

Conceptualizing people-based planning towards Water-friendly City

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Water-friendly city (WfC)

- WfC is an alternative concept to understand **human flourishing** in the urban age in which humanity transform the development pathway of water uses.
- It examines the ‘real’ **perception**, **shifted meaning**, and **institutionalization** of water using in urban settlement.
- Human adaptation and modification to water regime provides **a wealth of experience** from which the field of urban planning, and individuals and governments, can draw

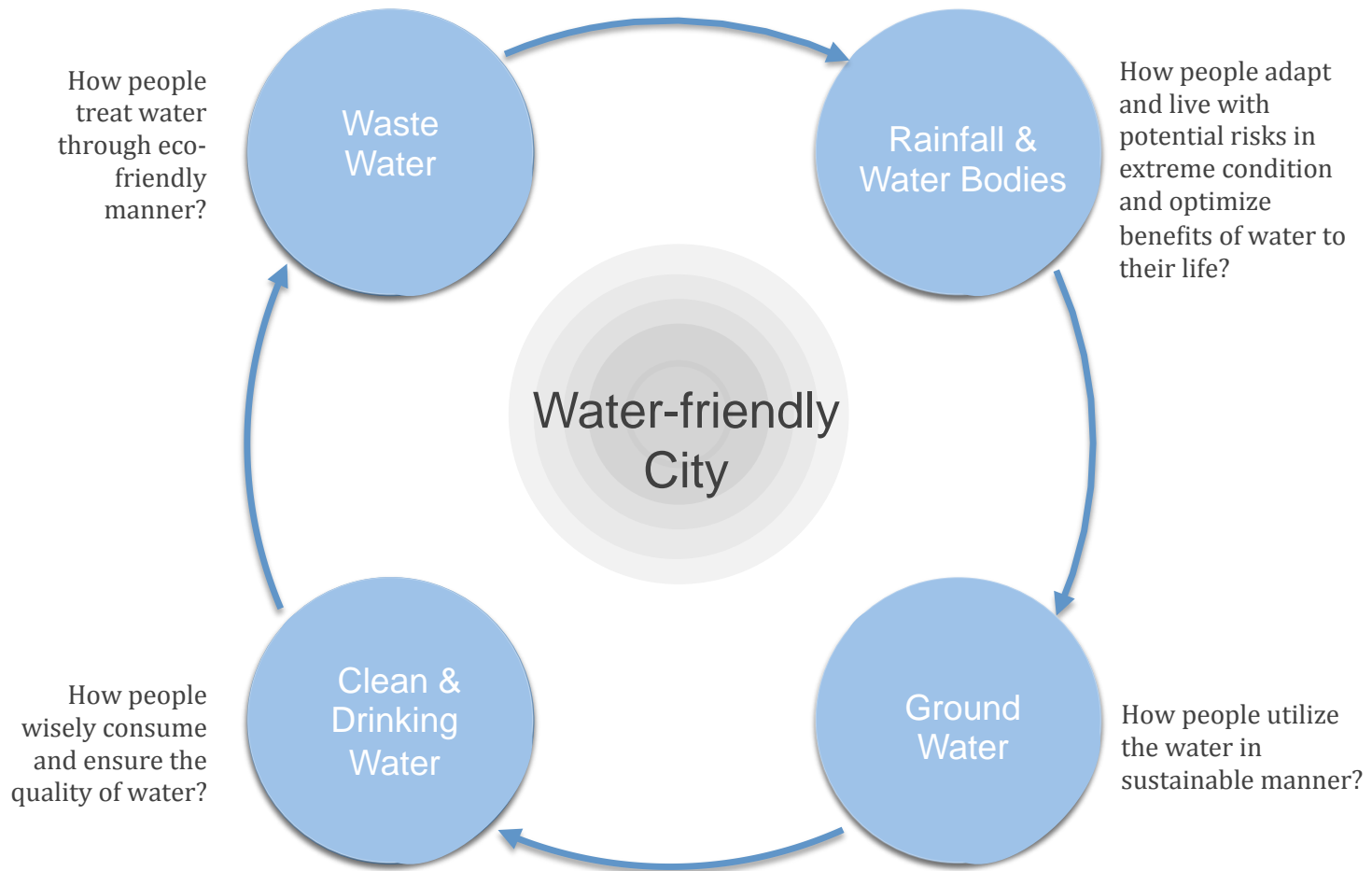


Bora Bora Resort, French Polynesia



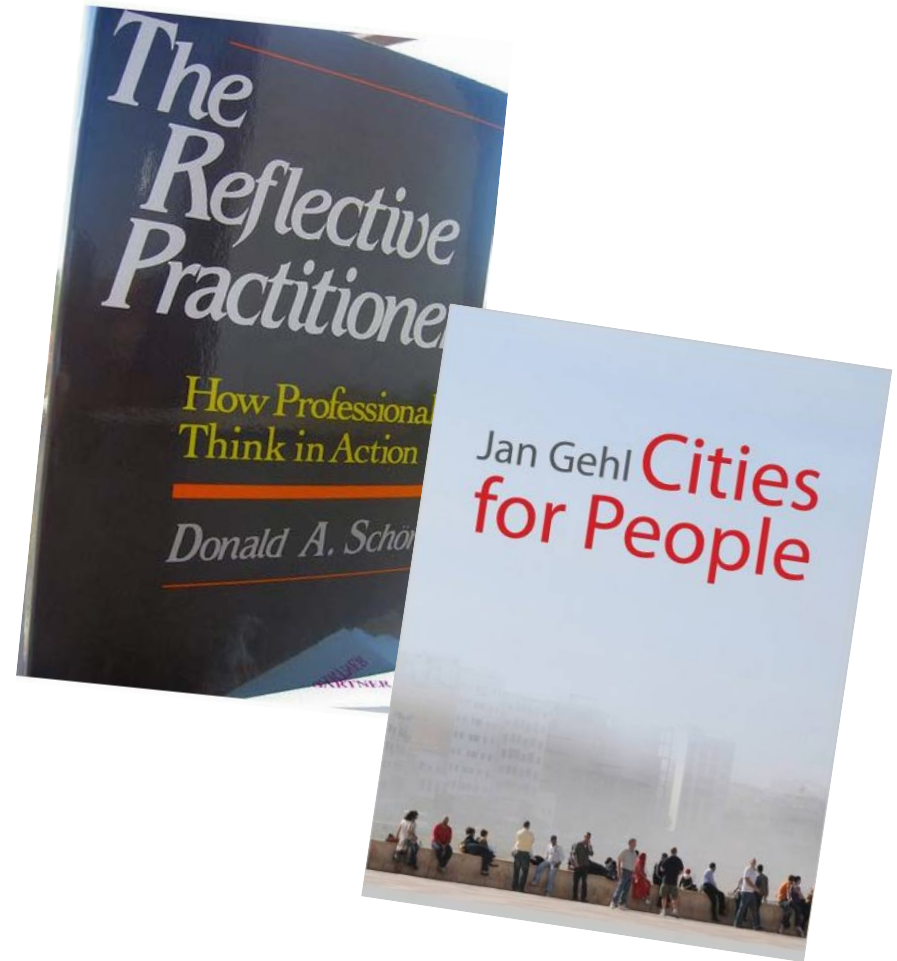
Brisbane, Australia

WfC in urban water cycle



Centering people in urban planning

- “...looks to the creative initiative of people as the primary development resource and to their material and spiritual well-being as the end that the development process serves” (Korten and Garner 1984, 201)
- Planning is a universal human activity (AICP, 2001) and can be operated based on reflective practices (Schön, 1984)
- Planning should be oriented to people and conducted by people scale (Gehl, 2011)



Main challenges

- Water is a wide-range and interconnected issue
Water problem can be started from the lack of water resources to the water-borne disease. Basic sanitation infrastructure is needed to prevent human excrement from contaminating water supplies.
- Different meaning of water (people vs. expert)
“most participants mentioned curtailment (e.g., taking shorter showers, turning off the water while brushing teeth) rather than efficiency improvements (e.g., replacing toilets, retrofitting washers)” when asked for the most effective strategy (Attari, 2014).
- Local people can be a solution or problem cause
How and to what degree different localities are affected and how local people adapt to changed condition (Antweiler and Hornidge, 2012).
- In Asia, cities urbanize uncontrollably and poverty is urbanizing
Kampung houses a majority of the urban population (Garr, 1989), for about 60-70% of Jakarta population (Silver, 2008; Sujarto, 2002) and linked to the 490 pockets of poverty in Jakarta (UN Habitat, 2003)

Conserve or utilize marine resources

case study: Kepulauan Riau



Lagoi beach, Bintan island



Sand mining, Lingga district



Coral reef, Kepulauan Anambas



Budidaya Ikan Kerapu, Tanjung Pinang

Marine resources utilization

case study: Karimun Jawa, Demak



Fish breeding in the sea



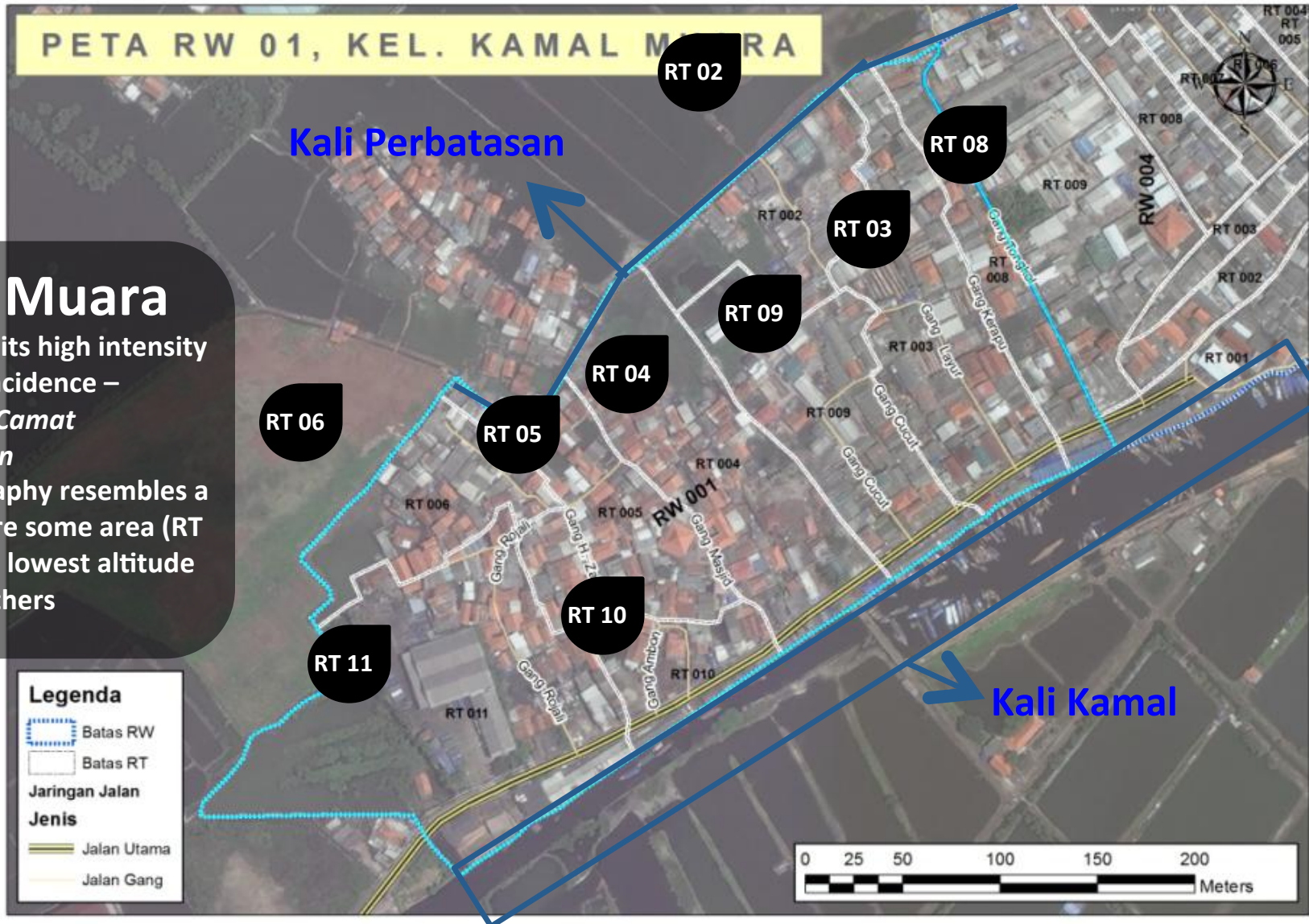
Mangrove plantation in the coastal area

Marine resources utilization

case study: Kampung Kamal Muara, Jakarta

Kamal Muara

- Known for its high intensity of floods incidence –
Sekretaris Camat Penjaringan
- Its topography resembles a bowl, where some area (RT 04) has the lowest altitude than the others



Marine resources utilization

case study: Kampung Kebon Bawang, Jakarta

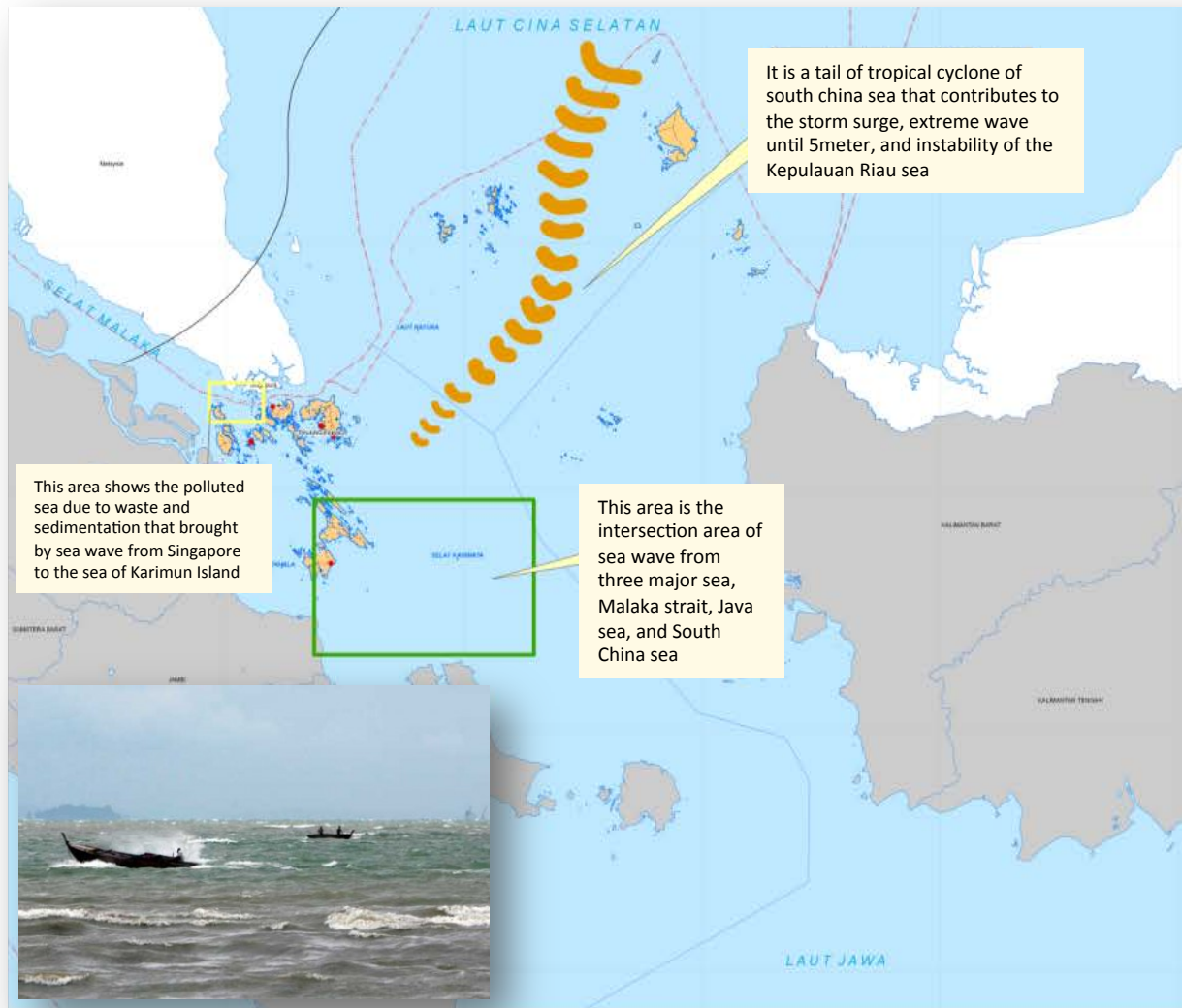
- Converted swamps & rivers area into housing
- Housing next to the river banks:
 - Open public toilet
 - Bamboo and board construction
 - Sloping towards the rivers- floors & walls cracking
 - Throw garbage to river
- High density housing
 - Narrow access , illegal electricity connection– vulnerable to fire
 - Poor air circulation & sunlight
- Scarce of public/green open space-> street as public space
- Access to clean water: well, water utility, water vendors
- Drainage :
 - Clogging – solid waste
 - Transform into hard scape
 - Builds upon drainage



“ The houses above the river have been there for years, so that we let them without scolding to avoid conflicts” (Interview with Ali, vice chairman of RW 02 Kebon Bawang)

Living with rapid seasonal change

case study: Kepulauan Riau, Indonesia



The global ocean change has put the area of Kepulauan Riau in an uncertain condition, but somehow the local people can adapt to these phenomenon to certain extent

“When north wind comes around December and January, we don’t do fishing. We stored the modest food to survive” (Tarmizi, Anambas fishermen, Interview 22.10.2010)



Living with frequent flood

case study: Kampung Muara Baru and Kamal Muara



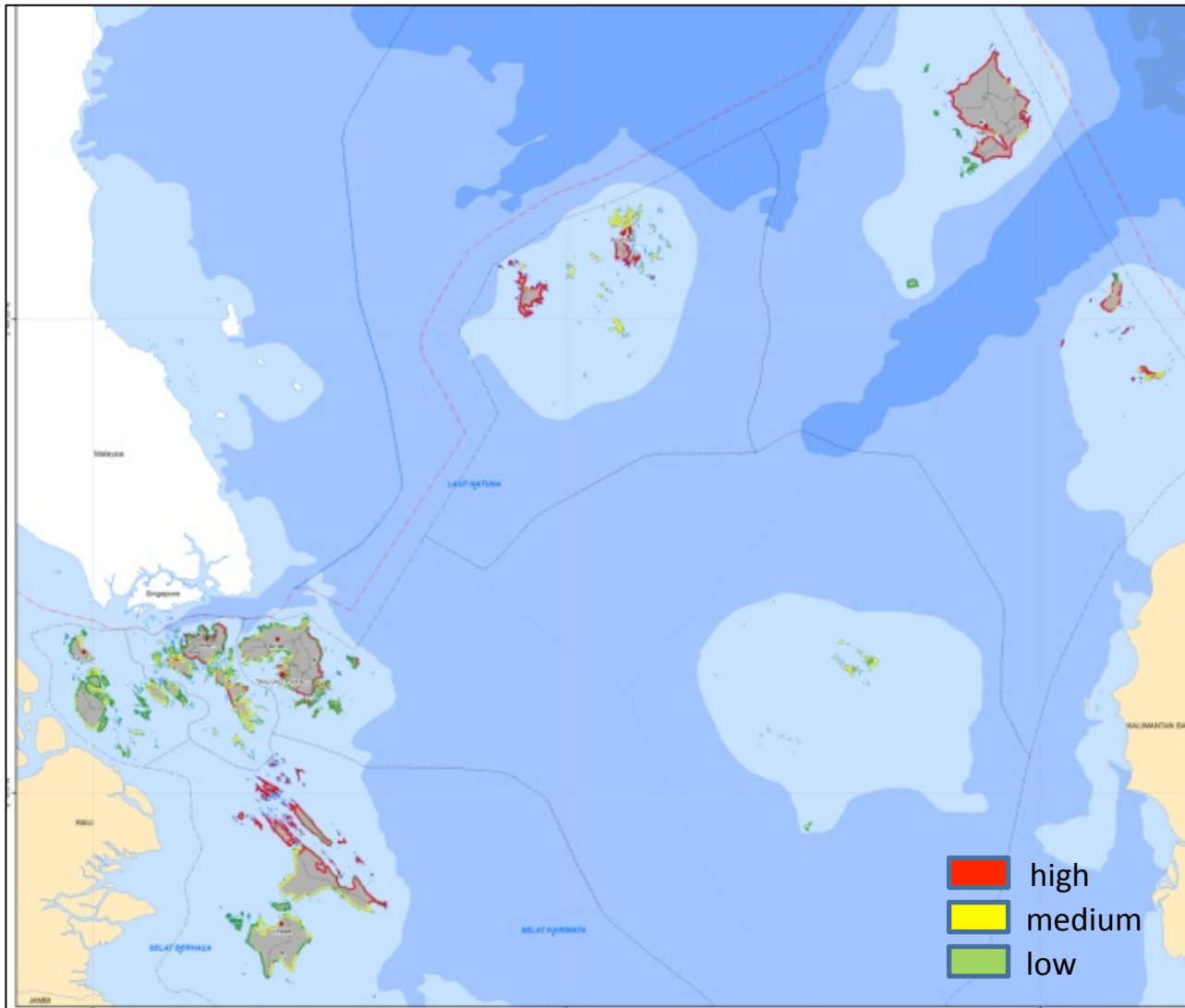
Living with frequent flood

case study: Kampung Pulo, Jakarta



Knowing risk, but not adapt it yet

case study: Kepulauan Riau, Indonesia



Risk of Extreme wave and abrasion
In Pulau Laut, Natuna. (Antara.com)



Risk of tornado in Batam. (berita.plasa.msn.com)

Knowing risk, but not adapt it yet

case study: Demak district, central Java, Indonesia



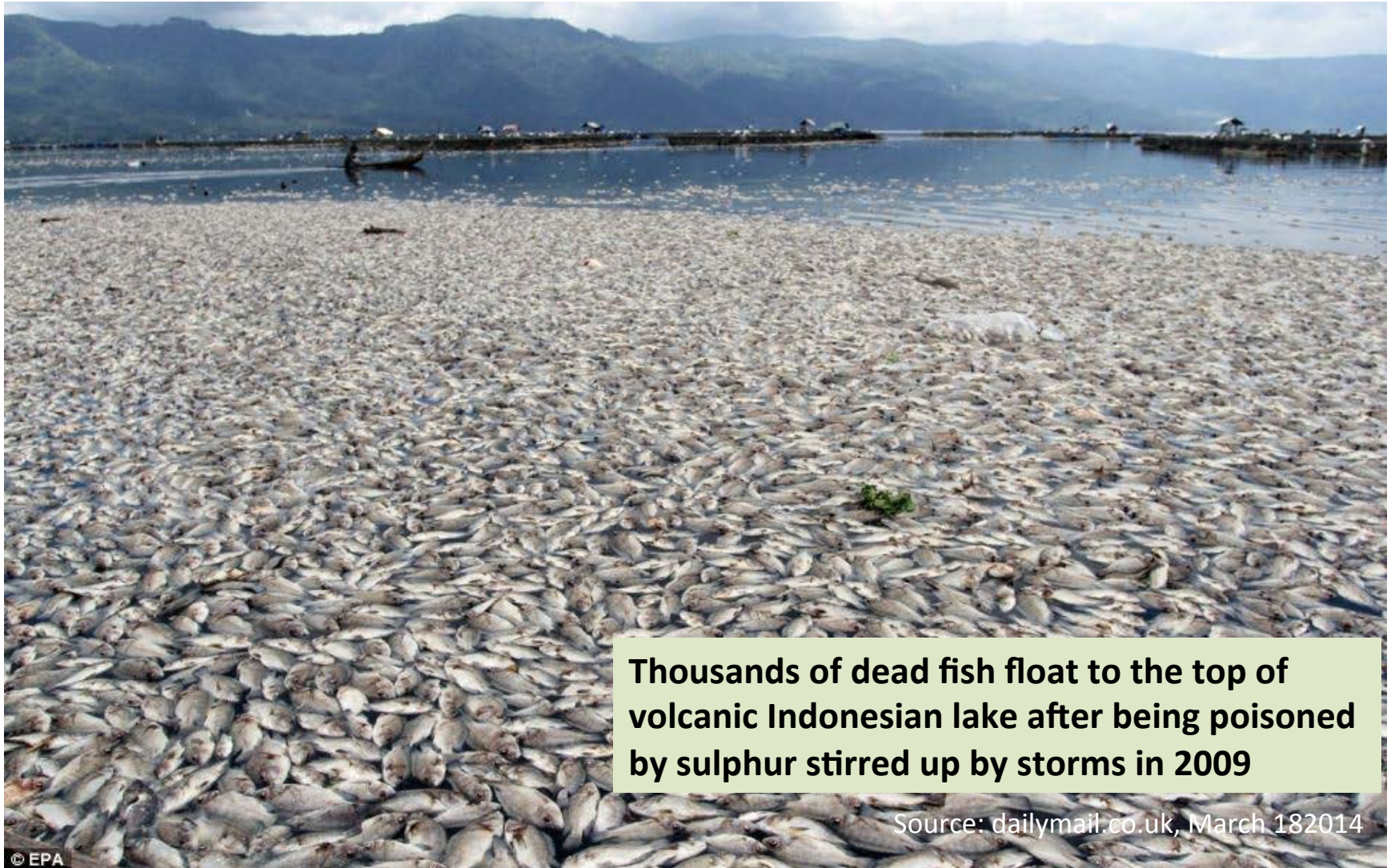
Due to sea level rise, some houses in Bendono village are inundated



Due to sea level rise and infiltration, some houses in Timbulsloko village are abandoned and moved out

Knowing risk, but not adapt it yet

case study: Agam district, West Sumatera, Indonesia



Thousands of dead fish float to the top of volcanic Indonesian lake after being poisoned by sulphur stirred up by storms in 2009

Source: dailymail.co.uk, March 18 2014

Develop with regret options

case study: Kali Cideng, Jakarta



Develop with regret options

case study: Balang Tonjong, Makassar



21.02.2011 15:59

compare to...

Magdeburg Water bridge, Germany



Water park at city center, Hamburg



Multilayer safety and water robust building Dordrecht, Netherland



buildings with the plinth (on the left side) that can be flooded

Wetropolis: a floating city concept in Bangkok



Source: <http://inhabitat.com/spbas-wetropolis-is-a-floating-city-that-survives-the-ebb-and-flow-of-shifting-tides/spba-water-curse-or-blessing2/>

Harvest city- a floating city concept in Haiti



Source: <http://inhabitat.com/harvest-city-floating-islands-to-rebuild-haiti/>

What can we learn from those Indonesian cities' experiences?

**Absolute
vs.
perceived
space**



**land
surface**

**under-
ground
space**

**water
space**

**under
water
space**

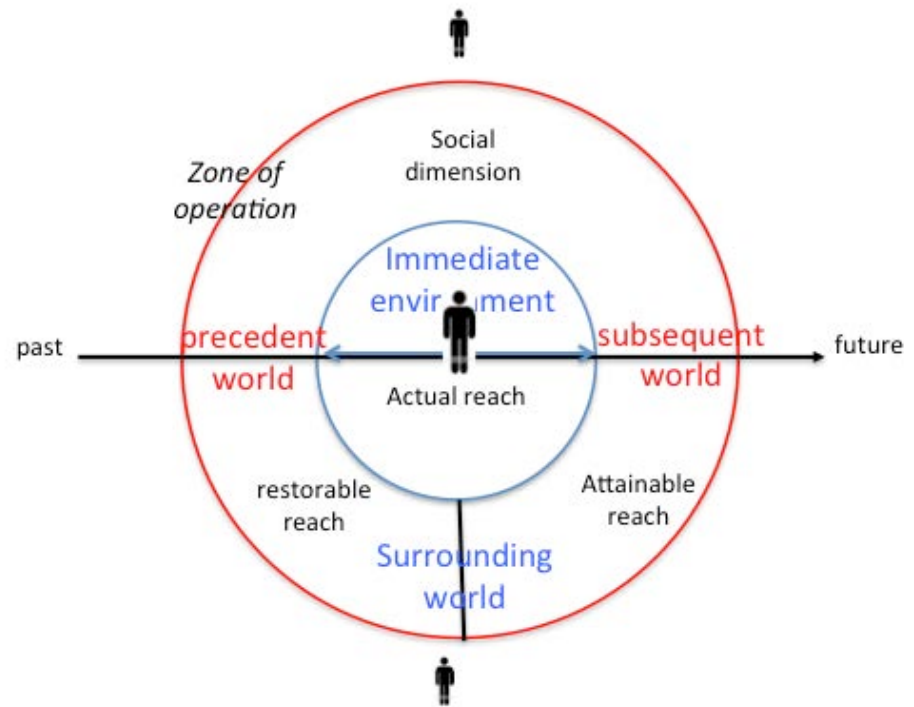
air space



Revealing perceived water

lifeworld analysis

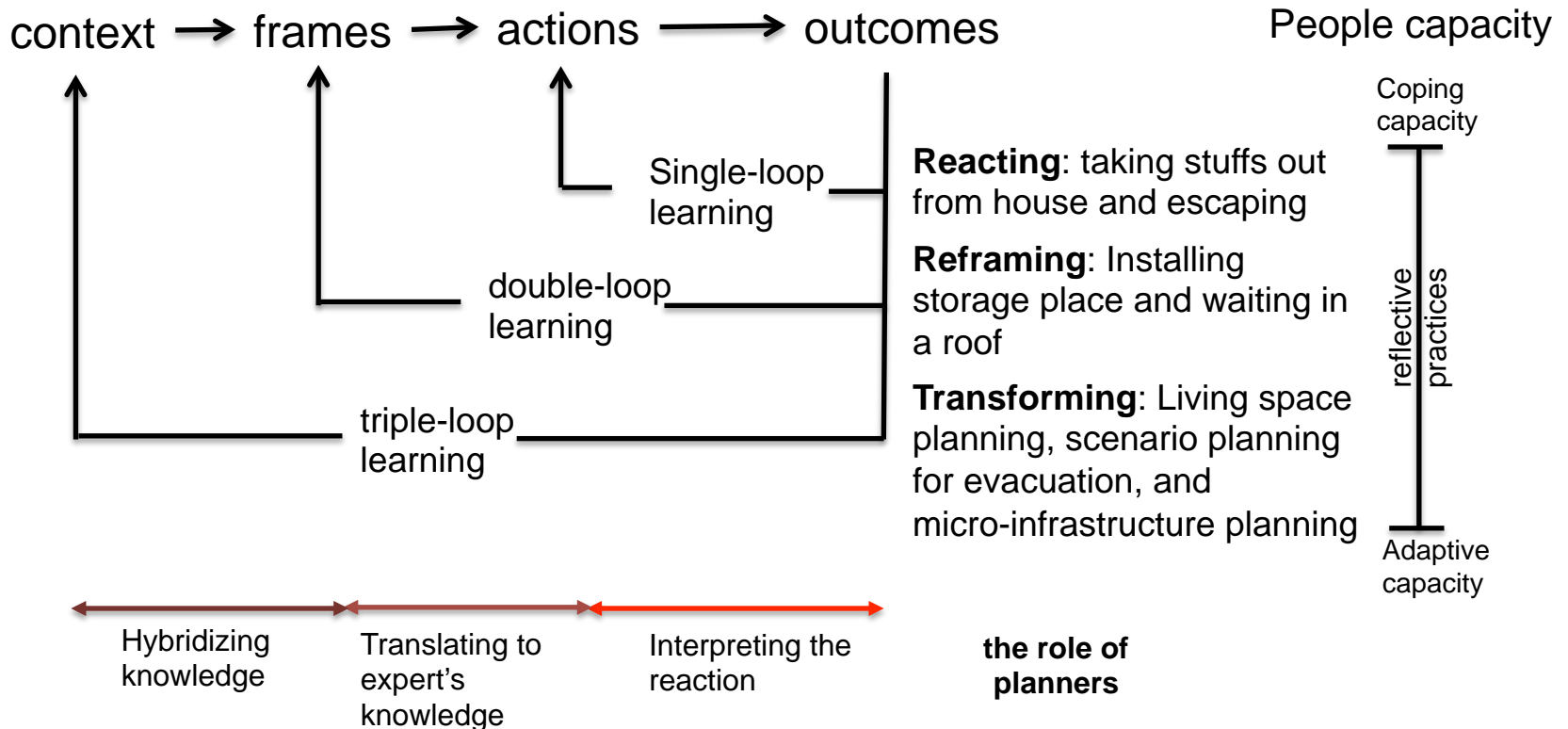
- The utilization of water depends on individual's *lifeworld* and thus at the city level, it would be socially constructed
- Meaning is generated from sensory experience, material realities and the creation of cross-cultural meanings (Strang, 2005)
- The public sphere is a contested field of different meaning and interests
- In many cases, voice of the poor has usually been ignored and underestimated



Source: Schütz, 1967; author interpretation

Making people-based planning

case study: adaptation planning to flood of KMB Jakarta



Tools in people-based planning

case study: adaptation planning to flood of KMB Jakarta

- **Flood mapping** through self-sensing process on historical inundation event, instead of remote sensing or other geo-reference tools
- **Analyzing flood-vulnerability** through inter-shared meaning production that generated from series of experiences, instead of experts valuation
- **Planning adaptation** through repeated self-organizing events, instead deriving the statutory city planning



A locally embedded adaptation planning

Dividing and assigning tasks and responsibilities to community members

6

Identifying the adapter as an informal planner through lifeworld analysis (Schütz, 1973)

1

Establishing oral consensus through local deliberation mechanism

5

LeAP

2 Compiling the precedents of adaptation actions through self-reflected practices method (Schön, 1984)

Facilitating the sharing process of their own adaptation through informal events that they already had

4

3

Revealing and assessing the locally-situated form of knowledge in experiencing adaptation (Antweiler, 2004)

Key lessons of adaptation planning (AKP, 2013):

- Multiple layers of stakeholders
- **Ownership of the planning process**
- Money matters
- Shifting time horizons

The role of LeAP in making water-friendly city

- LEAP helps planners to define ‘the real needs of water’ of the community and ease the planning process to be embodied in the everyday life of people
- Structure of *lifeworld* is a boundary where the zone of operation of LEAP takes place, thus it shows the area where hybridization of knowledge occurs
- Planning is a societal development process, therefore LEAP is designed to fit to either community’s language or manners
- LEAP can be used as a platform for empowering local people, especially in introducing new water technologies

But, it is still a half way to develop water-friendly city

Next question is how the LEAP can be read by and linked to the urban water management plan ?

THANK YOU

*GDP measures everything, except that which
makes life worthwhile (Robert Kennedy, 1968)*