Resilient Jakarta: Resilient City Strategy Development
Urban Resilience
The capacity of individuals, communities, institutions, businesses, and systems within a city to survive, adapt, and grow no matter what kinds of chronic stresses and acute shocks they experience.
### Globally

<table>
<thead>
<tr>
<th>What are acute shocks?</th>
<th>What are chronic stresses?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Earthquake</td>
<td>Water Scarcity</td>
</tr>
<tr>
<td>Wildfires</td>
<td>Lack of affordable housing</td>
</tr>
<tr>
<td>Flooding</td>
<td>Poor air quality</td>
</tr>
<tr>
<td>Sandstorms</td>
<td>High unemployment</td>
</tr>
<tr>
<td>Extreme cold</td>
<td>Homelessness</td>
</tr>
<tr>
<td>Hazardous materials accident</td>
<td>Changing demographics</td>
</tr>
<tr>
<td>Severe storms and extreme rainfall</td>
<td>Lack of social cohesion</td>
</tr>
<tr>
<td>Terrorism</td>
<td>Poverty/inequity</td>
</tr>
<tr>
<td>Disease outbreak</td>
<td>Aging infrastructure</td>
</tr>
<tr>
<td>Riot/civil unrest</td>
<td>Shifting macroeconomic trends</td>
</tr>
<tr>
<td>Infrastructure or building failure</td>
<td>Crime &amp; violence</td>
</tr>
<tr>
<td>Heat wave</td>
<td></td>
</tr>
</tbody>
</table>

### Jakarta

**Jakarta's initial list of Shocks and Stresses based on Agenda Setting Workshop (ranked by highest to lowest risk)**

**Shock**
- Flood
- Fire
- Demonstration
- Epidemic diseases
- Civil unrest / conflict
- Infrastructure failure
- Earthquake

**Stresses**
- Traffic congestion
- Housing affordability
- Air pollution (bad air quality)
- Waste management
- Drugs
- Bad sanitation and drainage
- Land use changing
- Access to clean water resource
- Land subsidence
- Corruption
- Access to public space
### Mitigation
Acting to **avoid or reduce the severity of something negative** like pollution from the emission of greenhouse gases

### Adaptation
Modifying current practices or assets to limit the impact of climate hazards associated with climate change

### Disaster Risk Reduction
Aims to **reduce the damage** caused by natural hazards like earthquakes, floods, droughts and cyclones, through an ethic of prevention.

### Sustainable Development
Development that **meets the needs of the present, without compromising the ability of future generations to meet their own needs.**

### Resilience
Is the **capacity of cities to function**, so that the people living and working in cities – particularly the poor and vulnerable – **survive and thrive in the face of shocks and stresses related to climate change.**
City Resilience Framework

12 drivers that determine the city’s ability to withstand a wide range of shocks and stresses
Health & Wellbeing
The health and wellbeing of everyone living and working in the city

- Meets basic needs
- Supports livelihood & employment
- Ensures public health services
Economy & Society

The social and financial organizations that enable urban populations to live peacefully, and act collectively.

- Promotes cohesive & engaged economies
- Ensures social stability, security & justice
- Fosters economic prosperity
Infrastructure & Environment

The way in which manmade and natural infrastructure provides critical services, protects, and connects urban citizens

- Provides & enhances natural & manmade assets
- Ensures continuity of critical services
- Provides reliable communications & mobility
Leadership & Strategy
Effective leadership, empowered stakeholders, and integrated planning

Provides leadership & effective management
Empowers a broad range of stakeholders
Fosters long-term & integrated planning
Qualities of resilient systems

Resilient systems exhibit certain qualities that enable them to withstand, respond, and adapt more readily to shocks and stresses.

- **REFLECTIVE**
  - Able to Learn

- **ROBUST**
  - Limits Spread of Failure

- **RESOURCEFUL**
  - Can Easily Repurpose Resources

- **FLEXIBLE**
  - Has Alternative Strategies

- **REDUNDANT**
  - Has Backup Capacity

- **INTEGRATED**
  - Systems Work Together

- **INCLUSIVE**
  - Broad Consultation & Communication
Resilient
Jakarta
Secretariat
Resilient Jakarta Secretariat was established on September 6th 2017

The Team:
1. Oswar M. Mungkasa as Chief Resilience Officer (CRO)
2. Dede Herland as Head of the Secretariat/Deputy CRO
3. Tri Mulyani Sunarharum as Program Manager
4. Rendy Primrizqy as Communication Officer

Responsibilities:
• to support and assist the day-to-day task and activities of the CRO;
• to share the results of the City Resilience Strategy to the relevant stakeholders;
• provide support and assistance for the implementation of the 100RC program in Jakarta
Resilient Jakarta Secretariat’s Role as a “Hub”

Invited by Planning Development Agency of Jakarta to be speaker and facilitator to give training to planning staff of agencies within DKI Jakarta

Invited to participate in public consultation as a part of the review process of Local Regulation of DKI Jakarta about Domestic Waste Water Management

In collaboration with Bappeda DKI Jakarta, Water Resource Agency of DKI Jakarta, GIZ and AECOM, Resilient Jakarta Secretariat have been conducting Feasibility Study of Decentralized Waste Water Treatment at Cambela
Resilient Jakarta Secretariat’s Role as a “Hub”

Invited as speaker and facilitator to train planning staff of Local Planning Agency and planning staff of all agencies within DKI Jakarta

Facilitate collaboration between Water Resource Agency of Jakarta with AECOM and GIZ in conducting feasibility studies on waste water treatment plant

Collaborate in developing Urban Youth Resilience Program and support the development and implementation of Grand Design Child-Friendly City

Collaborate in localizing SDGs into local development plan

Collaborate in developing resilient public space initiative, supported by UN-HABITAT

Invited as speaker in a workshop regarding disaster risk reduction efforts

Invited as facilitator in a workshop regarding community based disaster risk reduction and support the development of its Grand Design

Support the development and implementation of Ambitious City Promises (ACP) program

Support the development and implementation of programs of Save the Children Indonesia
Collaborative Approach
Issues of Jakarta

1. Fragmented governance

2. Working in “silos”

Incomprehensive solutions

Source: www.gliffy.com

Source: tadamichi/Shutterstock.com
Collaborative approach is an interactive process of consensus building (Healey, 2006), plan development, and implementation (Margerum, 2002) as a way to build networks and to improve the knowledge transfer among stakeholders (Innes and Booher, 2000).

Collaborative Governance includes 4 (four) important factors (Ansell and Gash, 2007):

1. The existence of deliberative forum
2. Multi-actors, including government and non-government
3. Consensus oriented
4. Relevant to public policy
Collaborative Approach for a More Resilient Jakarta

Resilient Jakarta Secretariat

1. Developing Jakarta Resilient Strategy
   - The resilience strategy serves a roadmap to build resilience in the city.

2. Serves as a “hub”
   - Engage broad range of stakeholders in some collaborative ways

By using Collaborative approach

Through:
- Workshops
- Seminar
- Working Session
- Resilient Forum
- Social Media

Internalization
- Internalizing Jakarta Resilient Strategy into Medium-Term of Local Development Plan and Local Strategic Plan

Buy-in
- Strong collaboration may lead to better buy-in from broad range of stakeholders as well as enhancing impacts of resilience
• Accommodate the commitment of all stakeholders in carrying out efforts relevant to certain issue
• Provide a framework for all stakeholders to work together for Jakarta
• Provide input to development planning in DKI Jakarta, from neighborhood level to provincial level, through internalization of the contents of the Grand Design into the Middle-Term Planning of Jakarta, Strategic Plan, and Work Plan of Government Institutions
Grand Designs for a More Resilient Jakarta

- Grand Design green Building
- Grand Design Urban Farming
- Grand Design Community Based Disaster Risk Reduction
- Grand Design Water and Waste Management
- Grand Design Child-Friendly City
- Grand Design Waste Management
- Other Grand Designs
Collaborative Approach

Collaborative process allows a community and other related stakeholders to participate in process of consensus building and in the decision-making processes (Godschalk and Mills, 1966).

Collaborative governance allows government agencies directly invite stakeholders to make decisions jointly in a forum that is formal, consensus-oriented, and freedom-oriented, which aims to create or implement public policies or manage public programs and assets (Ansell dan Gash, 2007).

Grand Designs for Jakarta

Launched
- Grand Design Green Building
- Grand Design Child-Friendly City
- Grand Design Water and Domestic Waste Water
- Grand Design Urban Farming
- Grand Design Waste Management

On-going
- Grand Design Community Based Disaster Risk Reduction

Upcoming
- Grand Design Slums
- Grand Design River
- Grand Design Air Pollution
Resilient Strategy Development Process
WHAT IS THE CITY RESILIENCE STRATEGY?

The Strategy is a tactical roadmap to build resilience that articulates the city’s resilience priorities and specific initiatives for short-, medium-, and long-term implementation.
City Resilience Strategy Process

PHASE I

PHASE II

Today
Phase I: A Holistic Scan of Jakarta’s Resilience

Collaborative Approach: Interviews, Working Sessions, Workshops, Seminar

- City Context
- Actions Inventory
- Local Perceptions Survey
- Physical Asset Scan
- Shocks & Stress Qualitative Risk Assessment

Issues, challenges, context
List of actions, understanding of the gaps
Perceived strengths & Weaknesses
Condition of assets, priority shocks/stresses
Priority shocks, future stresses

Discovery Areas for further study in Phase II
Stakeholders validation
Processes of Preliminary Resilience Assessment

0. Agenda Setting Workshop
1. Stakeholder Engagement
2. Assessment of City Assets, Shocks and Stresses
3. City Perceptions Assessment
4. City Context and City Actions

Preliminary Resilience Assessment
Discovery Areas
Phases of City Perceptions Assessment

1. Stakeholder Engagement
2. City Context and City Actions
3. City Perceptions Assessment
4. Assessment of City Assets, Shocks, and Stresses

Key shocks and stresses

<table>
<thead>
<tr>
<th>Shocks</th>
<th>Stresses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flood</td>
<td>Traffic Congestion</td>
</tr>
<tr>
<td>Fire</td>
<td>Housing Affordability</td>
</tr>
<tr>
<td>Demonstration</td>
<td>Air Pollution</td>
</tr>
<tr>
<td>Epidemic Diseases</td>
<td>Waste Management</td>
</tr>
<tr>
<td>Civil Unrest / Conflict</td>
<td>Drugs</td>
</tr>
<tr>
<td>Infrastructure Failure</td>
<td>Poor Sanitation and Drainage</td>
</tr>
<tr>
<td>Earthquake</td>
<td>Land-use change</td>
</tr>
</tbody>
</table>

Strengths and weaknesses

- Area of Strength
- Can Do Better
- Can Do Much Better

Speakers panels from various cities on resilience challenges
Shocks and stresses prioritisation exercise
Identify Jakarta’s strengths and weaknesses
The process of stakeholder engagement activities includes working together with Development Planning Agency (Bappeda) on data gathering, with decision makers, and with various stakeholders.

<table>
<thead>
<tr>
<th>Phase 1 Outputs and Findings – Stakeholder Engagement</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>City Context</strong></td>
</tr>
<tr>
<td>Interview with Bappeda</td>
</tr>
<tr>
<td><strong>City Actions Inventory</strong></td>
</tr>
<tr>
<td>Interview with Bappeda and communities</td>
</tr>
<tr>
<td>Data Collection FGD of Mid-Term Development Plan</td>
</tr>
<tr>
<td>Working Session with Bappeda</td>
</tr>
<tr>
<td><strong>City Perceptions</strong></td>
</tr>
<tr>
<td>Survey 500 respondens</td>
</tr>
<tr>
<td>Workshops</td>
</tr>
<tr>
<td><strong>Asset, Shocks, and Stresses</strong></td>
</tr>
<tr>
<td>Interview with Bappeda</td>
</tr>
<tr>
<td>Working Session with Bappeda and the owner of assets</td>
</tr>
<tr>
<td>Workshops</td>
</tr>
<tr>
<td><strong>Preliminary Resilience Assessment and Discovery Areas</strong></td>
</tr>
<tr>
<td>Working Session with the decision makers</td>
</tr>
<tr>
<td>Seminar</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>0</th>
<th>Agenda Setting Workshop</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Stakeholder Engagement</td>
</tr>
<tr>
<td>2</td>
<td>City Context and City Actions</td>
</tr>
<tr>
<td>3</td>
<td>City Perceptions Assessment</td>
</tr>
<tr>
<td>4</td>
<td>Assessment of City Assets, Shocks, and Stresses</td>
</tr>
</tbody>
</table>
# Phase 1 Outputs and Findings – City Context and City Actions

## City Context

Data was gathered through Bappeda’s RPJMD (mid-term development planning) and working sessions; as well as with various stakeholders that represent various sectors. The contents starts with an introduction on Jakarta’s resilience and its involvement in Resilience strategy, as well as its demographics and geography condition. It is then structured primarily using the dimensions of City Resilience Framework (CRF):

### City Context

- Five (5) administrative cities and one (1) administrative district
- The two roles, as a capital city and as an autonomous regional authority contribute to complex issues that differ from other Indonesian provinces
- Jakarta is one of the biggest urban concentrations in the world.

### Health and Wellbeing

- It is estimated that there has been a housing shortage of 700,000 over the past 10 years.
- Jakarta has a slum area of 1204,52 hectares.
- The energy demand keeps increasing each year by 7-8% and is reliant on energy being supplied from other regions.
- At least 70% of Jakarta air pollution is from private vehicles.
- 58% of all illnesses among people living in Jakarta were related to air pollution.
- Low education level.

### Economy & Society

- Jakarta’s dominant economy sector is the service and trade sector.
- Jakarta contributes 17% of the national economy.
- 35.93% of the population did not attend school or progress beyond primary education.

### Infrastructure & Environment

- Pedestrian walkways are far below standard, with reports that from total of 4,500 miles of capital road only 7% has sidewalks.
- Currently only 9.98% of Jakarta area has been utilized as green space.
- Water catchments are highly contaminated by domestic pollution.
- Aging infrastructure especially in drainage systems bring additional stress to environment.
- No comprehensive disaster risk management program or disaster response plan.

### Leadership and Strategy

- In contrast to other Indonesian provinces, the mayors and regent are appointed, not elected.
- Indonesia’s performance has shown a steady improvement with measures being made to reduce corruption.
- Reducing corruption is a focus for the community, and frequently features as a political issue during elections.

### Agenda Setting Workshop

0

### Stakeholder Engagement

1

### City Context and City Actions

2

### City Perceptions Assessment

3

### Assessment of City Assets, Shocks, and Stresses

4
Data was gathered through Bappeda’s RPJMD (Mid-term Development Planning) and working sessions; as well as with various stakeholders that represent various sectors.

A total of 219 city actions were gathered, and 160 prioritized actions were selected.

The Jakarta City Actions List includes heavily on actions that categorized in ‘empowering a broad range of stakeholders,’ which also has the most prioritized
Based on online survey and workshop, ‘reliable communication and mobility’ is the most important driver in Jakarta; however, it requires attentions.

Most discussed key issues during the workshop was:
1. Integrated planning
2. Effective leadership
3. Community participation/engagement
Phase 1 Outputs and Findings - Shocks

- Rainfall flooding
- Demonstration
- Cyber attack
- Fire
- Disease outbreak
- Infrastructure failure
Phase 1 Outputs and Findings – Stress

Food quality

Increase mobility

Unsustainable water supply system

Environmental Degradation

Social Discrepancy

Urbanization
Phase 1 Outputs and Findings – Assessment of City Assets, Shocks, and Stresses

### Asset condition
- Water treatment plant
  - Potable water supply
  - River, lake, coast
  - Waste management facility
- Irrigation channels
  - Electricity generation
  - Electricity transmission
  - Residential buildings
  - Water storages
  - Air quality monitoring station
  - Green open space
  - Drainage asset
  - Port
  - Fuel depot
  - Government owned land
  - Main roads
  - Railways
  - Tunnels
  - Bridges

### Top shocks
- **Rainfall flooding**
  - Infrastructure failure
  - Riot / civil unrest
  - Fire
  - Disease outbreak
  - Drought
  - Cyber attack
  - Financial / economic crisis
  - Power outage
  - Land subsidence
  - High tide flooding
  - Earthquake
  - Terrorist attack
  - Neighborhood riot
  - Tsunami

### Vulnerable asset
- **Electricity generation**
  - Water treatment plant
  - Ports
  - Airports
  - Electricity transmission
  - Residential buildings
  - Food bank
  - Railways
  - Waste treatment plant
  - Main roads
  - Tunnels
  - Drainage assets
  - Bridges
  - Fire departments
  - Green open space
  - Public parks and recreational trails
  - River, lake, coast
  - Health clinics
  - Education facilities

---

**Bappeda working session**

**Workshop**

- Four (4) groups of asset groups
- Rate the assets
- Rate the shocks (online survey)
- Matrix of top assets and shocks

**Agenda**

0. Setting Workshop
1. Stakeholder Engagement
2. City Context and City Actions
3. City Perceptions Assessment
4. Assessment of City Assets, Shocks, and Stresses
### Top five current stresses

1. The safety, quality, and hygiene of food
2. High urbanization
3. Environmental degradation
4. Management capacity related to the leader’s credibility and the important of integrated planning
5. Critical thinking of cyber information

### Top five future stresses

1. High life competition
2. Poverty and economic inequality
3. Unsustainable clean water supply
4. Increase in mobility
5. Quality of education and character building
How can we improve the governance and management capacity of Jakarta?

How can we create “culture” of preparedness for shock events in Jakarta?

How can Jakarta’s health and wellbeing be improved through better clean water, waste water, and waste management?

How can Jakarta’s mobility and connectivity be improved?

How can Jakarta improve the social cohesion?
Phase I Activities

Agenda Setting Workshop – 17 November 2016

The first official involvement between Jakarta and 100 RC and the first step towards the development of Jakarta’s resilience strategy

Nexus Game – 19 January 2017

Focus group discussions used a city board game simulation as a tool to generate active discussion among participants regarding the concept of resilience, for example the economic sector faces energy, water and food pressures
Opportunities for the new CRO to explore his roles and understand how to utilize 100RC resources to develop knowledge and skills in generating city resilience strategies
Phase I Activities

**Bellagio CityXChange Summit – May 2017**

This activity aims to change the way cities define and solve problems based on "Opportunities for Innovation" for cities and produce road map to guide technology collaboration and other cities.

**New York Global Summit – July 2017**

Nearly 500 urban resilience leaders from around the world, including 80 Chief Resilience Officers (CROs) share ideas and innovations from their cities, collaborated on new solutions in city resilience.

**Visit to Semarang (Maret 2017)**

The sharing and learning sessions between Jakarta and Semarang on challenges and resilience opportunities, understanding of strategy development and implementation processes, providing examples of team organizational structures, and initial identification of collaborative activities between Semarang and Jakarta to improve resilience.
Phase I Activities

Training of Resilient Jakarta Secretariat – September 2017
City Perception Workshop – September 2017

Phase I Activities
Phase I Activities

Assets and Risks Workshop on Assets and Shocks – September 2017
Phase I Activities

Assets and Risks Working Session on Stresses – September 2017
Phase I Activities

Working Session on Preliminary Resilience Assessment and Discovery Areas – September 2017
Thank you!
Terima kasih!