

Urbanization in Jakarta *Facts, Challenges, Solution*

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Out Line

FACTS and CHALLENGES

SOLUTIONS



FACTS

Jakarta's urban footprint has expanded significantly since 50 years ago

Population grew at 4% annually and GDP growth averaged 6% (1970-2010). Projected population growth of 2% and GDP growth of 5-7% annually to 2030.

Massive shift in land cover
(Forest - 71%, Agriculture -16%, settlement + 2290%)

the average population density of Jakarta, has reached more than 14,400 people per square kilometer.

The city is a parking lot.
Public transit only serves 56 percent of trips made by commuters.

Groundwater extraction causes 40 percent of the city already sitting below sea level, is sinking into the ground at an average of 10 cm per year



(proposed) Solutions

**National and Local Action Plan
Climate Change**

Revised Spatial Planning Document

**Resilience City Strategy
under 100RC Program**

**Capacity Building
(build not buy capabilities)**

**Establishing Knowledge Management
(SMART City)**



(proposed) Solutions

Implementing Main Program

PUBLIC TRANSPORTATION

WASTE MANAGEMENT

SLUM AND SQUATTER AREA

FLOOD CONTROL

PUBLIC TRANSPORTATION

Uncontrolled growth in the number of vehicles

Low road ratio

Low availability and use of public transport

Unequal number between road ratio and number of vehicles

Proposed Solution

Macro Transportation System

Mass Public Transport Development

MRT/Subway+KA

LRT/Monorail

BRT/Busway

Traffic Restrain or Restriction

Restrictions on the use of vehicles

Road Pricing/ ERP

Parking Control

TOD, Park and Ride Facilities

Road Network Capacity Improvement

Intelligent Transport System

Road Widening/ Fly Over/ Under Pass

Bike friendly street

Pedestrian Walkways Development

WASTE MANAGEMENT

Volume of solid waste : 29.364m³ / day
Currently around 6000 tons waste per day is delivered to Bantar Gebang Final Disposal Site (Outside Jakarta)

Air pollution

Water pollution: concentration of DO, Ni, Cu, Zn, Hg above standard

Currently only 4% of Jakarta served by sewerage system, and the rest by desludging septic tank

Proposed Solution

Solid Waste Management

Encourage Environmental Friendly Solid Waste Management using high and efficient technology

Intermediate Treatment Facility (ITF)

Encourage waste segregation to reduce waste in the Final Disposal Site

Waste Water Management

Gradually expanding sewerage system for waste water for all Jakarta and separate system from the drainage

Utilize waste water into and alternative clean water resource

SLUM AND SQUATTER AREA

Housing Backlog

Lack of access to utility (electricity, water, sanitation)

Legal aspect of low-cost apartment (rusunawa) occupant; Agreement Letter, National Identity Card / Family Card, Bank Account

Misuse of rent rights

Indiscipline occupant of low-cost apartment i.e: putting private belongings in the corridor

Proposed Solution

Housing Area Improvement Program

Construct new low cost apartment buildings

Housing Rejuvenation / Housing Regeneration

Housing Environment Preservation

Community Development

Kampoong Improvement Program (MHT Plus, Penataan Kampung/Kampung Deret), by providing adequate infrastructures and utilities and increasing its quality

land banking

Executed in existing housing area, by rehabilitation of non-habitable existing housing units (i.e redevelop Rusunawa Tambora)

Maintain the quality of existing housing environment

FLOOD

INTERNAL FACTOR

Traversed by 13 rivers to Jakarta Bay

40% of Northern Jakarta lies in lowlands and frequently influenced by tidal condition causing backwater

EXTERNAL FACTOR

Climate change: changes in rainfall intensity and pattern

Continuous land subsidence at a rate of as much as 10cm/year in certain part of North Jakarta

Proposed Solution

Polder System,
Discharged by
pumps

Artificial Lake

Sea Dykes

Polder system extension to the West

Capacity improvement of existing canals, rivers, lakes, and polders by dredging and normalization

Reconstruction and capacity improvement of pumps

Increasing water storage capacity

Stage 1: Existing coastline

Stage 2 and 3: depth - 8m or deeper

Thank you

Pitt.academia.edu/oswarmungkasa
Sources : Dinas Penataan Kota DKI Jakarta
some pictures of this presentation taken from Deden Rukmana's article,