Urban Infra Forum at the ISUS, Univ of Seoul

Citizen Research and Participatory Planning for Sustainable Society: Cases of the Mekong Region and Seoul

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BACKGROUNDS AND SOME KEY CONCEPTS

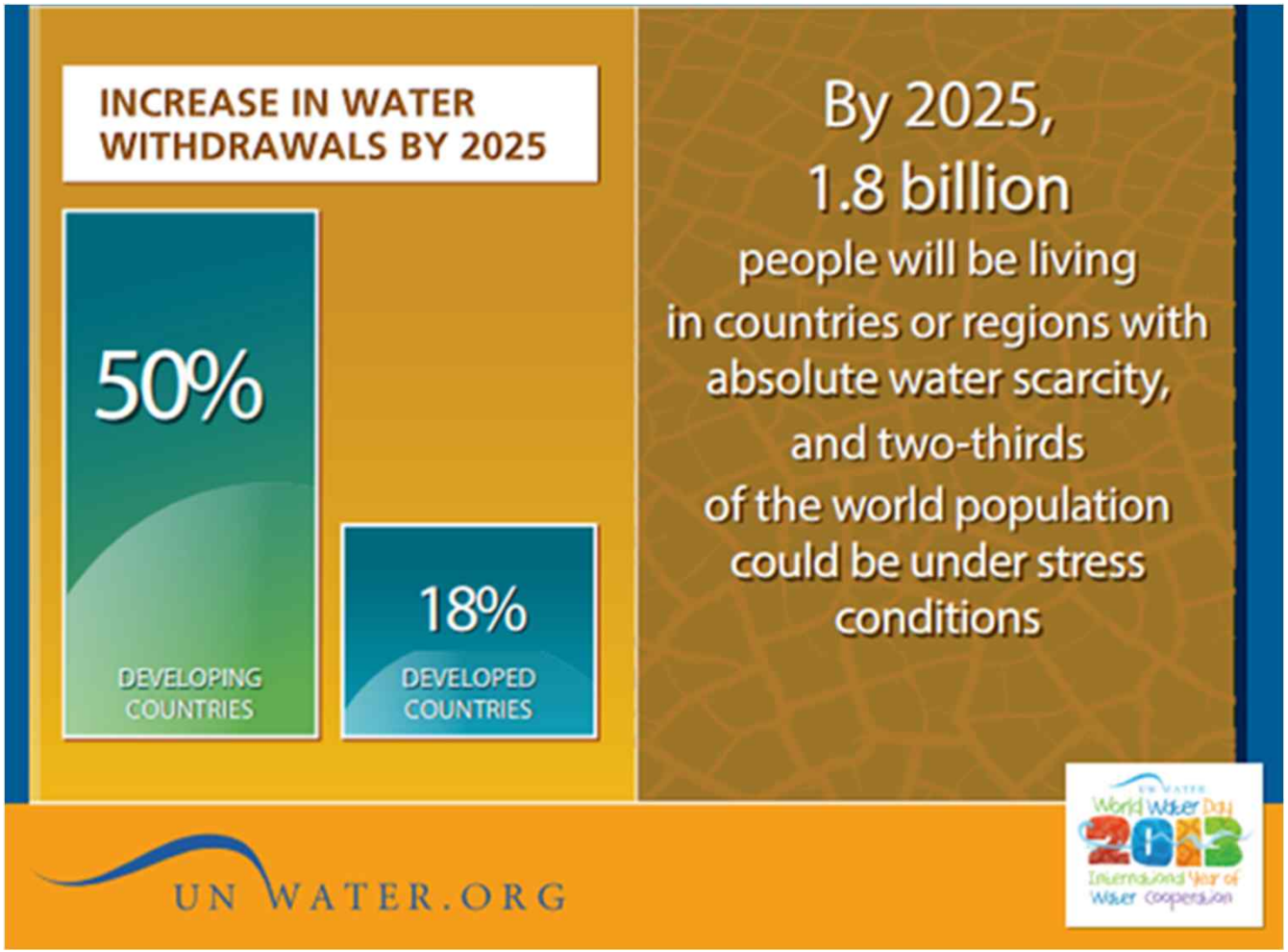
Social Problems and Conventional notions of Knowledge

- Science is the basis by which we explain environmental change and impacts: what if it is wrong, or politically motivated?
- ‘Science’ and ‘scientists’ indicate privileged sources of knowledge: is this justified? What about other knowledge forms?
- How can scientists communicate more effectively with policymakers?

Truth claims and the mirror of nature

- the move from empiricist understandings of science as a ‘mirror of nature’ – objectively representing facts about the world in a value-free manner – to post-empiricist understandings of scientific claims as intrinsically bound up with society - social contexts, human interests, cultural framings and networks of power

Water Scarcity



How to define the problem(s) matter: Water scarcity, stress

- Conventional definition of Water scarcity, “the volumetric abundance, or lack thereof, of water supply. This is typically calculated as a ratio of human water consumption to available water supply in a given area. Water scarcity is a physical, objective reality that can be measured consistently across regions and over time”
- Water stress, “the ability, or lack thereof, to meet human and ecological demand for water. Compared to scarcity, “water stress” is a more inclusive and broader concept. It considers several physical aspects related to water resources, including water scarcity, but also water quality, environmental flows, and the accessibility of water”

Source: Schulte, P. (2014), Defining Water Scarcity, Water Stress, and Water Risk: It’s Not Just Semantics, http://pacinst.org/water-definitions/, accessed March 21, 2015.

IWMI's definitions on water scarcity

- Little or no water scarcity. Abundant water resources relative to use, with less than 25% of water from rivers withdrawn for human purposes.
- Physical water scarcity (water resources development is approaching or has exceeded sustainable limits). More than 75% of river flows are withdrawn for agriculture, industry, and domestic purposes (accounting for recycling of return flows). This definition—relating water availability to water demand—implies that dry areas are not necessarily water scarce.
  - Approaching physical water scarcity. More than 60% of river flows are withdrawn. These basins will experience physical water scarcity in the near future.
- Economic water scarcity (human, institutional, and financial capital limit access to water even though water in nature is available locally to meet human demands). Water resources are abundant relative to water use, with less than 25% of water from rivers withdrawn for human purposes, but malnutrition exists.

Water Scarcity

- A relative concept
- Occurring at any level of supply or demand
- *'Scarcity may be a social construct (a product of affluence, expectations and customary behaviour) or the consequence of altered supply patterns – stemming from climate change for example' (UN-Water.org.).*

Threats increasing in the water-rich areas (the Mekong region)

- **Mekong Delta feared to suffer from water shortage**
- *Farmers in the Mekong Delta have been warned to store water for farming as saltwater intrusion is predicted to get more severe from the coming dry season due to the sharp decrease in the floodwater volume in the region.*

Source: http://english.vietnamnet.vn/fms/society/114452/mekong-delta-feared-to-suffer-from-water-shortage.html, accessed in March 21, 2015.

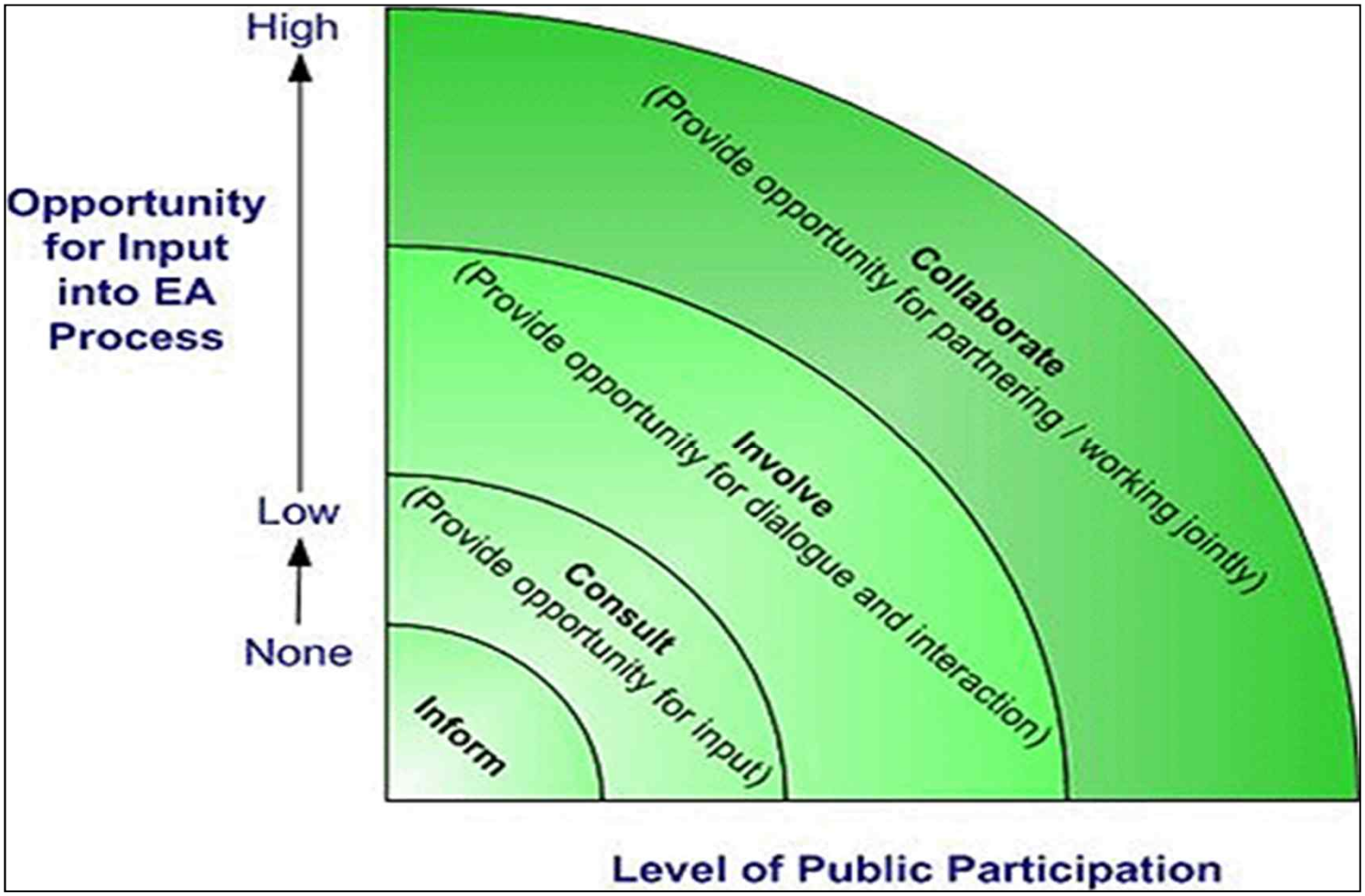
Ways to deal with water scarcity

- Supply-oriented measures: conventional approach
  - This can be effective in the water stress areas.
  - But this top-down, technology-dependent water supply often caused conflicts and/or suffered from transparency issues.
- Participatory and integrated management
  - Reform economic and institutional barriers: recognition of the sources of the problem
  - Resilient Society: raising (flood/drought) resilience against climate change threats
  - Capacity building: Focus on better management and balanced approach to empower actors and institutions at the local level
  - Integrated management: Sustainable Urban Drainage system, LIDs (Saving, networking and smart grid, etc.)

Backgrounds and some key Concepts

- What we have recently observed
  - Democratisation and Institutional progress in realising procedural justice
    - EIA
    - SEA
    - CHIA
    - Right-based approach in environmental management
  - Wicked Problems(Rittel and Webber 1973: 136)
    - 'Problems that are often difficult or impossible to be clearly defined and solved' (in contrast to answerable problems in natural science)
      - Not easy to clarify the problems due to the complicated nature of problems
      - Resolution but solution: being never solved but managed
        (Ex. Air pollution in Seoul and China)

Levels of public participation in environmental assessment process



(Source: Canadian Environmental Assessment Agency 2013)

Backgrounds and some key Concepts

- How to manage “wicked problems”?
- Collaboration have offered justifications for tackling 'diverse, dynamic and complex social and political issues and settings' (Kooiman 2000: 154) such as environmental problems. In contrast to conventional bureaucracy that is organised along hierarchical lines, collaborative governance works horizontally within the community where problems occur as well as in a reformative way against conventional top-down and formal environmental management by public agencies (Wondolleck and Yaffee 2000: 5).

- Not enough with expert-produced knowledge

Backgrounds and some key Concepts

1. Co-fact-finding
   - Citizen research, Thai Baan (Thai village in Thai language) research
   - Traditional, ecological knowledge

   "Empowering local institutions can secure democratic decision-making and transparent management."(Pretty and Ward 2001; Evans 2004; Kim 2012)

Backgrounds and some key Concepts

2. Knowing through experiments
   – Participatory Planning

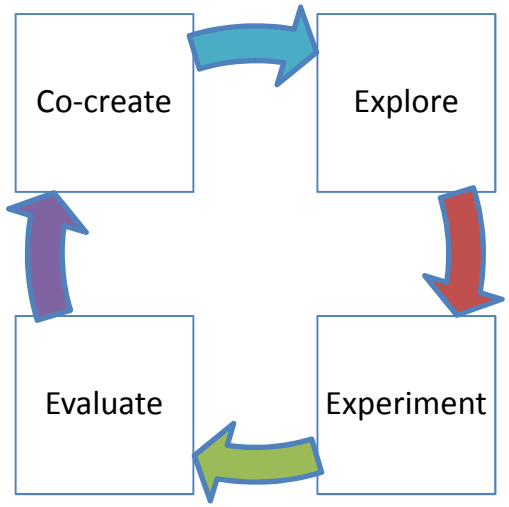
   ‘participatory principle’ in Dublin principle (1992): decisions should be made at the lowest appropriate level with consultation between relevant stakeholders.

   The stress on participation had become a famous slogan, adopted in the third World Water Forum(2003), “the water crisis is mainly a crisis of governance”.

Backgrounds and some key Concepts

Living Labs (proposed by Prof. Mitchell at MIT)

- Popular research methods/platform, setting in the real-world, “where key stakeholders work together in order to identify challenges and opportunities, and co-create novel solutions” (The Enhance Project, accessed in May 2, 2018)
- User-driven social problem-solving tool (cf. User-centric approach)



Backgrounds and some key Concepts

- Emerging types of knowledge and jobs
  - Knowledge is not a just matter of ‘knowing’ anything
  - Knowledge has become a notion of interactions, flowing through networked relationships among social actors
- Knowledge is critical for stakeholders to negotiate about water management within multi-layered water governance (Görg & Rauschmayer 2012)

Backgrounds and some key Concepts

- Knowledge: “a dynamic framework from which information can be stored, processed and understood” (Howells 2012: 1003).
  - “Knowledge has a relational characteristic, involving a ‘knowing self’ and an event or entity.” (Ibid.)
- Knowledge is created, promoted, concentrated, shared, blocked, and disseminated.

- Technical progress in the Artificial Intelligence, IoT may affect those changes.

Backgrounds and some key Concepts

- Types of Experts
  - who know it all in a specific field under the precondition of positivism
  - who know how to connect people, knowing by comprehending the facts fragmented aligned with the sectors, division of labours

CASES IN THE MEKONG REGION

Cases in the Mekong Region

- Case 1: Thai Baan Research in the Mekong
- Case 2: CHIA in the Ta Sala, Thailand

Local Ecological Knowledge

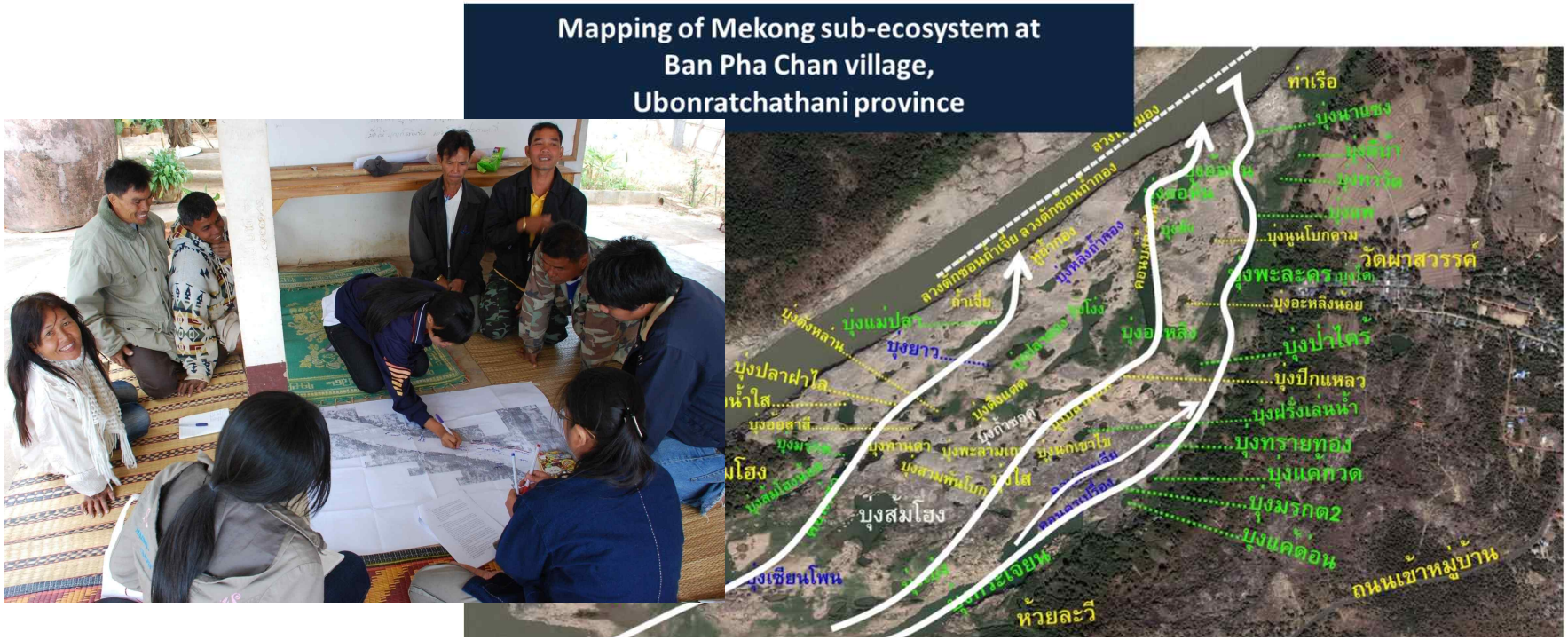
- Knowledge created, collected by local residents as non-experts, in contrast to expert-oriented knowledge
- Contributions(Görg & Rauschmayer 2012)
  - Recognition of local environmental assets and services
  - Capacity building of local residents who could led community-based natural resource management and sustainable development
  - Creation of critical and alternative knowledge that enables alternative foundation against the economic development

  - Resources that could be used for negotiation and resist against the official governance dominated by the central states and the inter-state bodies

Thai Baan Research

- Thai Baan Research] (Ngan Wijai Thai Baan (งานวิจัยไทบ้าน), or "research by Thai villagers“
  - Embraced through the Environmental Movements since the 1980s (Interview with Mr. Permpongsacharoen, Dec 12, 2012)
  - Research about the impacts caused by the construction of the Pak Mun Dam, led by Southeast Asia Rivers Network (SEARIN, now Living River Siam Association) and the Chiang Mai University experts
    - Worked with the local residents in order to find out aquatic ecosystem and traditional knowledge on fishing

Community research in the Lower Mekong River Basin (TERRA 2012-3)



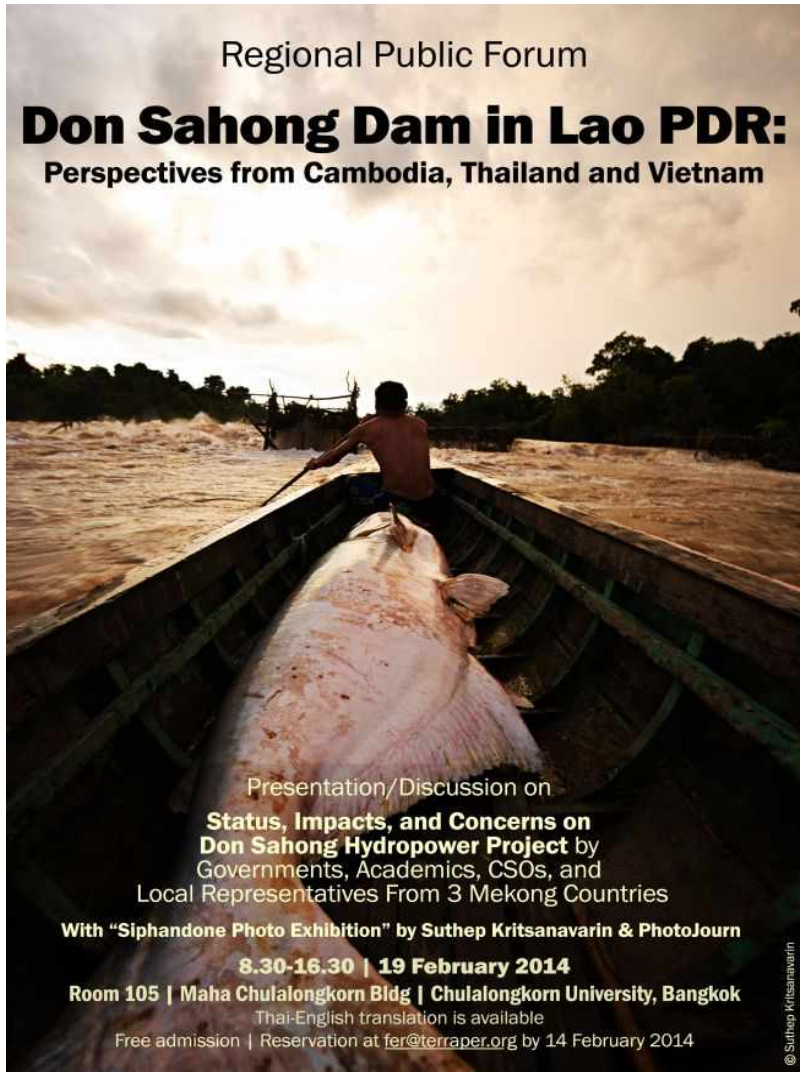
(L) Mapping & the survey of the river ecosystem with village members, local NGOs and TERRA (regional NGO), Ban Nasai village, Ubon, Mar, '11

(R) Local knowledge: River morphology, sub-ecosystem, land use in the river bank & etc.

Save the Mekong Coalition

Save the Mekong
Our River Feeds Millions

- www.savethemekong.org



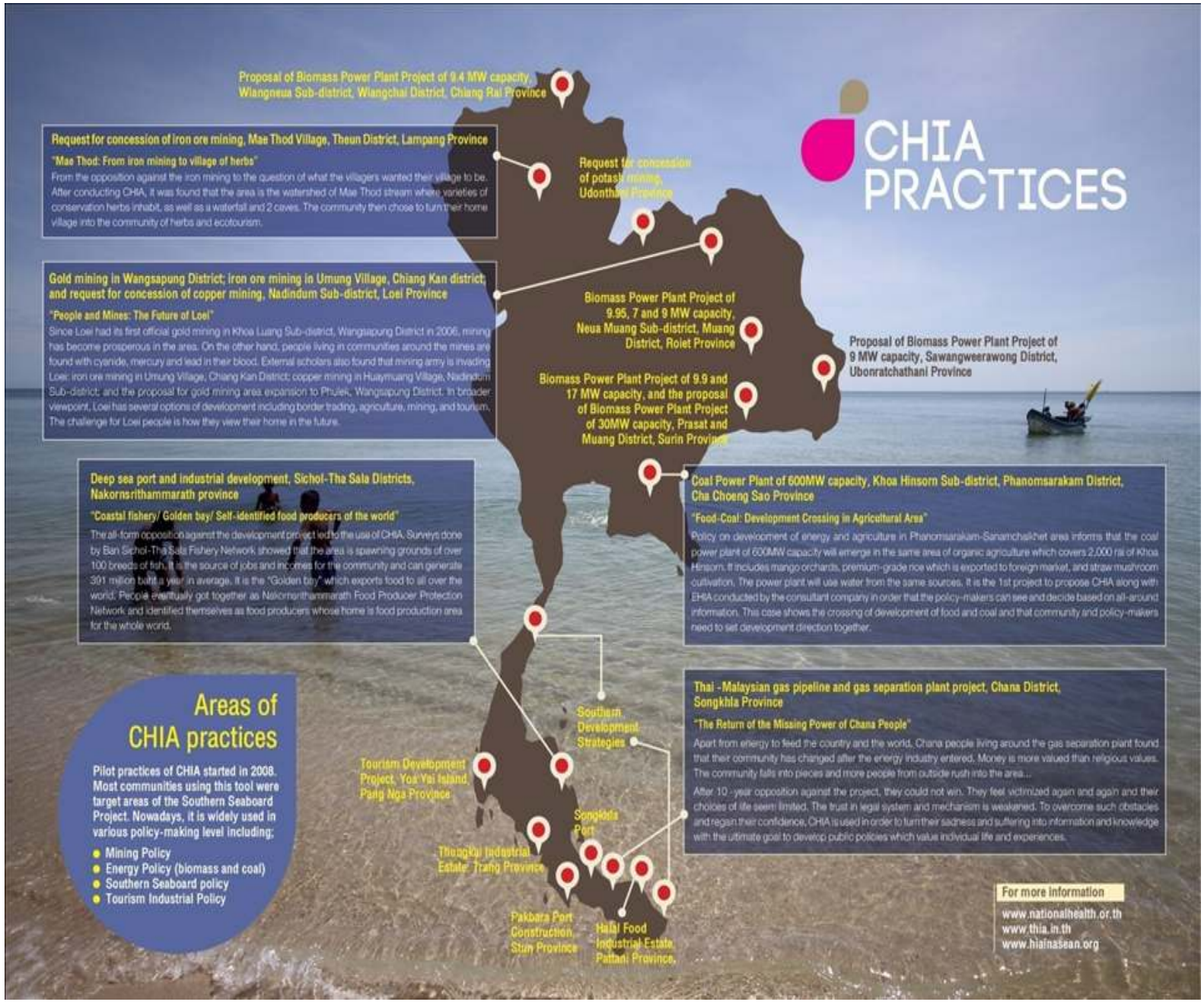

ธนาคารกรุงเทพ
2.625
NO DAM


No Dam on the Mekong
Fish is our life
ปลาคือชีวิต
ปาถือชีวิต


หยุดเขื่อน
ไชยะบุรี
หยุดฆ่า
แม่น้ำโขง
STOP Killing
The Mekong
NO DAM the Mekong
แม่น้ำโขง อิสระแห่งสายน้ำ
www.facebook.com/TheMekongRiver

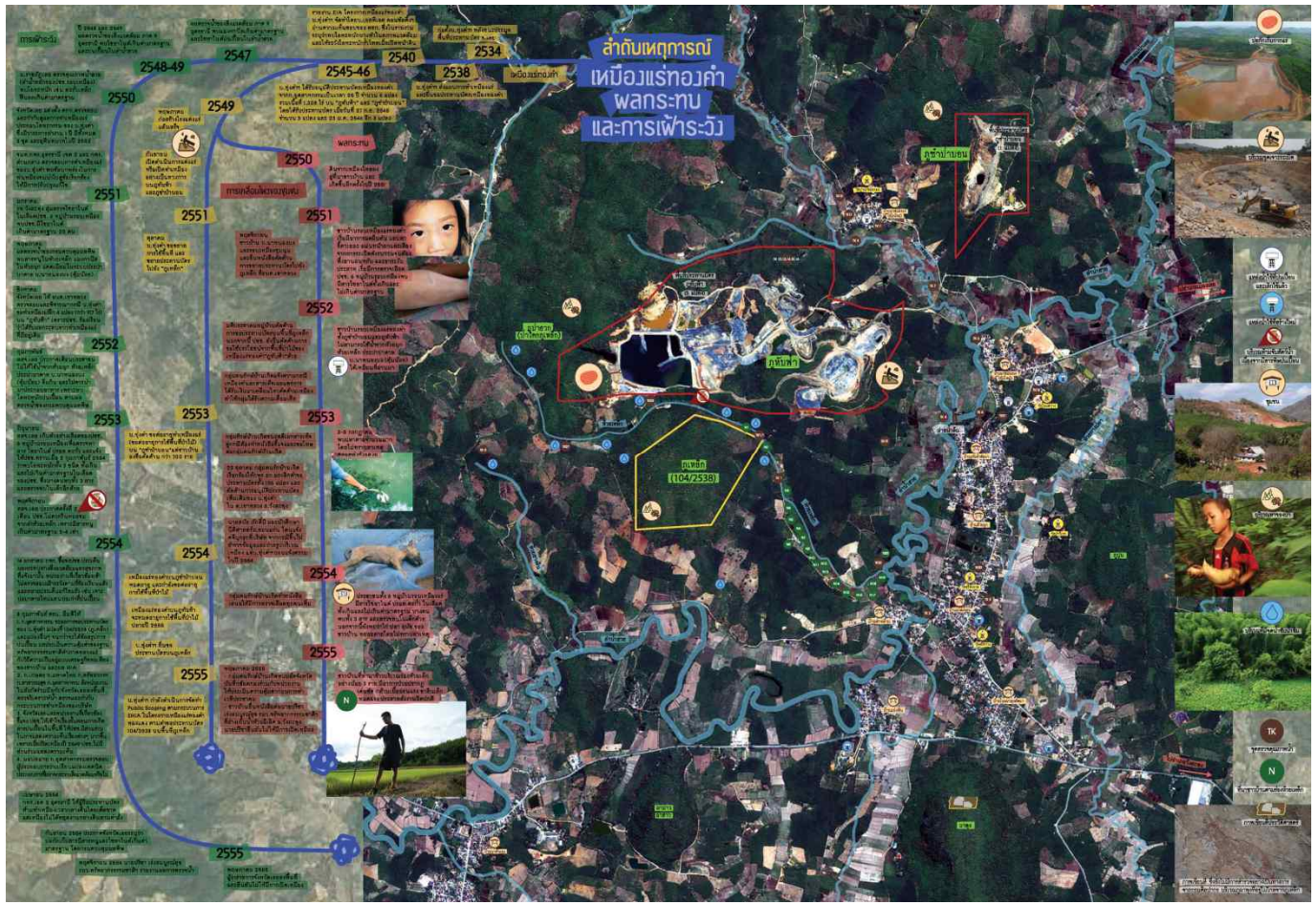
Case 2 Community HIAs in Thailand

- A social tool for community development, led by the community members
- Community members are leading CHIAs
  - To decide together appropriate tool and process of HIA and
  - To conduct HIA by themselves.
- Creative and contextually adjusted application of CHIAs: the way of living and culture of each community.

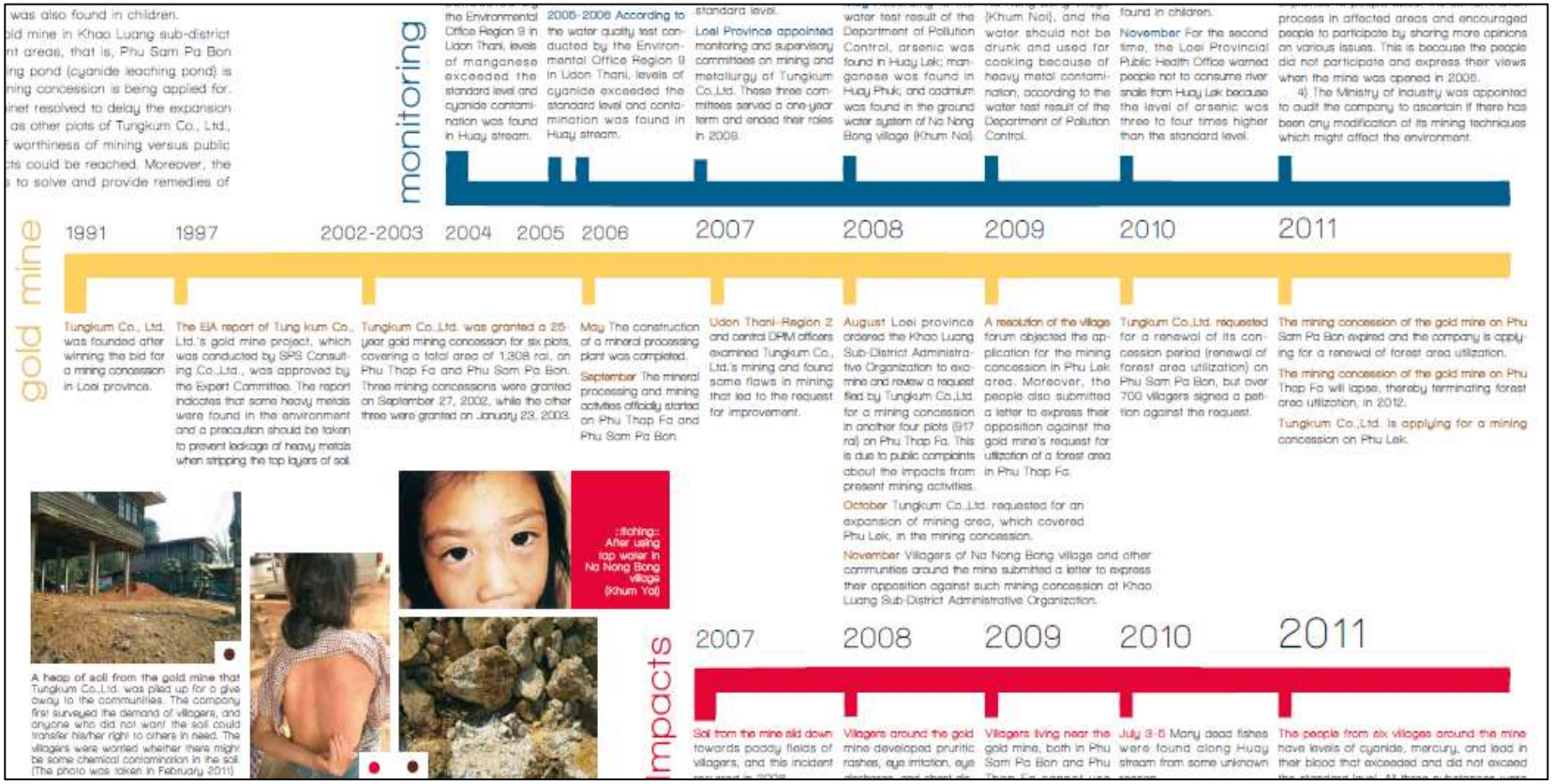


National Health Commission Office, 2012

Environmental and health impacts, recorded in history and mapping



Writing History together



(NHC office 2012: 9)

CHIA: Tha Sala District, Nakornsrithammarath Province

- Conflict over the construction of the deep seaport
- CHIA for 4 years


N
ระบบนิเวศเฉพาะ
: เขาหลวง-ลุ่มน้ำสายสั้น-ถอนทองคำ ในอ่าวท่าศาลา
ความสัมพันธ์ เขา-ป่า-นา-เล
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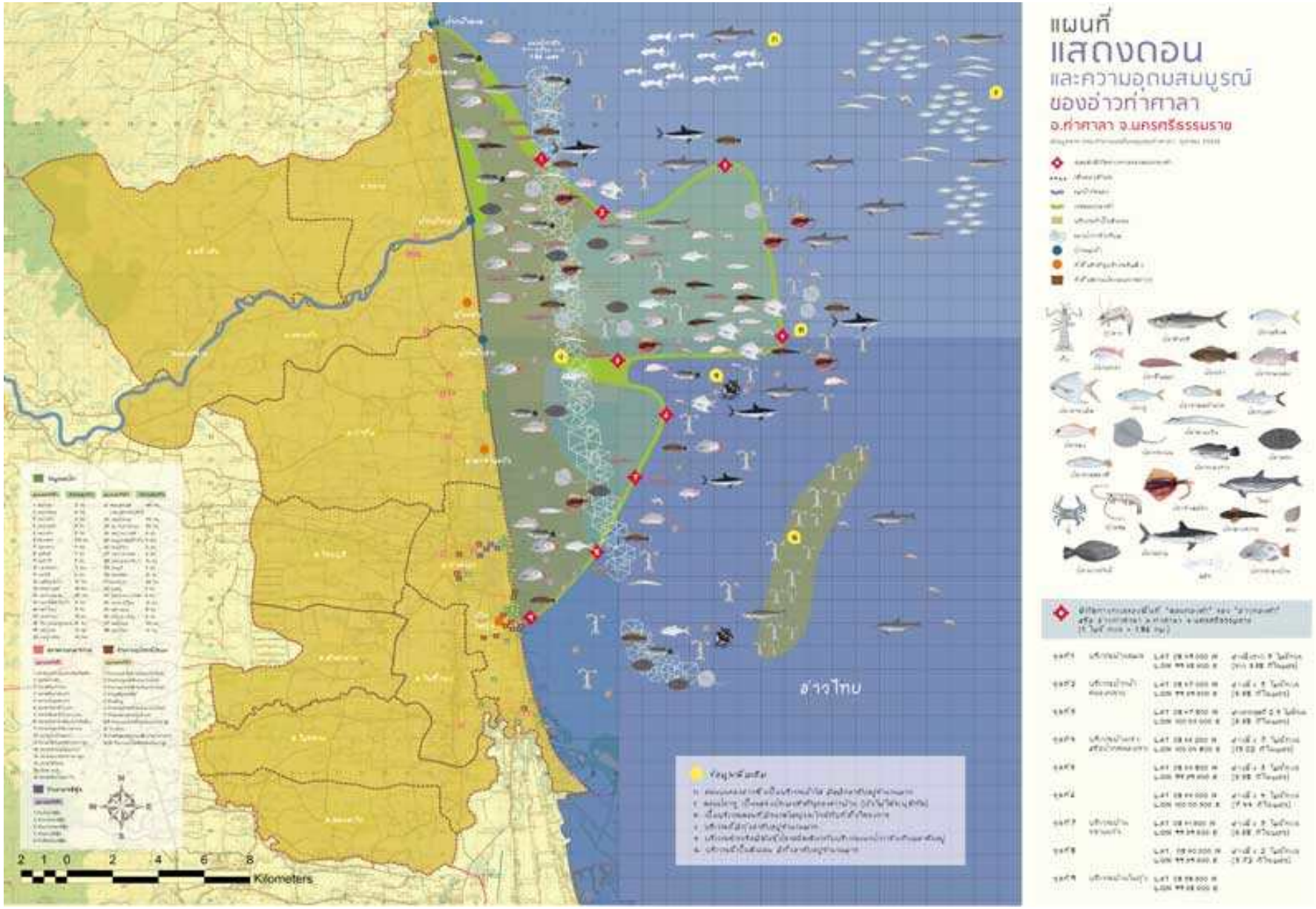

แผนที่
แสดงถอน
และความอุดมสมบูรณ์
ของอ่าวท่าศาลา
อ.ท่าศาลา จ.นครศรีธรรมราช
อ่าวไทย
2 1 0 2 4 6 8
Kilometers

Implications

- Thailand
  - Survival of rural communities in Thailand
  - Continuous social movement works as buffer zone, defending the rights of rural communities
  - Social conflicts continue but community-based management of natural resources succeeds through dialogue among stakeholders

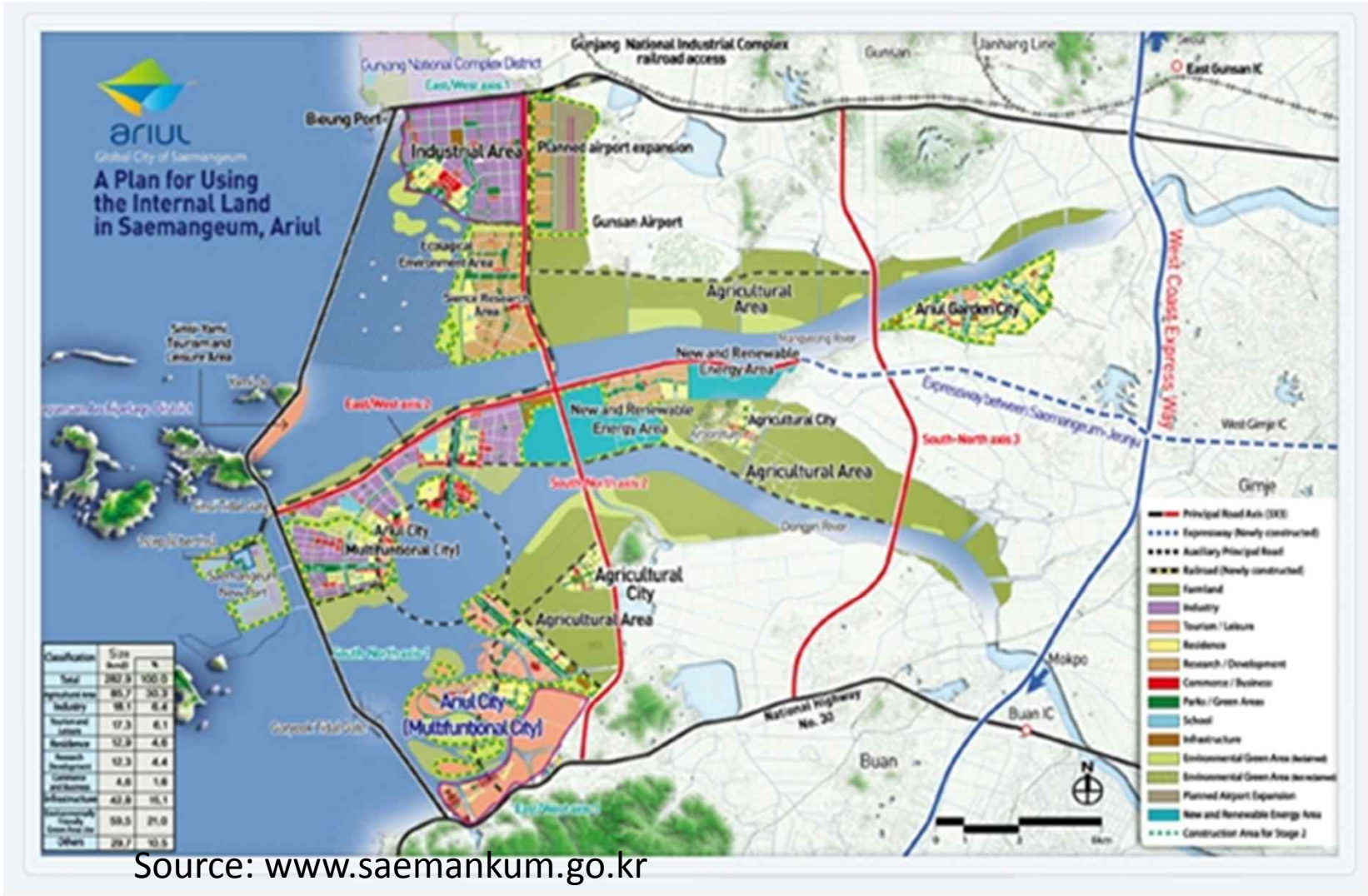
CASES IN SOUTH KOREA

Knowledge communication problems in the Saemangeum water governance

- Based on a co-authored journal article (Kim et al. 2017)
- Timeline of the Saemangeum Project (Ibid. 803)

1987	The Ministry of Agriculture, Food and Rural Affairs (MAFRA) announces plans for land reclamation in the Yellow Sea district; the Saemangeum project went out as one of the pledges of the Korean presidential election that year
1989	Confirmation of the basic planning for the Saemangeum development project
1991	Authorization and start of construction of the sea dyke
1993	Revision of plan on land utilization in the Saemangeum district from being dedicated wholly to conversion to farm land to in part constructing a complex of tourist facilities and urban and industrial estates
1996	Water pollution event at Lake Sihwa, an artificial lake on the Yellow Sea
1998	Korean Federation for Environmental Movement (Jeon-buk Branch) requests that the Korean Government re-examine the Saemangeum Project
1999–2000	Assessment of environmental impacts from the Saemangeum project by a special team, the "Survey Group of Saemangeum Environmental Effects (Private and Public Joint Survey Team)"while the Project is provisionally suspended
2001	Resumption of Saemangeum project and announcement of planning for "Step 1: Water Quality Improvement Measures (2001–2010)" in Saemangeum by Prime Minister
2003	Appeal to the Seoul Administrative Court to suspend construction of sea dyke in Saemangeum by opposition movement led by the religious community
2006	Dismissal of an application for suspending construction of sea dyke in Saemangeum Resumption of construction of sea dyke in March, completion in June
2007	Announcement of basic planning pertaining to land use (Agricultural land 72%, Multi-functional land 28%) in the Saemangeum district Legislation of a special act for the promotion of the Saemangeum Project
2008	Designation of Saemangeum as a Special Economic Zone, "Free Economic Zone" Revision of planning about land use in the Saemangeum district (Agricultural land 30%, Multi-functional land 70%)
2010	Announcement of basic planning and action plan in the Saemangeum district
2011	Determination of Saemangeum Master Plan Planning for "Step 2: Water Quality Improvement Measures (2011–2020)"

Saemanguem Master Plan



Source: www.saemankum.go.kr

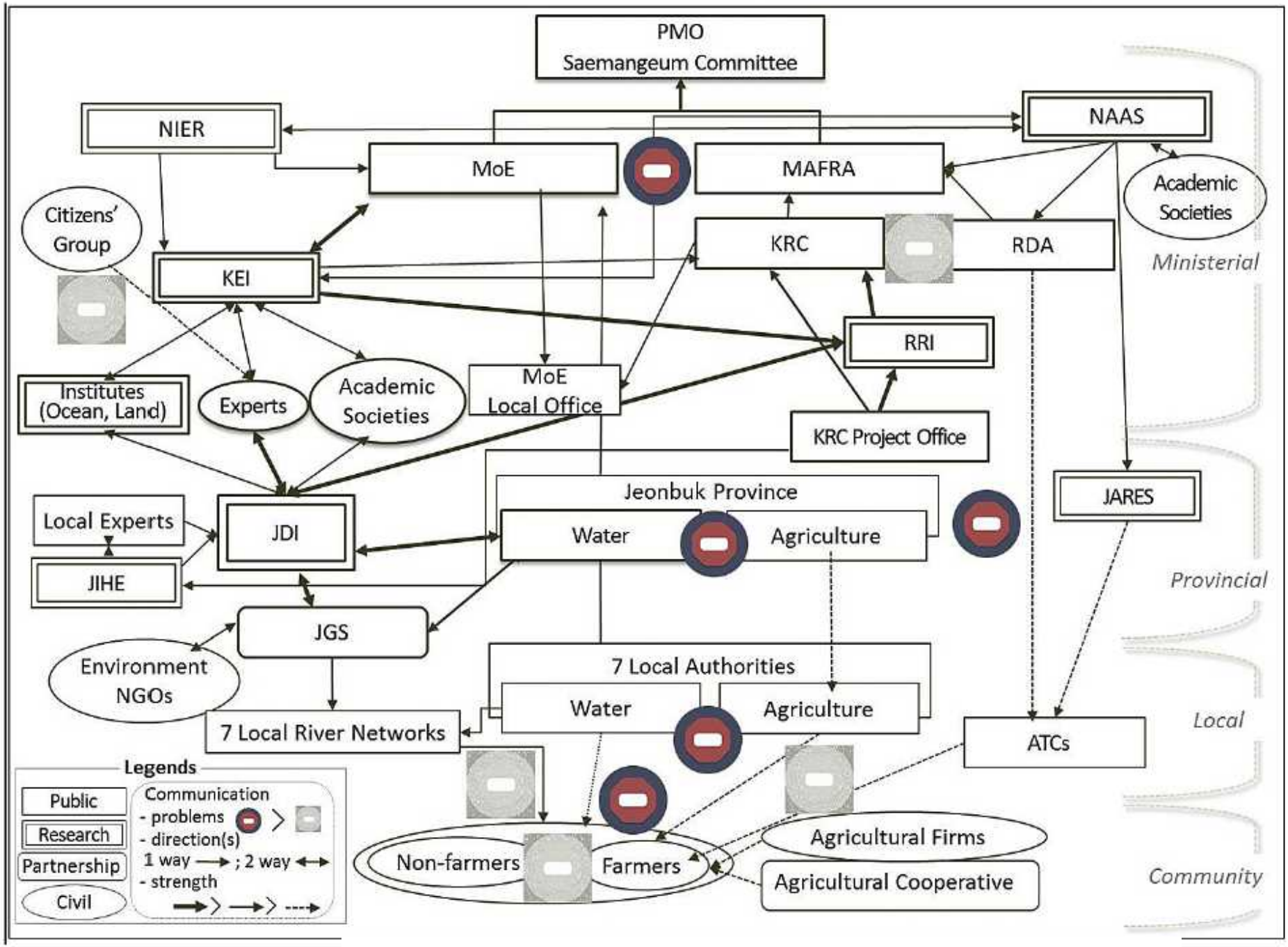
Water pollution as the key agenda

- Non-point source pollution, believed to contribute to the degradation of water quality in the lake and the mainstreams of two rivers

- Two ministries' cooperation became essential (Ministry of Agriculture, Food and Rural Affairs & Ministry of Environment)

FINDINGS

- Knowledge flows and blockages
- Non-Communications
    - No communication
    - Tokenism
    - Only communication without effect



Knowledge Communication Problems (Kim et al. 2017: 800)

Participatory policy making in Seoul

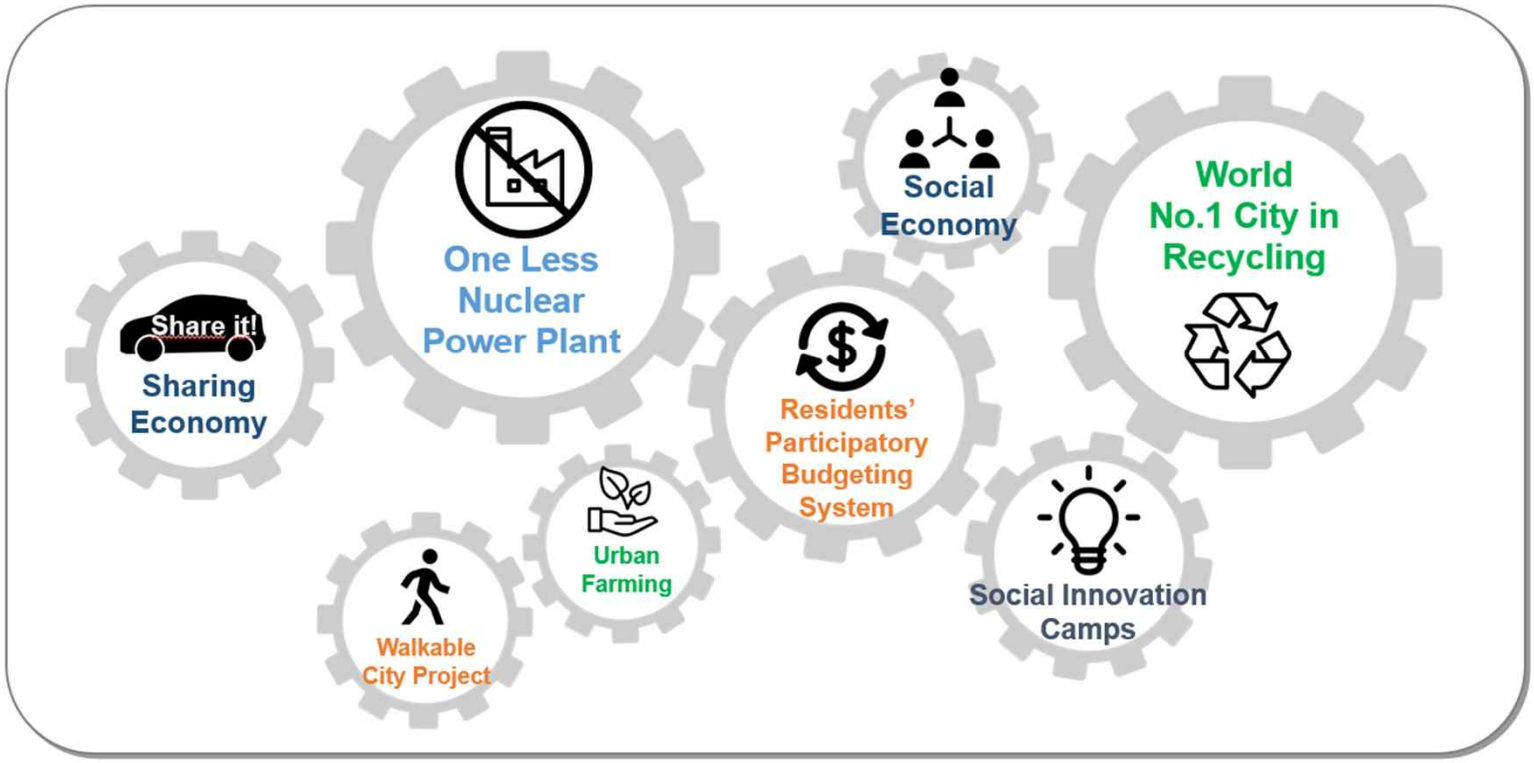
Seoul, Together we stand

Seoul, Together we stand

People Centered Seoul, City with Happy People

Together with Our citizens, Together with the world

- **Innovative initiatives in Seoul, led by Democratic and strong leadership**



Source: Seo WJ (2017)

Participatory making of 2030 Seoul Master Plan

Process matters.

Source: Seoul Metropolitan Gov. (Accessed in May 10, 2018)

The Promise of Seoul (2015)

a comprehensive strategy to tackle climate change

- aims to reduce GHG emissions by 25% by 2020 relative to 2005 levels, and by 40% by 2030
  - Resilient city: creating 5,000 spaces to avoid the heat by 2020 and foster 100,000 Citizen Safety Guards
  - Energy: saving 5m tons of oil tons equivalent and 20m tons of CO2e by 2030 and renewable energy, 14% of total consumption and increasing the supply of renewable energy to 10% by 2020
  - Water: reducing 10 million tons of water supply by 2020
  - Green Transportation: the use of public transportation to 66.5% by 2020, 2,000 km in bicycle lanes (a fourfold increase) and 250 pedestrian-only streets (up from 70) by 2030
  - Waste: recycling to 73% by 2020
- Preparation, Planning and evaluation of cross-cutting strategy, together with citizens

Seongdaegol *Energy Self-sufficient Village*

- ***Energy Self-sufficient Villages***

- an initiative under the One Less Nuclear Power Plant (2012~)

Local communities are encouraged to lead actions to reduce energy dependence on fossil fuels and nuclear energy, notably through energy efficiency measures and the deployment of renewable energy by the SMG.

- energy-related welfare activities
- "energy supermarkets" (which sell energy-saving products at affordable prices)
- Enhancing social linkages and awareness on the issue of energy poverty within communities

- **Seongdaegol** is one out of 75 villages participating in this initiative
  - A Urban Living Lab for Micro Solar Power System (SDG Living Lab) for 1 year (Sept 2016 – Aug 2017), led by 4 organisations (civil society group, community organisation, academic team, solar power engineering company), funded by the Ministry of Trade, Industry and Energy
  - Aimed to find out barriers to implement Seoul's policy to apply more solar power systems to the community level
  - 3 focus groups formed to research financial, technological and social barriers to more solar powers to the communities in Seoul
  - Recruited 49 village researchers through the process of community member's workshops, where 179 people participated

Source: Kim JH, KOSIS (2017); OECD (2017)

Seongdaegol *Energy Self-sufficient Village*

Focus Group 1: Micro solar power system for DIY

No.	Type	Village researchers' opinions	Prototype
1	Panel size	Too big to move a panel up to the rooftop. Fold the panel in half when moving and unfold it when installation	divide the panel into 1m*1m size
		Moving a panel by car can make scratch	Improve the packing of the each corner of the panel
2	Cable	Windows cannot be closed when cable come through the windows.	Devise flat cable
3	Mounting device	Standing water inside the mounting device causes bad smell and brings insects	Make a small drain at the bottom of the mounting device
4	Wattmeter	Wattmeter is usually at the corner of a room, making it difficult to check the electricity generation	Develop a mobile application

Focus Group 2: Woorijib Solar Loan

Focus Group 3: performing educational drama for children and making promotion leaflet

6 City-Solar Forums and 2 evaluation workshops held along with the focus group activities

Source: Kim JH, KOSIS (2017)

Figure 3. SDG residents setting solar power system on their own at a resident workshop

Source: Kim JH, KOSIS (2017)

Conclusion and Discussion Topics

Conclusion

I found it different in the…. comparing with the expert-driven research and problem solving.

- Nature of problems we face now
- Process of dealing with those problems
- People who contribute to the process of problem management

What we need to prepare….

- Expertise and knowledge in more participatory, bridging and brokering ways.

Q. How do you define an expert?

Q. What are the roles of experts required in your definition?

Q. Which sort of knowledge is more applicable to support your ideas?

THANK YOU!