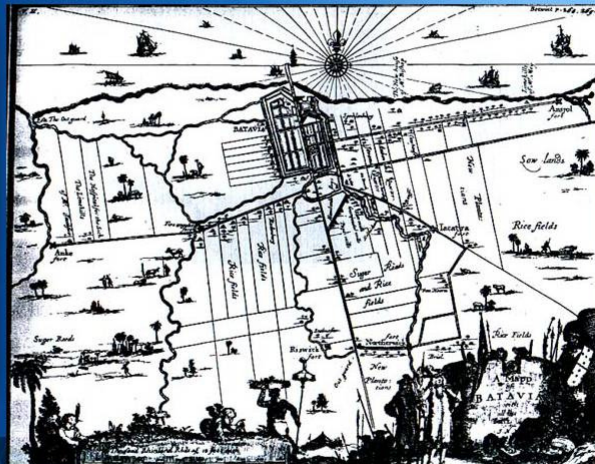


# Batavia 1653

Grand design to enlarge Batavia by then. It was design to accomodate a population of **1 million** only!



# 1 Drivers of change

## The population

•of Greater Jakarta (Jabodetabek) is estimated at **23 million**, the fourth largest urban area in the world. Jakarta's population growth rate remained at **3.6%** per year.

## The Indonesian economy

•is rapidly developing at a rate of **6.3%**. In 2005, Jakarta contributes **17%** of national GDP.

## Climate change

•in the form of **changes in length and intensity** of the rainy season are likely to continue.

## The mean sea level

•in the Jakarta Bay will increase as high as **0.57 (?) centimeters (cm)** per year.

## Subsidence

•Land subsidence is a serious threat. The rate is estimated in between **1 – 10 cm/year** in average, in the range of **12 – 26 cm/year** around the coastal area

## Technological developments

•Percentage of GDP spent on innovation and research is not known. In 2005, Jakarta contributes to about **26.4%** of the national GDP in the construction sector, **20.1%** in transportation and communication, and **19.3%** in services.



## 2.1 Pressures (occupation layer)

### Out-of-control urbanization

- made Jakarta is the fourth largest urban area in the world.

### Flood vulnerability

- Some 6 million inhabitants are vulnerable to flooding. The northern part of the city is prone to inundation due to excessive rainfall and flash floods, and impact of rising sea water levels on the flood extent is expected to increase.

### Freshwater shortage

- is a problem that requires water management in terms of water supply.

## 2.2 Pressures (network layer)

### Ageing infrastructure and inadequate infrastructure

- The rapid urbanisation causes shortcomings in the provision of infrastructures.
- Rehabilitation is needed, especially with respect to drainage systems.
- Inadequate infrastructure for piped water supply result in groundwater extraction and related land subsidence.

## 2.3 Pressures (base layer)

### Coastal erosion

- due to natural and man-made factors.

### Water quality is a major issue

- untreated domestic and industrial waste water
- ground water salinization

## 3. Governance

### Lack of coordination and cooperation between levels and sectors of government.

- Integrated Delta management is very much needed that will require a further development of the institutional situation with regard to the mandate of national and local authorities to control and manage coastal developments.

### Cooperation between government and private sector is increasing.

- The involvement of private sectors in public services is increasing as part of efforts in increasing efficiency and transparency in public services.

### Involvement of stakeholders and citizens

- in decision making process is still limited, relatively higher at local level and lower at the provincial and national levels.

### Indonesia recognizes risks

- from meteorological hazards but does not have a clear framework for adaptive management.

## 4. Research gaps and needs for knowledge exchange

### Drivers of change

- **Downscaled multi-ensembles climate change scenario analysis**
- **Socio-economic development projections**

### Pressures (occupation, network & base layers)

- **Scenario based risk assessment of natural and social hazards**
- **Ecosystem based planning**
- **Data sharing and interoperability system**

### Governance

- **Communication platforms and tools**

## Scorecard for delta assessment and some concluding remarks

<i>Ciliwung Delta</i>	Land and water use (occupation layer)	Infrastructure (network layer)	Natural resources (base layer)	Governance	Overall Resilience & Sustainability indicator
Current situation 2010	-	-	-	-	-
Scenario1 moderate 2050	-	-	-	0	-
Scenario2 extreme 2050	-	-	-	0	-

resilience/sustainability: + (good), ++ (very good), 0 (medium), - (low), -- (very low)

- Scenario1, moderate perspective 2050: medium economic growth (1.2 %, Regional Communities-scenario) and related medium technological developments, combined with medium climate change and sea level rise (to be determined by expert)
- Scenario2, extreme perspective 2050: high economic growth (1.7%, Trans-oceanic Market-scenario) and related high technological developments, combined with high climate change and sea level rise (to be determined by expert)