




**NCICD**  
National Capital Integrated Coastal Development  
Pembangunan Terpadu Pesisir Bukota Negara

**The ultimate urban flood management case**

Mr Sutanto Soehodho  
deputy Governor DKI Jakarta


Delta's in Times of Climate Change  
Delta session  
25 September 2014

**NCICD**  
National Capital Integrated Coastal Development  
Pembangunan Terpadu Pesisir Bukota Negara

## Content

1. Jakarta: Thriving Metropolis
2. Why the National Capital is at risk
3. The main challenges
4. Urgency
5. From JCDS to NCICD





## Jakarta | thriving metropolis and national capital of Indonesia



- Modern city  
with over 10 million residents
- Improving transportation  
New MRT and toll roads
- Strong economic growth  
≈ 6%
- Mature democracy  
new national administration to be installed
- Healthy public finance



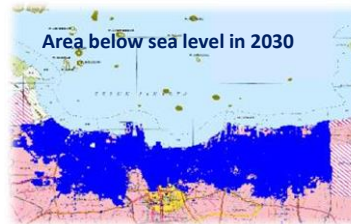
## Jakarta | why the National Capital is at risk

- **Water safety crisis**
  - Land subsidence, flood hazard, poor access to clean water, depletion of resources
- **Infrastructure crisis**
  - Congestion (port, rail and road), poor connectivity
- **Ecological crisis**
  - Water pollution, insufficient solid waste management, air pollution, lack of green areas
- **Population density crisis**
  - Slum areas, poor housing, public health hazards
- **Energy crisis**
  - Inadequate and vulnerable power infrastructure



## The challenges | Floods from the sea, aggravated by land subsidence, increasingly causing damage and casualties

Jakarta is sinking,  
the sea rises



The Need  
for Speed



## The urban challenges | Ecological balance, Urban space & Economic growth

- Lack of space for high quality urban development
- Lack of space for water retention
- Unsustainable management worsening poor water quality & floods
- Quality urban coastal area and livelihood communities under pressure
- Traffic congestion
- Stagnation of economic growth and withdrawal





## Urgency: The Need for Speed

Pluit, October 2013



21 August  
2014



## From JCDS to NCICD

### Dutch support:

2007-2009 Jakarta Flood Management

2010-2012 Jakarta Coastal Defence Strategy (JCDS)

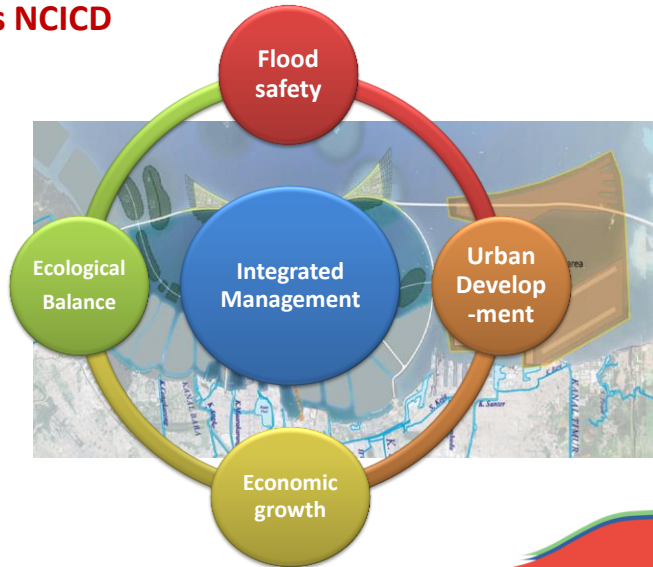
2013-2014 National Capital Integrated Coastal Development (NCICD)





# The need for an Integrated approach

## Strategic goals NCICD



# NCICD Master Plan

## An integrated approach and acceleration coastal protection through urban development

Mr Victor Coenen  
Team leader Master Plan NCICD, Witteveen + Bos

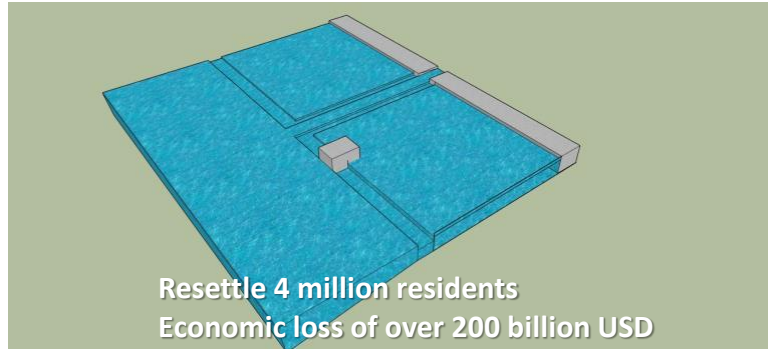
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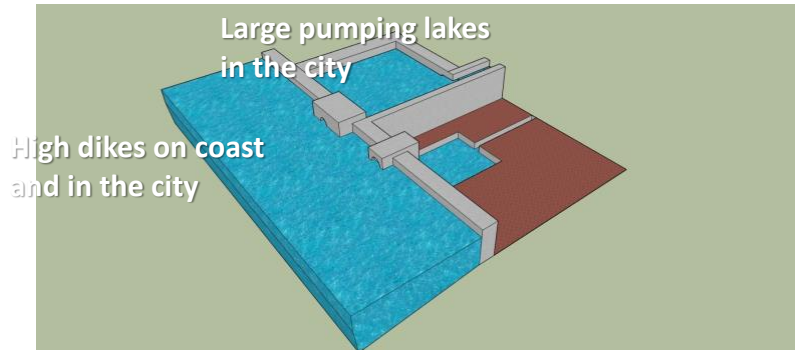
### 3 principal solutions

Abandon North Jakarta



### 3 principal solutions

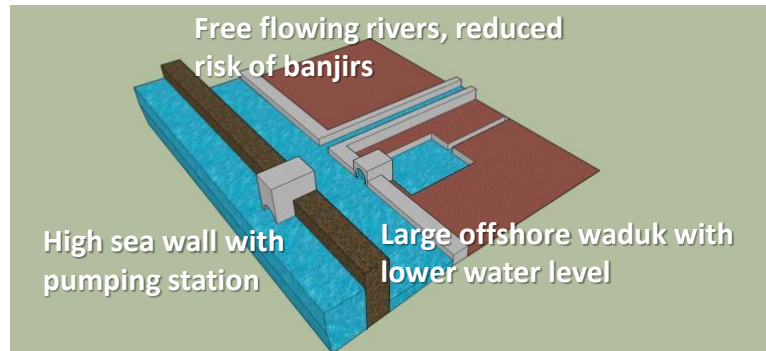
Onshore solution





## 3 principal solutions

### Offshore solution



## Immediate action required

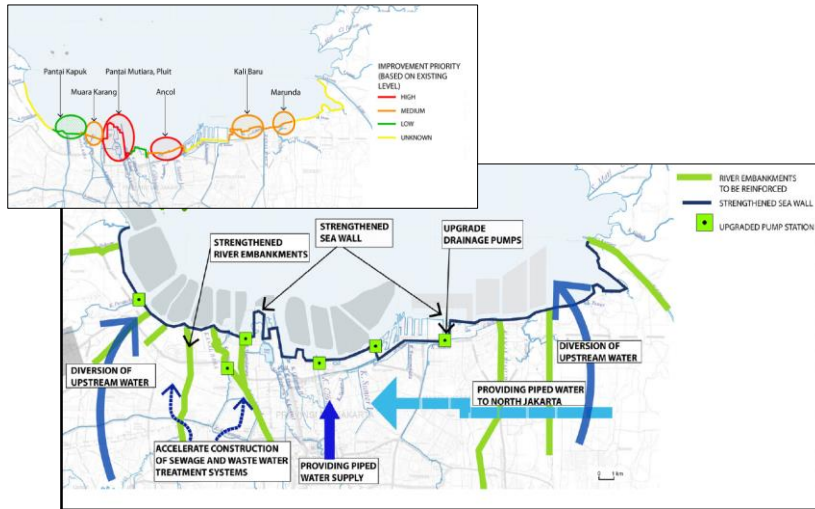
### Stage A:

- Slow down subsidence: provide piped water as alternative for deep water wells
- Accelerate sewerage and waste water treatment: prevent 'black water waduks'
- Strengthen current sea defence system and river embankments: life time until 2030
- Improve urban drainage system
- Prepare for Stage B: the Outer Sea Wall





## Stage A: the urgent measures



## Medium and long term safety

From onshore to offshore; the Outer Sea Wall and great waduk (pumping lake)





## 3 Phases of construction

B: Build outer sea wall west  
and large waduk: 2018 – 2025

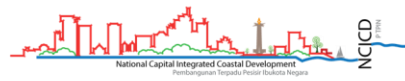
C: build outer sea wall east  
(after 2023)



A: strengthen current sea wall: 2014-2018

## From coastal defence to coastal development

- Could the great waduk and the outer sea wall revitalize the National Capital?
- Is it possible to generate revenues with the great waduk and outer sea wall?



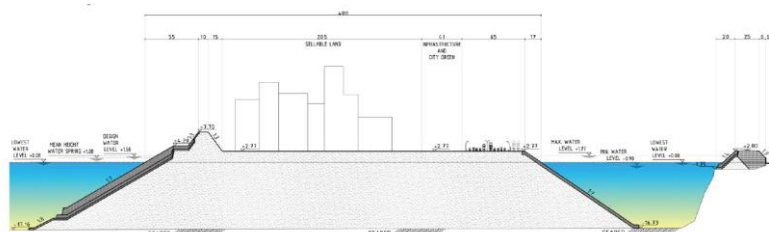
## Urban opportunities

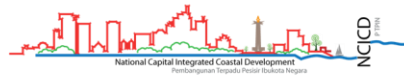
- Tangerang-Bekasi Highway and other connections
- Clean surface water
- Piped water supply
- Revitalisation of coastal communities
- Sea front recreation areas



## The great waduk and sea wall

- Deep water development: is costly
- An iconic shape is required to attract developers and at the same time: new area must create added value to all residents of Jakarta





## Iconic waterfront city

From curved shapes to the Great Garuda



## More than a nice shape

A clean city, a city for everyone, a connected city





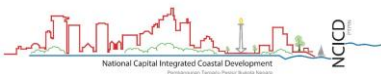
## Conclusion

Two problems to solve:

- Protect national capital against wall of sea water
- Store large quantities of river water

NCICD: phased solution from onshore to offshore:

- A. Slow down subsidence, clean the waters and strengthen existing sea defence
- B. Build great waduk and outer sea wall-West
- C. Build great waduk and outer sea wall-East



21 August  
2014

25



## Managing the delivery of NCICD

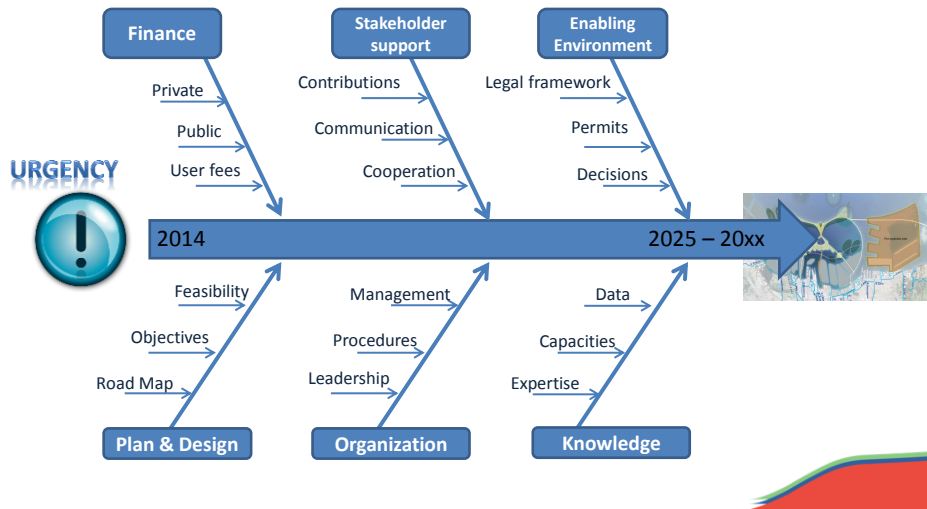
### Funding arrangements, institutional set-up and legal framework

Mr Ad Sannen, Team Leader NCICD  
PMU Support, Royal HaskoningDHV

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## Delivery of NCICD What is needed?



## Challenges



- Big number of stakeholders: governmental and non-governmental
- High complexity, big investments
- Controversial program with big impact, opportunities and risks
- Not one champion/authority emerged yet
- Unique program and scale, no example elsewhere
- Merging commercially viable and non-viable program components



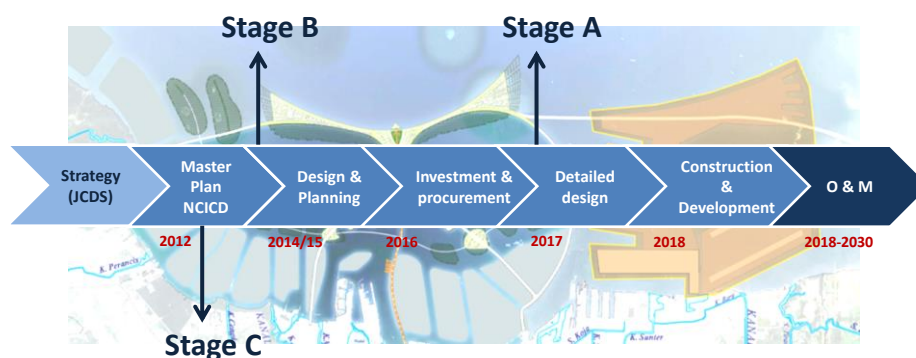
## Program Management Support

Focus on:

- Stakeholder involvement and acceptance
- Legal and institutional anchoring
- Knowledge and Capacity Development
- Funding Strategy
- Organization and Management setup for the next program phase

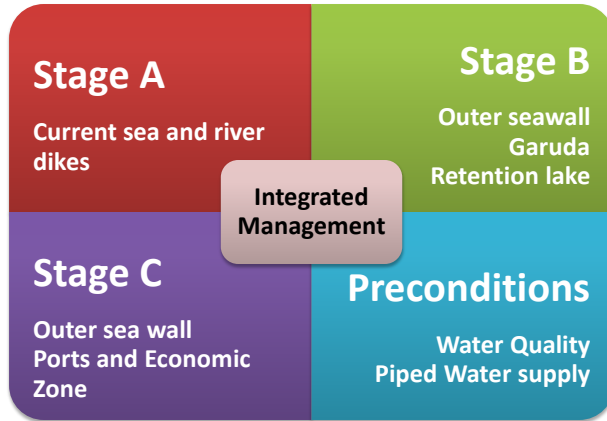


## NCICD Program Phases

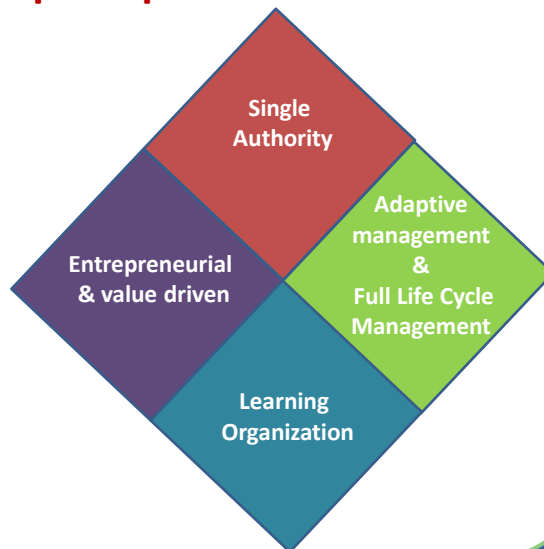




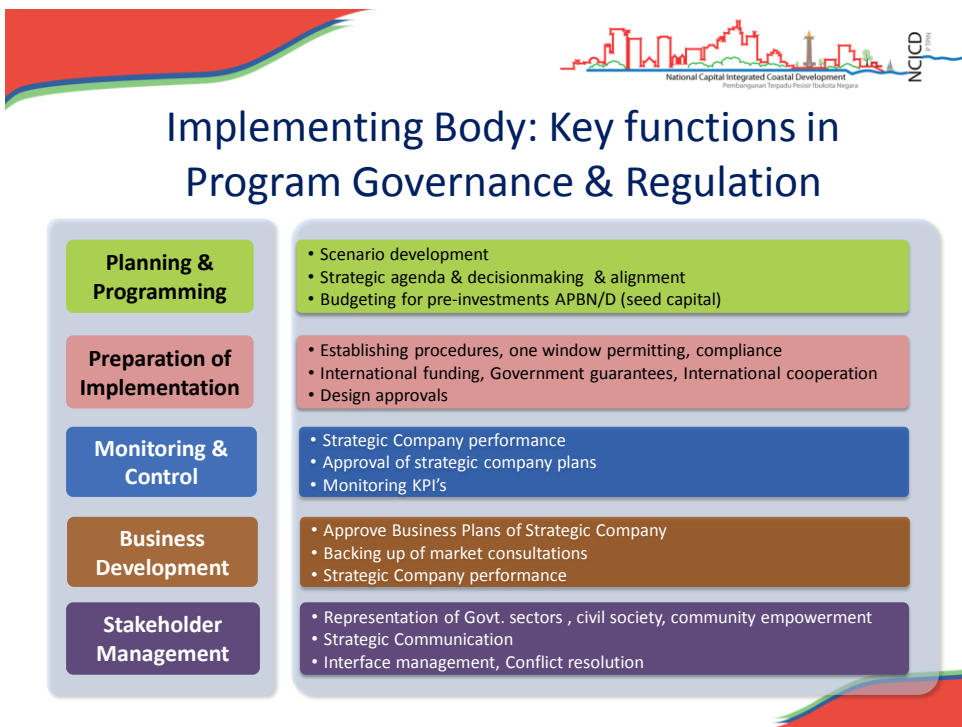
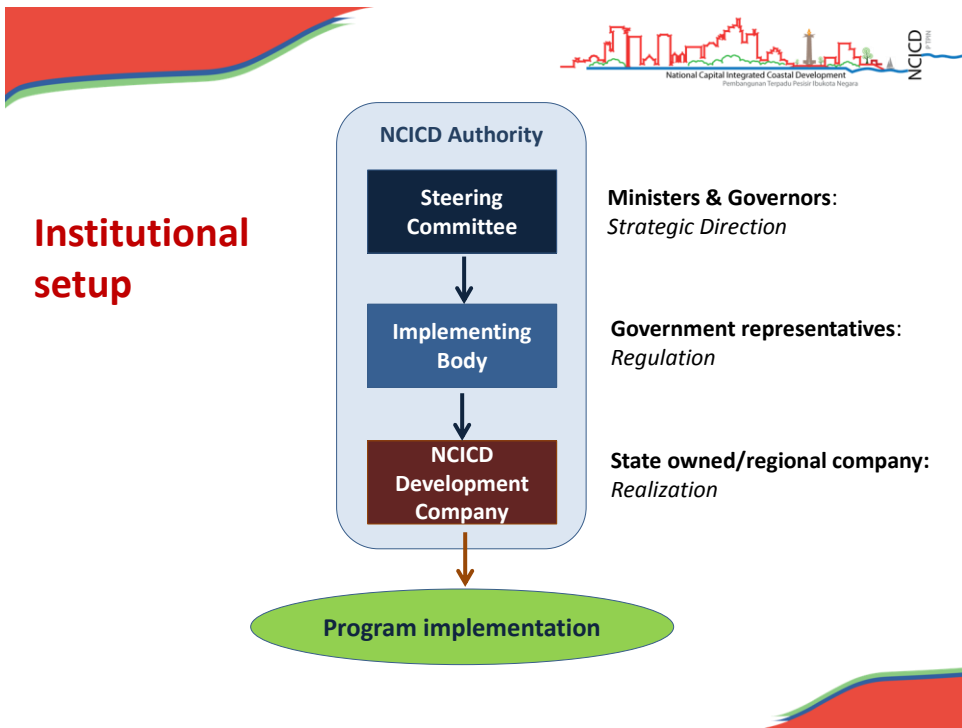
## Integrated management



## Organization principles

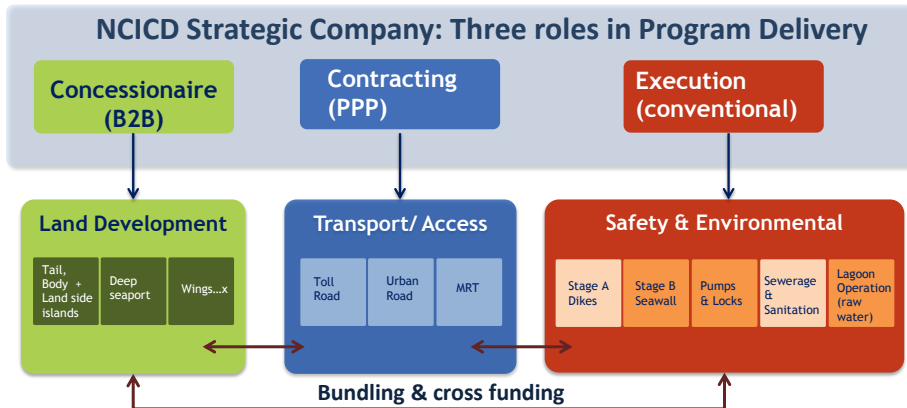








## NCICD Development Company



## Commercial Viability of components

| Financial   | Commercial                    | Component  | Delivery                              |
|-------------|-------------------------------|--|---------------------------------------|
| <br>NPV = 0 | Commercially Viable           | Body<br>Port<br>Land side islands<br>Tail<br>Wings             | Sale of Land<br>Concessions<br>BOT    |
|             | Partially Commercially Viable | MRT<br>City Road Network<br>Water Supply<br>National Toll Road | BOT + VGF<br>DBFM(O)                  |
|             | Not Commercially Viable       | Sewerage & WWT<br>Locks<br>Pumps<br>Sea wall / Dikes           | DBFM(O)<br>Traditional Public Funding |



## Funding Strategy

- Key Principle: the integrated revenue potential is the main funding source
- Key mechanisms:
  - entrepreneurial approach (through the strategic company)
  - Maximizing revenue potential on the basis of feasible PPP business cases and through investing in pre-conditions
  - Inter-project cross subsidization & funding between commercially viable and non viable components



## Next steps

| Steps  | Q4-2014 | Q1-2015 | Q2-2015 | Q3-2015 | Q4-2015 |
|--|---------|---------|---------|---------|---------|
| 1 Master Plan endorsement (Minister level)   |         |         |         |         |         |
| 2 Master Plan formalization (by Presidential Regulation)                               |         |         |         |         |         |
| 3 Formalization of the NCICD Authority (by Emergency Legislation)                      |         |         |         |         |         |
| 4 NCICD Permanent legislation  |         |         |         |         |         |
| 5 Formalization of organization & procedures of the NCICD Authority (Pres. Regulation) |         |         |         |         |         |
| 6 Establishment of the Strategic Company (Govt. Regulation)                            |         |         |         |         |         |
| 7 National and Provincial Budget 2015  |         |         |         |         |         |
| 8 Amend National Strategic Spatial Plan (Perpres 54/2008)                              |         |         |         |         |         |
| 9 Amend Provincial Spatial Plan  |         |         |         |         |         |

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NCICD

# The way forward

## Bridging sectors, institutions and stakeholders

**Mr Robert Purba Sianipar**  
Coordinating Ministry of Economic Affairs

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KEMENTERIAN KOORDINATOR BIDANG PEREKONOMIAN  
REPUBLIK INDONESIA

Kementerian PPN/  
Bappenas

National Capital Integrated Coastal Development  
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NCICD

## NCICD is about creating Synergy

Offshore Sea Wall and land reclamation

Tangerang-Bekasi Highway

Retention basin Long term fresh water resource

Future Airport

Upgraded current sea defences

Sea port expansion

Accelerated sewerage and waste water treatment

Slowed down subsidence: piped water supply



## What do we need to create synergy?

1. A paradigm shift is needed, no business as usual!
2. Urgency & Emergency; the need for ownership and mandate for a decisive NCICD Authority.
3. The government need to become entrepreneurial in its planning and implementation approach and at the same time position itself as a long term trusted investment partner with the necessary skills and expertise.
3. Trust and new forms of engagement are needed between the public and private sector in arrangements for implementation.
4. Cooperation with stakeholders and thorough community involvement.



## Preparing the next stage (2014-2018)

- **Implementation of Stage A**
  - Implementation is ongoing
  - Launch NCICD on 9 October 2014
  - 3 years of integrated planning, design, contracting, funding and implementation
- **Preparation of Stage B**
  - 3 years of planning, designing, permitting and contracting
  - Funding and capacities required for:
    - Field surveys
    - Designing the Great Garuda: technical designs, urban designs and plans
    - Feasibility studies: MRT, toll roads etc.
    - Organization: implementing body, business planning
    - Financing, funding and contracting: involving the private sector
    - Permitting: AMDAL's
- **Master planning of Stage C**
  - Detailing plans for deep sea port, airport, economic zone, infrastructure etc.



## Key decision points

- Concluding the Master Plan project phase, and jointly agree on:
  - The NCICD-implementation model with the three stages (ABC model)
  - The need for immediate and coordinated action for Stage A through a management body with sufficient mandate, budget and man power
  - The legal, organizational and financial provisions for the design phase of Stage B.



## Key decision points

1. Declaring **emergency status** for the National Capital's coastal zone
2. Declaring NCICD as a priority program of **National strategic importance**
3. Establishing the **single organization** to govern and implement the program
4. **Accelerate** water quality improvement and piped water supply
5. Developing the required **capacities and resources** for program implementation.



## Not just a seawall

