Flood Governance of Jakarta, Indonesia: Identifying societal and political processes in climate change adaptation
(case study on relocation as an adaptation measure in Jakarta)

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Motivation and Research gaps

- Climate change as a trigger to severe flooding in Jakarta (in addition to land subsidence)
- Flooding management (traditional) → Flooding risk management (adaptive strategies) (Ward et al, 2013)
- Various collaboration programs on adaptation and mitigation to flooding
- Adaptation planning has been integrated in development planning
  - RPJMD 2013-2017 :
  - Renstra BPLHD
  - Strengthen the routine programs
- Research gap : assessment of implementation processes of adaptation measures to reduce risk
Adaptation Measures to CC: Embedded to Planning

<table>
<thead>
<tr>
<th>Measures</th>
<th>Development program</th>
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<tbody>
<tr>
<td><strong>Canal construction</strong></td>
<td>Finishing east and west flooding canal through land redemption</td>
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<td>Managing areas surrounding the canals</td>
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<td><strong>River and reservoirs normalizations</strong></td>
<td>River normalization (pesangrahan river, angke river) through land redemption</td>
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<td>Land redemption</td>
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<td>River and reservoirs capacity through dredging program</td>
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<td>Developing dam in upstream</td>
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<td>Integrated management upstream-downstream</td>
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<td><strong>Drainage system infrastructures</strong></td>
<td>Developing water resources infrastructures</td>
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<td>Maintenance reservoirs and drainage areas</td>
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<td><strong>Dyke and giant sea wall</strong></td>
<td>To optimize adaptation through dyke construction and giant sea wall</td>
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<td>Master plan for giant sea wall</td>
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<td><strong>Slum and River bank housing management</strong></td>
<td>Low cost apartment</td>
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<td>Dissemination relocation program</td>
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<td>Slum and river bank housing upgrading</td>
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**Main questions and objectives**

**Question:**
What are ongoing societal and political processes that significantly influence relocation as adaptation to increasing floods (*under climate change and land subsidence*)?

**Objective:**
To analyse particular relocation measures and livelihood opportunities of the vulnerable people as well as political context and stakeholders that influence the processess of adaptation to climate change.
Methodology

- Desk review
- Semi-structured interview
  - Government officers
  - Expert on Jakarta (advisor for city planning)
  - Community

CONCEPTS

Adaptation
- Institutional frame for adaptation (McGray et al, 2007 in Hortsmann, B, 2008)
- The MOVE framework (Birkmann et al, 2013)
- First and second order adaptation (Birkmann, J, 2011)
- Adaptive urban governance (Birkmann, J; Garschagen, M., Fernando, 2013)

Flooding Risk Governance
- Ward et al, 2013
- Mess et al, 2014

Relocation
- Relocation: less exposure to natural hazards, but add new threat on socio-economic aspects (Birkmann et al, 2013)
- Relocation: livelihood change and potentially marginalization (Fernando, 2010)

GOVERNANCE: decision making process and implementation
Relocation as case study: understanding societal and political process for more affective implementation


Socio-economic and demographic dynamics (part 1)

Number of population in Jakarta on 2000 by sub district

BPS Jakarta, 2010
The high number of immigrants becomes a challenge for providing housing for low income groups.

Source: berita Statistik Jakarta, 2014

Figure 1: Distribution of slum area in Jakarta, 2013

Source: Housing Agency of DKI Jakarta

Graph 1: Percentage of Kelurahan that has slum areas in the river bank

Source: Own figure, processing from raw data of PODES DKI Jakarta 1996-2011
The objectives of relocation

- Housing provision and its public facilities
- To increase quality of infrastructure related to floods prevention (rivers and reservoirs)
- To reduce risk of floods

Governance of Relocation (part 1)

Decision making process under political dynamic in Jakarta

**Orientation**

- The first-100 days program of new Jakarta leader (Joko Widodo and Basuki T.P)
- Become part of Jakarta flooding prevention
  - Relocate people from reserve areas
  - Reducing risk to flooding
- Continuing previous program
  - Relocate people from slum and illegal areas
  - Increasing quality of life
  - Increasing public services provision

**Structure**

- Multi-level governance
  - Coordination between national and provincial level (sharing budget, location of low cost apartments)
- Multi-stakeholder
  - Involving state owned company of Jakarta (Jakarta Propertindo) – to manage the infrastructure and related government agencies
- Transparency – e-government (e-budgeting)
Governance of Relocation (part 2)

Decision making process under political dynamic in Jakarta

Source: Housing Agency of DKI Jakarta. 2014

Collaboration between national and Jakarta government in provide low cost housing (apartment) – budget, administration, management

Governance of Relocation (part 3)

Process in Community level

- Tipping point:
  - Severe flooding on January 2013 – trigger to decide to move (no choice)

- Negotiation process (semi structured interviews and Sakai, 2014)
  - Preferences of location: three options
  - Pre-visit to new location
  - Step by step relocation process after readiness of new place
  - Public facilities provision: transportation to job location, new job opportunities in industry, market, other empowerment activities
  - Community relocation
  - Low rents
  - Compensation for going back to place of origin (outside Jakarta)
**Time-frame process**
- **Short time:**
  - Government provides supporting facilities for limited period of time
  - For the longer time, people has to adapt based on their own capacity
- **Limited capacity:**
  - Questioning capacity of government to provide long term housing due to high number of poor people in slum areas

**Relocation Process:** challenge for adaptation implementation

<table>
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<tr>
<th>Before relocation</th>
<th>After Relocation</th>
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<tr>
<td><strong>Exposure:</strong></td>
<td><strong>First Order adaptation</strong></td>
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<tr>
<td>Regular flooding</td>
<td><strong>Exposure:</strong></td>
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<tr>
<td>Slum (high density)</td>
<td>Reduce risk to flooding (high level of housing)</td>
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<tr>
<td>Illegal</td>
<td><strong>Susceptibility:</strong></td>
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<td>High cost for renting house</td>
<td>Infrastructure and public facilities (Water supply, electricity, transportation)</td>
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<tr>
<td>Lack of facilities (clean water problem, sanitation, drainage system)</td>
<td>Not all can access (on going process)</td>
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<td>Informal sectors (some depend on fisheries, decreasing income)</td>
<td><strong>Coping and adaptation</strong></td>
</tr>
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<td>Social cohesion (based on ethnicity)</td>
<td>Diverse socio-economic effects</td>
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<td>Traditional housing protection (leveling floor)</td>
<td><strong>Second order adaptation</strong></td>
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<tr>
<td>Job diversification</td>
<td>New livelihood – new vulnerability?</td>
</tr>
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Sources: Framework modified from Birkmann et al, 2013; content based on literature review on relocation of waduk pluit, marunda; report on Jakarta Utara (muara baru & kamal muara) (ICAR LIPI); semi structure interview to government staff in Housing Agency of DKI Jakarta and informant from Marunda

Temporary government support
Conclusion

• Societal and political process consider to influence the effectiveness of adaptation measures
• Need to assess the second stage of adaptation measures – dynamic of vulnerability

Challenges
• Monitoring “vulnerability foot prints” under consideration of potential second order adaptation needs.

THANK YOU
References:


http://jakarta.bps.go.id/index.php?WQ9NTg