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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



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- **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**

(Background - 2)		
Adaptation Measures to CC: Embedded to Planning		
Measures	Development program	
	Structural	Non structural
Canal construction	Finishing east and west flooding canal through land redemption	Managing areas surrounding the canals
River and reservoirs normalizations	River normalization (pesangrahan river, angke river) through land redemption	Land redemption
	River and reservoirs capacity through dredging program	
	Developing damn in upstream	Integrated management upstream-downstream
Drainage system infrastructures	Developing water resources infrastructures	Maintenance reservoirs and drainage areas
	Developing drainage systems	Master plan for deep tunnel
	Developing Biopori systems	
Dyke and giant sea wall	To optimize adaptation through dyke construction and giant sea wall	Master plan for giant sea wall
Slum and River bank housing management	Low cost apartment	Dissemination relocation program
	Slum and river bank housing upgrading	

Main questions and objectives	
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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 process of adaptation to climate change



Methodology



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



CONCEPTS



Adaptation

- Institutional frame for adaptation (McGray et al, 2007 in Hortsman, 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)

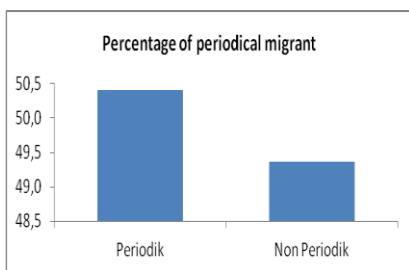
GOVERNANCE : decision making process and implementation



Socio-economic and demographic dynamics (part 2)

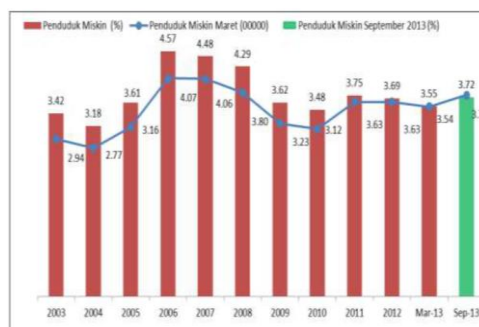


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Source : own figure, processing from raw data
SUPAS 2005

The high number of immigrants becomes challenge for
providing housing for low income groups



Source : berita Statistik Jakarta, 2014

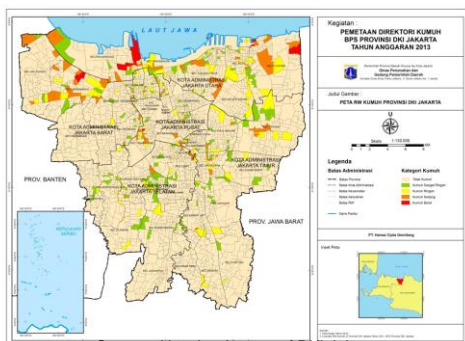


Socio-economic and demographic dynamics (part 2)

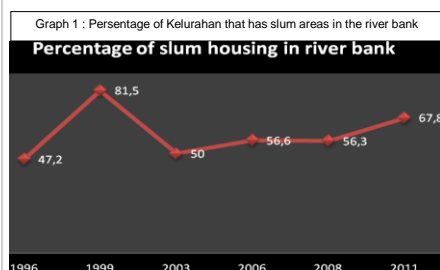


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Figure 1: Distribution of slum area in Jakarta, 2013



Source : Housing Agency of DKI Jakarta



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



Relocation in Development Planning



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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



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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)



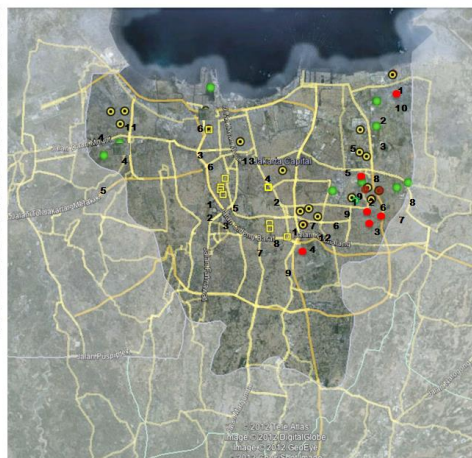
Governance of Relocation (part 2)

Decision making process under political dynamic in Jakarta



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●	Rumah Susun Sewa
1	Rumah Susun Cipinang Besar Utara
2	Rumah Susun Karang Anyar
3	Rumah Susun Tambora
4	Rumah Susun Flamboyan
5	Rumah Susun Sukapura
6	Rumah Susun Penjaringan
7	Rumah Susun Cipinang Muara
8	Rumah Susun Tjap Cakung
9	Rumah Susun Pulo Jeleh
10	Rumah Susun Marunda
11	Rumah Susun Kapuk Muara
12	Rumah Susun Pondok Bambu
13	Rumah Susun Jatirawasari
■	Rumah Susun Sewa Beli
1	Rumah Susun Petamburan
2	Rumah Susun Bendungan Hilir 2
3	Rumah Susun Karat Tengsin
4	Rumah Susun Tanah Tinggi
5	Rumah Susun Jati Burder
6	Rumah Susun Tambora
7	Rumah Susun Tebet Barat 1
8	Rumah Susun Tebet Barat 2
9	Rumah Susun Bidara Cina
●	Rumah Susun APBN dan REI
1	Rumah Susun Marunda
2	Rumah Susun Pinus Elok
3	Rumah Susun Komarudin
4	Rumah Susun Cipinang Besar Sel.
5	Rumah Susun Pulogebang REI
6	Rumah Susun Cakung Barat
●	Lokasi Tanah DPGP
1	Pinus Elok
2	Blok Nagrak
3	Rorotan
4	Daan Mogot
5	Semanan
6	Jatinegara Kaum
7	Rawa Bebek
8	Cakung II, Raya Bekasi
9	Penggilingan



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

Source : Housing Agency of DKI Jakarta.2014



Governance of Relocation (part 3)

Process in Community level



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- **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)



Governance of Relocation (part 4)

Implementation



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Time-frame process

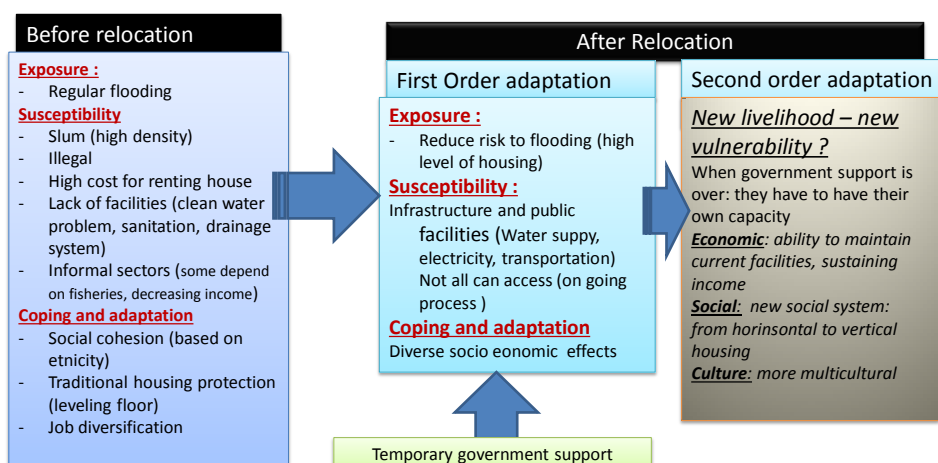
- Short time:
 - Government provides supporting facilities for limited period of time
 - For the longer time, people has to adapt based on their own capacity
- Limited capacity:
 - Questioning capacity of government to provide long term housing due to high number of poor people in slum areas



Relocation Process: challenge for adaptation implementation



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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) (ICIAR LIPI); semi structure interview to government staff in Housing Agency of DKI Jakarta and informant from Marunda



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





Governance of Relocation (part 3)

Decision making process under political dynamic in Jakarta



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