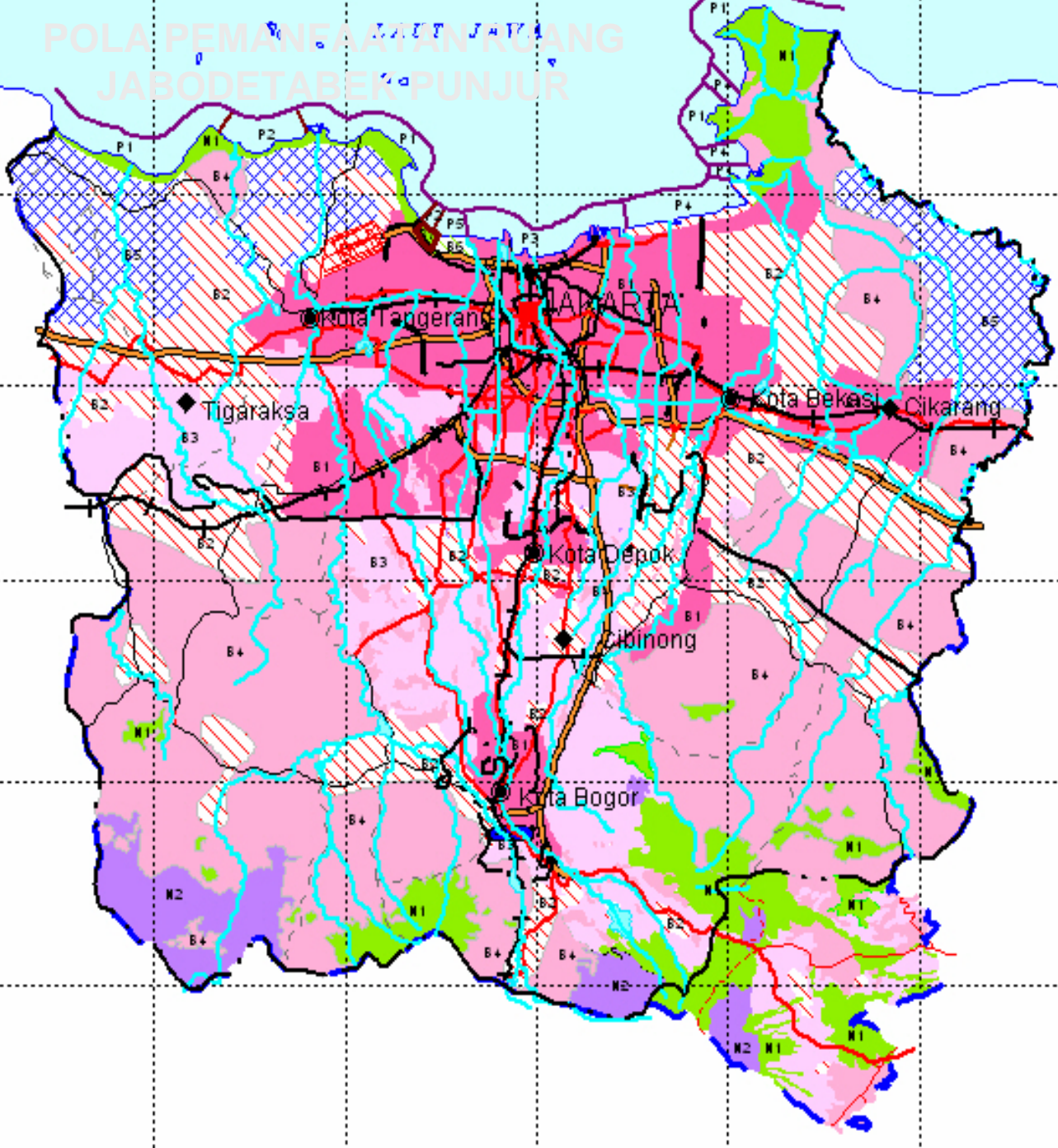
KODE ZONA	NAMA ZONING	KRITERIA & POLA PEMANFAATAN
N-1	LINDUNG	Tidak diperkenankan bagi kegiatan budidaya
N-2	SURVEILANSI BUDIDAYA PENYINGGALAN SELATAN	Tidak diperkenankan bagi kegiatan budidaya

KRITERIA DAN POLA PEMANFAATAN RUANG KAWASAN BUDIDAYA JABODETABEK-PUNJUR

ZONA	ARAHAN PEMANFAATAN
B-1	Perumahan Hunian Padat, Perdagangan dan Jasa, Industri
B-2	Perumahan Hunian Rendah, Perumahan Lading, Industri
B-3	Perumahan Hunian Rendah, Perumahan Lading
B-4	Perumahan Hunian Rendah, Perumahan Lahan Basah, Perkebunan, Perikanan, Peternakan dan Agribudaya
B-5	Perumahan Lahan Basah, Ngagel Teluk
B-6	Pertanian Hunian Rendah dengan menggunakan relaysa teluk dengan KDB maksimum 50%
B-7	Meyoransi Zonal Zona N1 dan untuk permukiman hunian rendah dengan menggunakan relaysa teluk dengan KDB maksimum 40%
ZONA P1	Meyoransi Zonal Zona N1 (Non Budidaya)
ZONA P2	Meyoransi Zonal Zona N1 (Non Budidaya) serta Zona P1 dan Zona P5 diizinkan untuk budidaya teluk melalui lahan mendatar dan kompartemen yang ditunjuk DITRN
ZONA P3	Mendukung Zonal Zona B1, dapat dilakukan secara bertahap melalui reklamasi sampai kedalaman 5 M
ZONA P4	Meyoransi Zonal Zona B5 dan Zona B7, dapat dilakukan secara bertahap melalui reklamasi sampai kedalaman 5 M
ZONA P5	Mendukung Zonal Zona B5 dan Zona B7, dapat dilakukan secara bertahap melalui reklamasi sampai kedalaman 5 M

Sumber :


1. Peta Dasar Rupa Bumi - Baku Nasional Tahun 1980
2. Hasil Rapor Timah Bekas, Damih dan GMP
3. Peta Keperluan Baku dan Peta Risiko gempa Jabodetabek DITRN




Stratification based on Physical Terrain

- ◆ The land utilization policy in upstream, middle, and downstream region of JABODETABEK-PUNJUR can be summarized as follows :
 - Upstream region : designated as a protected area, therefore this area should be limited for low density settlement.
 - Middle region : designated as the low/medium density settlement
 - Downstream area : designated as the developed region, hosting high density settlement, and particularly in the eastern and western part of the area are the workforce intensive industries area.

Stratification based on City Structure

- ◆ Primary City (Jakarta)
 - ◆ Satelit Cities westward and eastward of Jakarta (Tangerang and Bekasi cities), and southward (Bogor and Depok cities).
 - ◆ Semi urban and Urban fringe (4 regencies)
- 
- A decorative graphic at the bottom right of the slide, consisting of a stylized mountain range silhouette in shades of teal and blue.

Infrastructure Development

- ◆ Road (economic) and public transport/busway (social) and environment balance
 - ◆ Sea transportation system
 - ◆ Water supply
 - ◆ Solid waste management system
 - ◆ Flood control system
- 
- A stylized, teal-colored silhouette of a mountain range is located in the bottom right corner of the slide, extending from the right edge towards the center.

Images of Sustainable Development in Jakarta



Images of Sustainable Development in Jakarta



MAMMINASATA METROPOLITAN AREA CASE

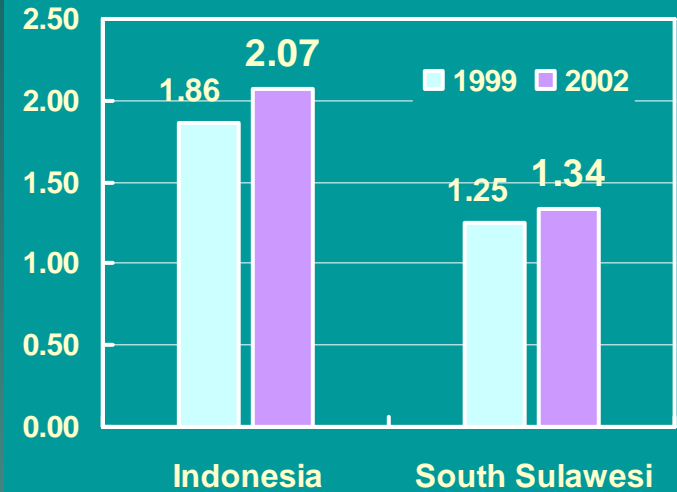
- ◆ The Mamminasata metropolitan area was formed by Makassar City, Maros, Gowa and Takalar regencies through governor decree
- ◆ The Mamminasata area has diverse natural, social and economic conditions. Physically, it ranges from the coastal land and plains to mountainous terrain in a relatively short distance. With the area 240 km². and population 2 million.
- ◆ Since the trend of deterioration is clearly detected, the preservation of ecosystem and environmental conditions are now the most critical issue. The ecological interdependence in particular between Gowa and Makassar.

Mamminasata Metropolitan Area

Lokasi



Yearly income (Million Rp)



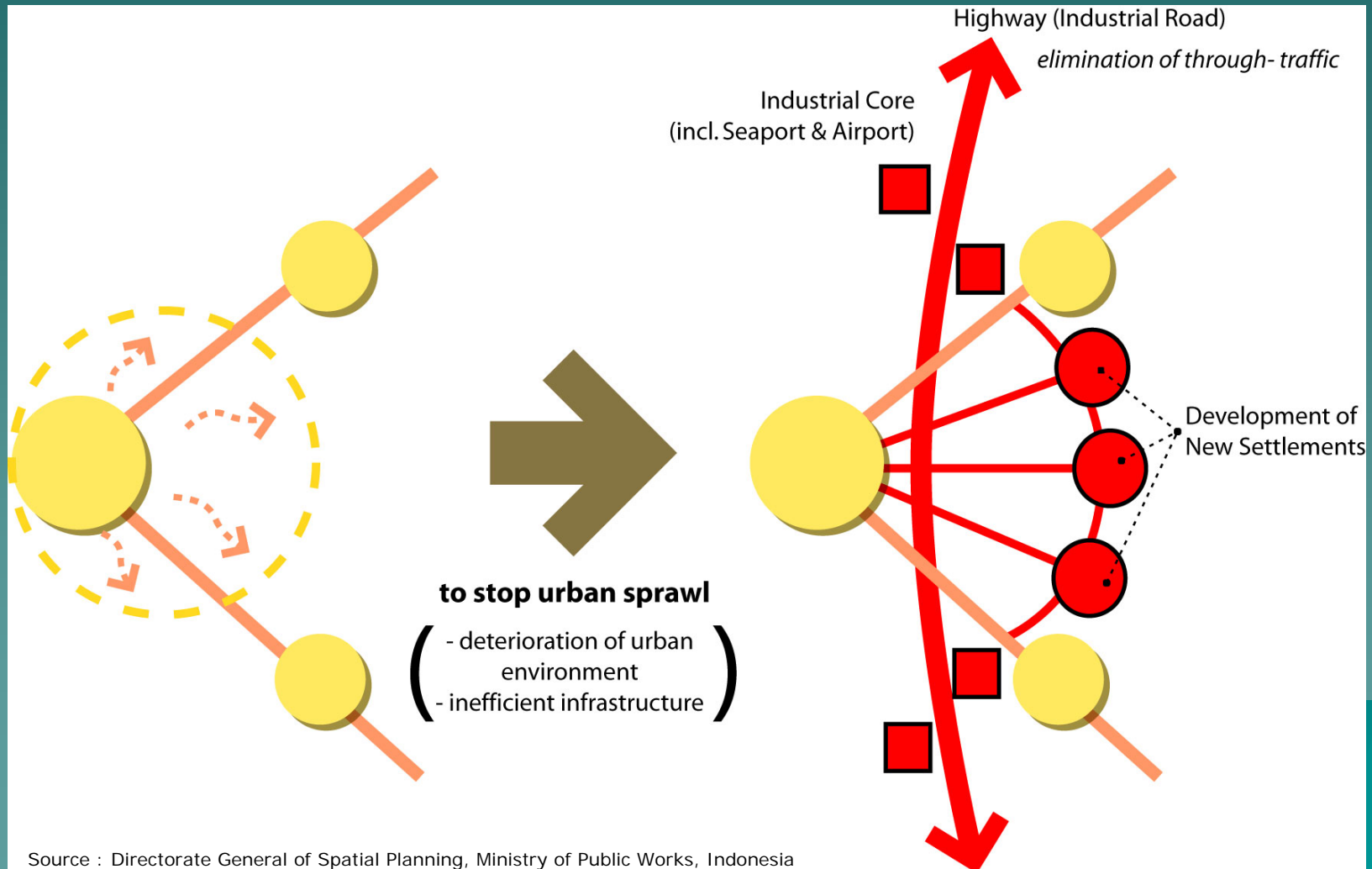
East-Indonesian Hub



MAMMINASATA METROPOLITAN AREA CASE

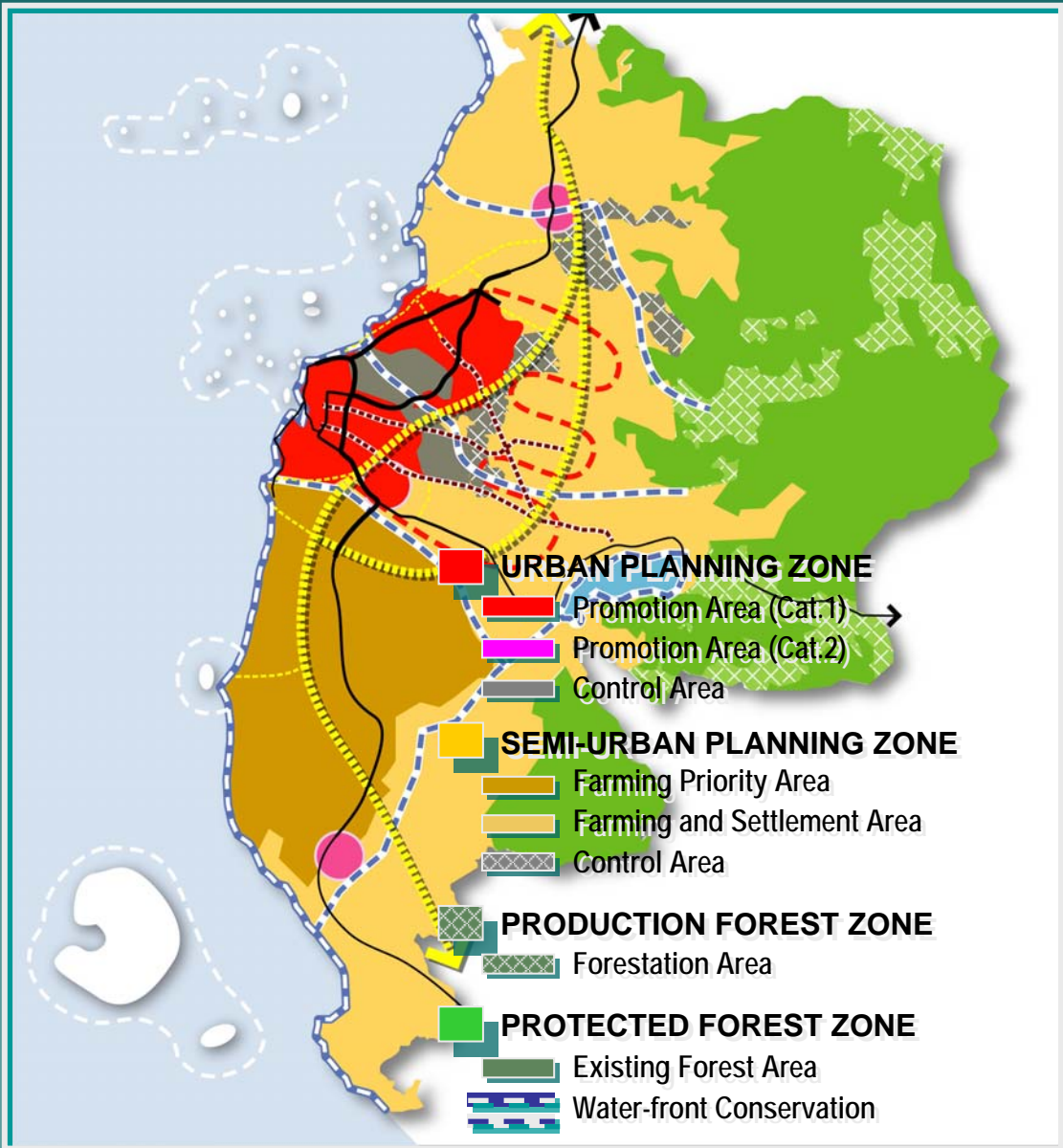
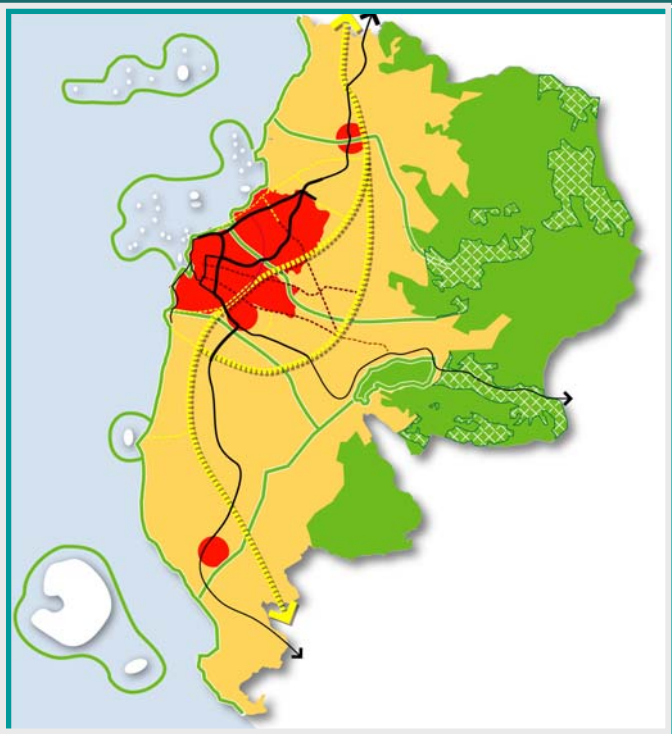
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MAMMINASATA SPATIAL PLAN



Mamminasata Spatial Plan

4 Zones➤ 11 AREAs

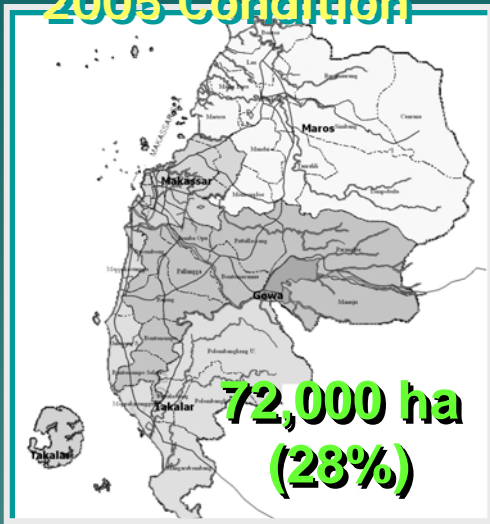


Regulations

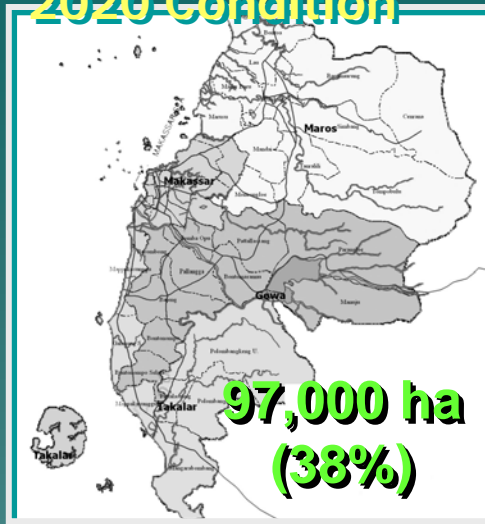
- President Regulation on Spatial Plan
- Urban Management
- Zoning Regulations
- Transportation Management Regulations

Green Promotion

2005 Condition



2020 Condition



Increase of
25,000 ha

Trash Final Disposal Site

2005 Condition



2020 Condition



The condition of Tamangapa Final Disposal Site

The condition of Curitiba Brazil Final Disposal Site

REVITALIZATION OF SPATIAL PLANNING

(1)

- ◆ The revitalization of spatial planning by formulating the plan based on actual issues and with consideration to the environmental carrying capacity is an important first step in achieving sustainable urban development.
- ◆ Matters to be addressed in achieving sustainable urban development area (as draft law presently discussed in the Parliament),
 - The urban area must have and meet the standard for minimal green open space, which can take place in various forms including among others parks and gardens as public space
 - Adequate provision of pedestrian networked to be linked with parks and gardens and the availability of public transportation are keys to reduce the use of private cars, hence ease traffic jam.

REVITALIZATION OF SPATIAL PLANNING

(2)

- The location of industries with high potential of emitting pollution-substances must be away from the residential areas and the possible linkages with other areas such as the rivers and air must be cleansed through proper waste treatment and disposal procedures. Economic-wise, location linkages with the seaport are important to ensure high accessibility.
- Special areas, such as airport and seaport, requires specific spatial planning considerations, including the safety and traffic aspects,
- Vertical housing is a feasible alternative considering the limited land and the need for the population to remain within the ideal proximity to the workplace, especially in the core cities. This helps prevent slums and squatter settlements as well as giving spaces for the maintaining of open spaces,

REVITALIZATION OF SPATIAL PLANNING

(3)

- Having well-maintained landmarks are key to city's aesthetic character that contributes to tourism and population social welfare.
- Zoning regulation is an effective tool as a basis for implementing incentives and disincentives where permits are granted as long as the proposed development is inline with the spatial plan.
- Various other forms of incentives and disincentives can be explored for other objectives, such as the use of cross subsidy from the low land areas to upper land areas in compensating the need for the upper land areas to maintain greenery

CLOSING REMARKS

following the revitalization of spatial planning in Indonesia through amending the law (being finalized in the Parliament) and other related regulations with regard to spatial planning, in particular the shaping of proper city structure (the functioning of city centre and satellite cities as well as their surroundings) it is expected that sustainable urban development can be realized (economically, socially, and environmentally)

THANK YOU

For Your Kind Attention