## INDONESIA (Balikpapan, DKI Jakarta, Palembang, Semarang, Bitung)





# BALIKPAPAN



### CHALLENGES CONCERNING URBAN ECOLOGICAL AND LAND USE PLANNING AND GREEN URBAN INFRASTRUCTURE DEVELOPMENT



Threatened by rapid urban development



### Land ownership



### Lack of knowledge

### What actions should be taken to address the challenges?

- Buffer Zone, but still has problem that there is no visible physical boundary/border in reality and Strengthen monitoring of land use regulations
- There should be a policy to look at the suitability between land use planning and land ownership.
- Hygiene and Environment Education from an early age

# Is there any ongoing project (s) and initiative(s) that support ecological planning and green urban infrastructure?



## What are your key takeaways from this Deep Dive Learning? Any suggestions for the C4B program?

- Sharing of best practice from other countries inspiring us to improve our development plan
- The importance of planning to concern urban ecological and green infrastructure
- The concept of ecological planning is quite similar to what we want to implement. Added up with the practice and result of the implementation can be used as a good reference for us





## Jakarta's Challenges

Jakarta is a low lying coastal city crossed by 13 rivers, with 40 % of its Northern plane land surface situated 1 - 1,5 m below mean sea level. Furthermore, the impact of climate change (which causes change in rain intensity and duration, sea level rise and land subsidence), results in many challenges, such as:

- 1. Environment : flood, water quality of surface water, water supply and drinking water, solid waste & wastewater
- 2. Transport and Mobility : air pollution and traffic jam
- 3. Urban Green Spatial Planning : forestry and urban green spaces



## **Jakarta's Actions**

#### **STRUCTURAL ACTION**

### [1] Environment

- a) Implementation Governor's regulation 90/2021 for collaboration between regional agency and Jakarta's commitment to reduce GHG emissions by 26% in 2020 and sets a target of 30% by 2030.
- b) Waste and Wastewater Management

(Reducing waste through the implementation of a plastic bag ban & 3R strategy; Built waste to energy plant; Increasing the coverage of wastewater treatment services in Jakarta)

- c) Restrictions on groundwater use with implementation groundwater free zone and development of clean water service networks
- d) Water resources management through construction of retention reservoirs and vertical drainage

### [2] Transport and Mobility

Increase public transportation coverage; Revitalize sidewalks; build bike paths and bike sharing spots; Transition to electric buses and implementation of Low Emission Zones (LEZ)

### [3] Urban Green Spatial Planning

Planting trees and mangroves; Developing existing parks with a blue and green infrastructure approach.

### **NON STRUCTURAL ACTION**

### [1] Innovation in Urban Management

Established a working team for climate change mitigation and adaptation

### [2] Internalization as a Strategic Activity and Acceleration of Action

- a) Issues of climate change and flood management as Regional Strategic Activities
- b) Integration of issues into development planning (RPJP,RPJMD,RKPD,RTRW-RDTRPZ)

### [3] Vertical & Horizontal Integration in Changing Urban Development Paradigms

- a) collaboration with related stakeholders such as the other local government nearby Jakarta area, central government, International cooperation and public participation
- b) Eliminate the dichotomy of economic & ecological aspects of development
- c) A better circular approach to resource management

## **Ongoing Projects**



• Retention reservoirs

• MRT Phase 2

 Green and Blue Infrastructure -Tebet Eco Park

## The key takeaways from this Deep Dive Learning?

Jakarta is currently drafting a special law for Jakarta after it will not be the capital city of Indonesia, so this Deep Dive-Learning give us insight for :

- 1. The urban planning with Nature Based Solution for sustainable city (Green, Smart, and Healthy City with Global standards)
- 2. How to integrate biodiversity and ecosystem service into urban spatial strategies. Make cities livable for all creatures not just humans and use technology for mapping their habit.
- 3. Enhancing green urban infrastructure with use every space for plants or energy absorbers



## Jakarta is open for collaboration



What are the top three challenges concerning urban ecological and land use planning and green urban infrastructure development?

Palembang City is a metropolitan city that has limited resources in terms of quality and quantity, namely Water (as Blue Open Space) and Natural Resources (as Green Open Space), therefore there are 3 top challenges:

- 1. Decrease in Water Quality of the Musi River and its tributaries
- 2. There are still few green open spaces in Palembang City
- 3. Low public awareness in waste management in the upstream sector (waste producers)

### What actions should be taken to address the challenges?

- Watershed ecosystem management (Monitoring and protection of water resources both in quality and quantity, as well as disaster management related to water) and strengthening of regulations related to watersheds
- Increase "land banking" with the aim of becoming Green Open Space (RTH), and regulate private parties who own large lands to contribute to adding green space
- Educate the public on the importance of waste management, especially for domestic waste and provide infrastructure assistance to the community (example: composting equipment)

# Is there any ongoing project (s) and initiative(s) that support ecological planning and green urban infrastructure?

- Climate Village Program (PROKLIM): a national-wide program managed by the Ministry of Environment and Forestry in order to increase the involvement of the community and other stakeholders to strengthen adaptation capacity to the impacts of climate change and reduce greenhouse gas emissions, as well as to provide recognition for adaptation efforts and climate change mitigation that has been carried out that can improve welfare at the local level in accordance with regional conditions.3R Program Improvement (Reduce, Reuse, Recycle)
- Water Resources Conservation and Water Source Damage Control
- Green transportation program (LRT, Trans Musi)
- Construction of a Waste Bank and TPS 3R
- Utilization of methane gas at TPA Sukawinatan and TPA Karya Jaya
- Education and cooperation in zero waste activities (reduction, sorting, and processing of waste) to all elements of society (community, school/university, business, industry, government, and others)
- Aerobic domestic wastewater treatment (centralized WWTP).

# What are your key takeaways from this Deep Dive Learning? Any suggestions for the C4B program?

- we get knowledge about best practices from various other GEF participating countries/cities related to efforts to maintain biodiversity and climate change mitigation actions to achieve a green city
- Biodiversity is one of the important elements of a green city
- Integration between components in ecological city design (land use, buildings, transportation, infrastructure, urban landscape) is one way to achieve sustainable development.
- There needs to be a balance between urban development and environmental sustainability. The concept of ecological balance that can be done through balancing water, air and energy.
- Protected nature and greener environments will make cities stronger, more resilient, more fun and hospitable..
- Suggestion: The Cities For Biodiversity program should be carried out continuously for the sake of sustainable urban development





# What are the top three challenges concerning urban ecological and land use planning and green urban infrastructure development?



### URBAN AND PERIURBAN BIODIVERSITY CONSERVATION



Agriculture and plantations, green open space, ports, industrial areas, SEZ areas, offices, settlements, etc.

protected forest, nature reserves, tourist parks nature and forest tourism

# **STRATEGIC AREA FOR INVESTMENT DEVELOPMENT OF BITUNG PORT INTO INTERNATIONAL HUB PORT (IHP) DEVELOPMENT OF MANADO-BITUNG TOLL ROAD DEVELOPMENT OF SPECIAL ECONOMIC AREA (SEZ) RAILWAY PLANNING MANADO-BITUNG** LOGISTIC EDUCATION CENTER

### Relocation Program for 200 families living in slum areas





### **Semarang City**

I N D O N E S I A







Urban Sprawl due to Urbanization has led major concern about *Whether Semarang can provide sustainable* (ecological) city for its citizen



**TOP 3 CHALLENGES :** Flood & Land Subsidence, Solid Waste Management, Clean Water Access



**ACTIONS SHOULD BE TAKEN ON CHALLENGES :** Flood & Land Subsidence, Solid Waste Management, Clean Water Access



### Water as Leverage

Semarang Integrated Urban Water Management Program + Solid Waste Management

Marine Village Tambaklorok

Integrated Toll Road–Sea Dyke

Semarang - Demak

RESILIENT KAMPUNGS Conservation Area & Building Coverage Restriction in Spatial Plan

**MOUNTAIN TERRACE** 

RECHANNELING

THE CITY

Semarang River Revitalization

Water as Leverage, 2019

Waste Upstream Management & WtE



Integrated Toll Road–Sea Dyke Semarang - Kendal

FEEDING THE

INDUSTRY



#### **PROJECTS / INITIATIVES ON GOING**







C4B Deep-Dive Learning

**Rechanneling The City** 

### **KEY TAKEAWAYS FROM C4B DEEP DIVE LEARNING**

- Green Urban Development is Key for making Sustainable/Livable City
- Inspirations from Cities Around the World
- In Semarang Context : Concerning Urban Challenges, fast solutions (dominated with massive infrastructure) is important but if we want to make Livable City for the next 100 or even 1000 years, then sustainable solutions (green) is a MUST



Long-tail monkey of Kreo Forest in Jatibarang DAM ecosystem