

The Multiple Evidence Based approach - connecting knowledge systems for governance of social-ecological systems

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Demands for connecting knowledge systems

- "Opening up knowledge systems", a new 'social contract' between science and society
- Engaging with diverse knowledge systems
 - for understanding and navigating complexity and change
- Indigenous and Local Knowledge (ILK) in climate change and ecosystems and biodiversity
 - source of knowledge on biodiversity and ecosystems
- Among indigenous and local communities, revitalization and strengthening knowledge
 - self development and recognition of rights

Future
Earth, PECS

IPBES, CBD

CBMIS

How?

- How can we explore **synergies and complementarity** between knowledge systems to move towards more sustainable futures, while also respecting the rights and worldviews of knowledge holders?
 - Equal, legitimate, and transparent for all involved.
 - Focus on ILK and scientific knowledge.
 - Introduce the Multiple Evidence Base approach (MEB)
 - Preliminary insights from implementing MEB as a community driven process
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SwedBio/SRC engagement:

- Science-policy-practice dialogue on *connecting knowledge systems, including local, indigenous and scientific knowledge*
- Particular target: the Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES)



Point of departure

- Indigenous, local and scientific knowledge *systems* are different manifestations of valid and useful knowledge systems...



...which generate complementary evidence for interpreting conditions, change, trajectories, and causal relationships relevant to the sustainable governance of ecosystems and biodiversity.

Three general approaches to exchange between knowledge systems

Integration:

Components of one knowledge system incorporated into another through a validation process (e.g. Gratani et al. 2011)

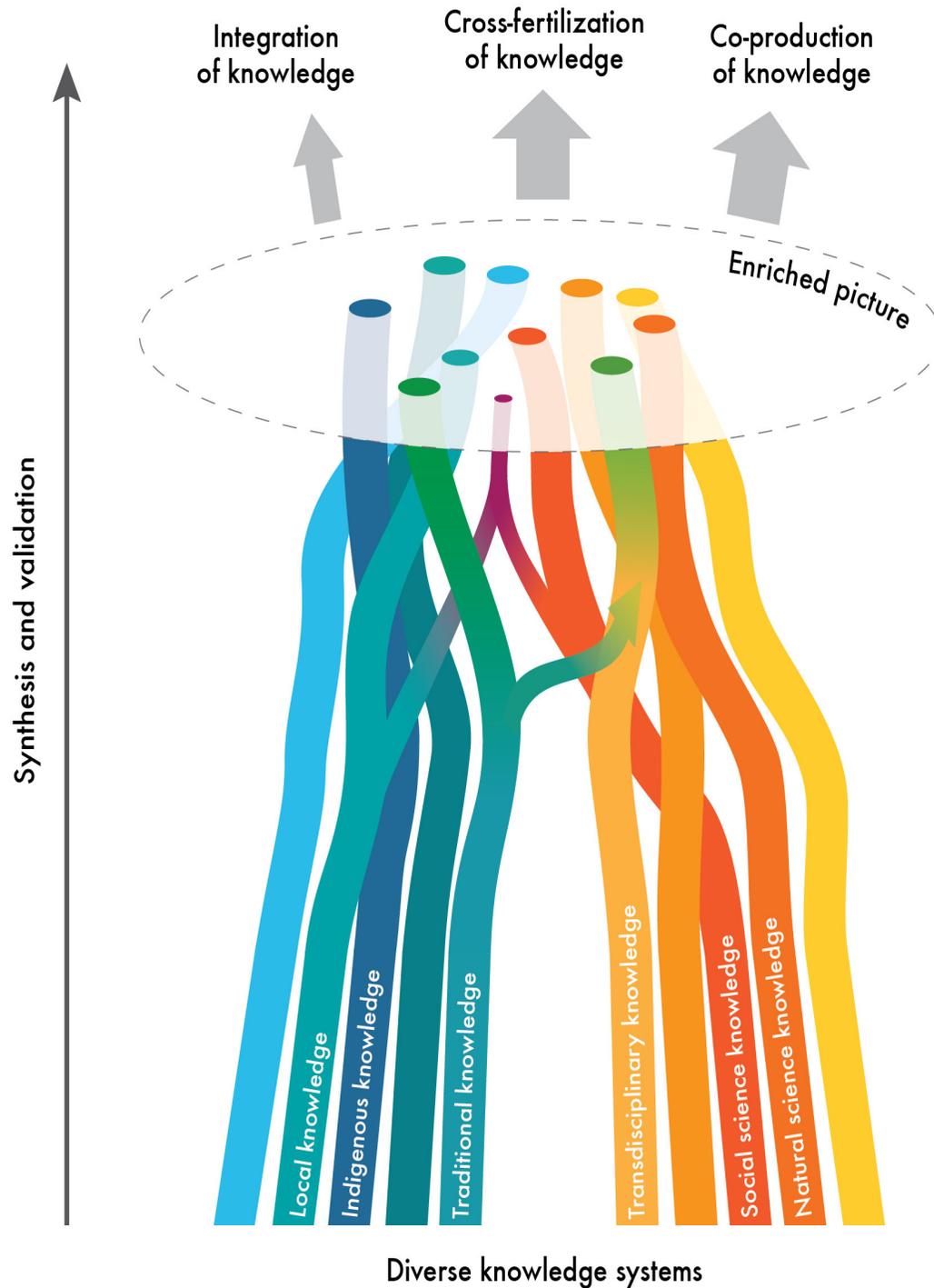
Parallel approaches:

Placing knowledge systems next to each other, using separate validation mechanisms and assessing insights (e.g. Moller et al. 2004)

Co-production of knowledge:

Engaging in mutual processes of knowledge generation (Mauser et al. 2013)





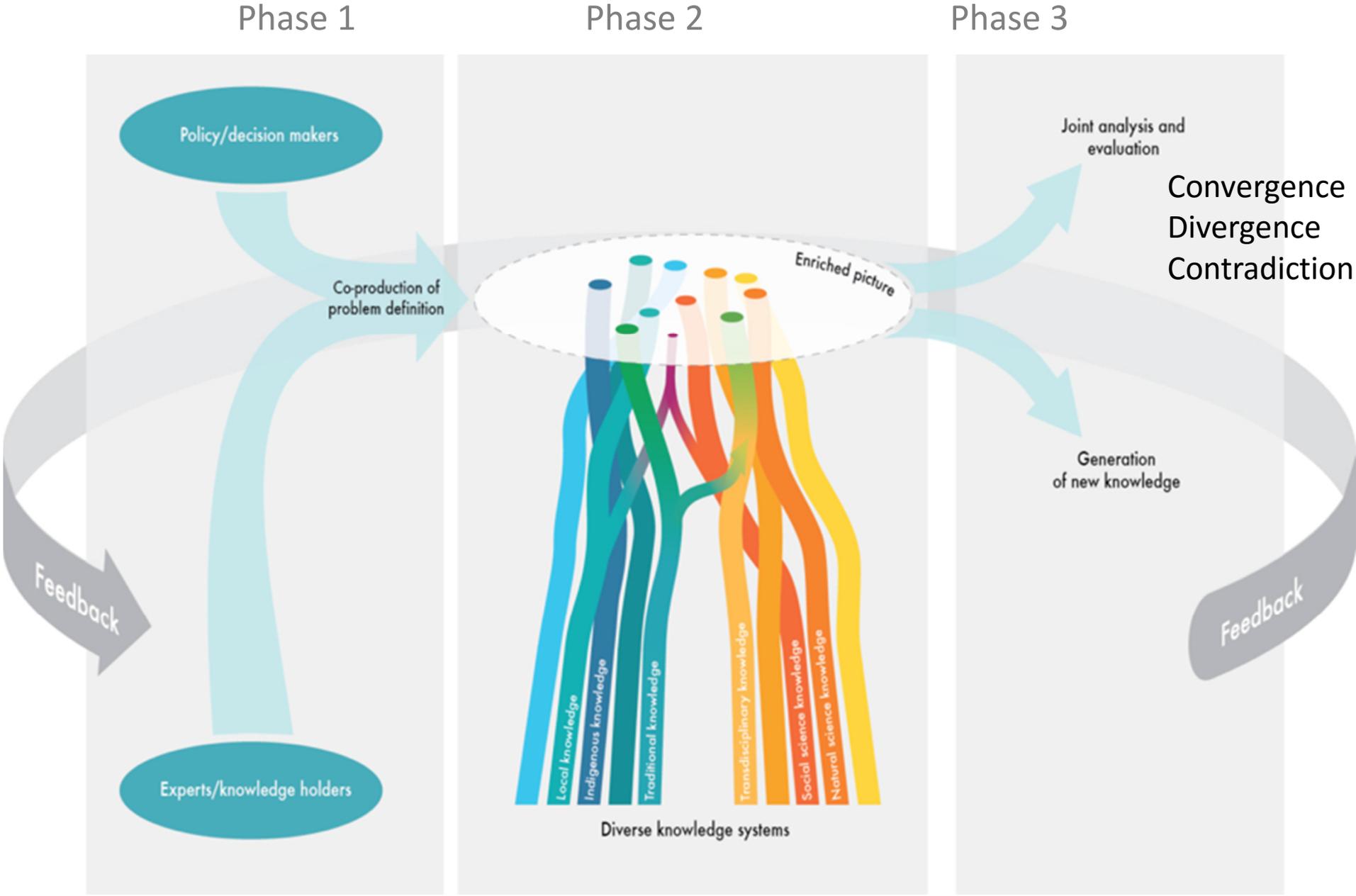
The Multiple Evidence Base (MEB)

- Complementarity of knowledge and an enriched picture
- Emphasize knowledge systems and their integrity
- Validation within rather than across knowledge systems

(Tengö, Brondizio, Elmqvist, Malmer, Spierenburg 2014)

Issue investigated	Multiple Evidence Base	Reflections on scale and complementarity
<p>Relationship between Arctic sea ice and climate change (Laidler 2006)</p>	<p>Literature review assessing current research presenting Inuit knowledge or observations of sea ice, along with scientific knowledge or observations of sea ice.</p>	<p>Inuit knowledge at local (mainly spanning living memory to the present), and scientific knowledge at local, regional, and coarse scales), and short time depth.</p> 
<p>Monitoring for sustainable customary wildlife harvests in Canada and New Zealand (Moller et al. 2004)</p>	<p>Data sharing and calibrating traditional monitoring methods against scientific abundance measures. Interviews and collaborations with hunters.</p>	<p>Local expertise and traditional monitoring methods, and scientific abundance measures. Interviews and collaborations with hunters.</p>  <p>quantification,</p>
<p>Land use and land cover change and underlying drivers, Wild Coast, Eastern Cape, South Africa (Chalmers & Fabricius 2007)</p>	<p>Comparing local and scientific understanding based on interviews with local experts and other local representatives, and reviewing scientific literature on forest-savannah dynamics</p>	<p>Local expertise and scientific understanding based on interviews with local experts and other local representatives, and reviewing scientific literature on forest-savannah dynamics</p>  <p>ate al lded</p>
<p>Fish population spatial dynamics, British Columbia, Canada. (Mackinson 2001)</p>	<p>Combining knowledge of fish behaviour and distribution. Interviews with fishery scientists, fishery managers, and local fishers.</p>	<p>Local fishers provided information from observation, but were not able to interpret or rank the data. From these sources, there were no contradictions or divergences in the literature.</p> 

The Multiple Evidence Base approach



Multiple Evidence Base - outcomes

- Placing insights from knowledge systems side by side will enable an **enriched understanding** of the social-ecological system or the issues at hand
- Can serve as triangulation across knowledge systems and a **learning platform** for generating insights and, as well as a basis for further co-production of knowledge in e.g. IPBES.
- Knowledge mobilization as a **process** – creating legitimacy and credibility and usefulness for all actors



Implementation: MEB piloting project with communities

Communities

- Tinoc, Phillipines
- Hin Lad Nai, Thailand
- **Tharaka** and Masinga, Kenya
- Usdub, Guna Yala, Panama
- Gindeberet, Ethiopia
- Tebtebba
- PASD
- ICE/ABN
- FPCI
- Melca – Ethiopia



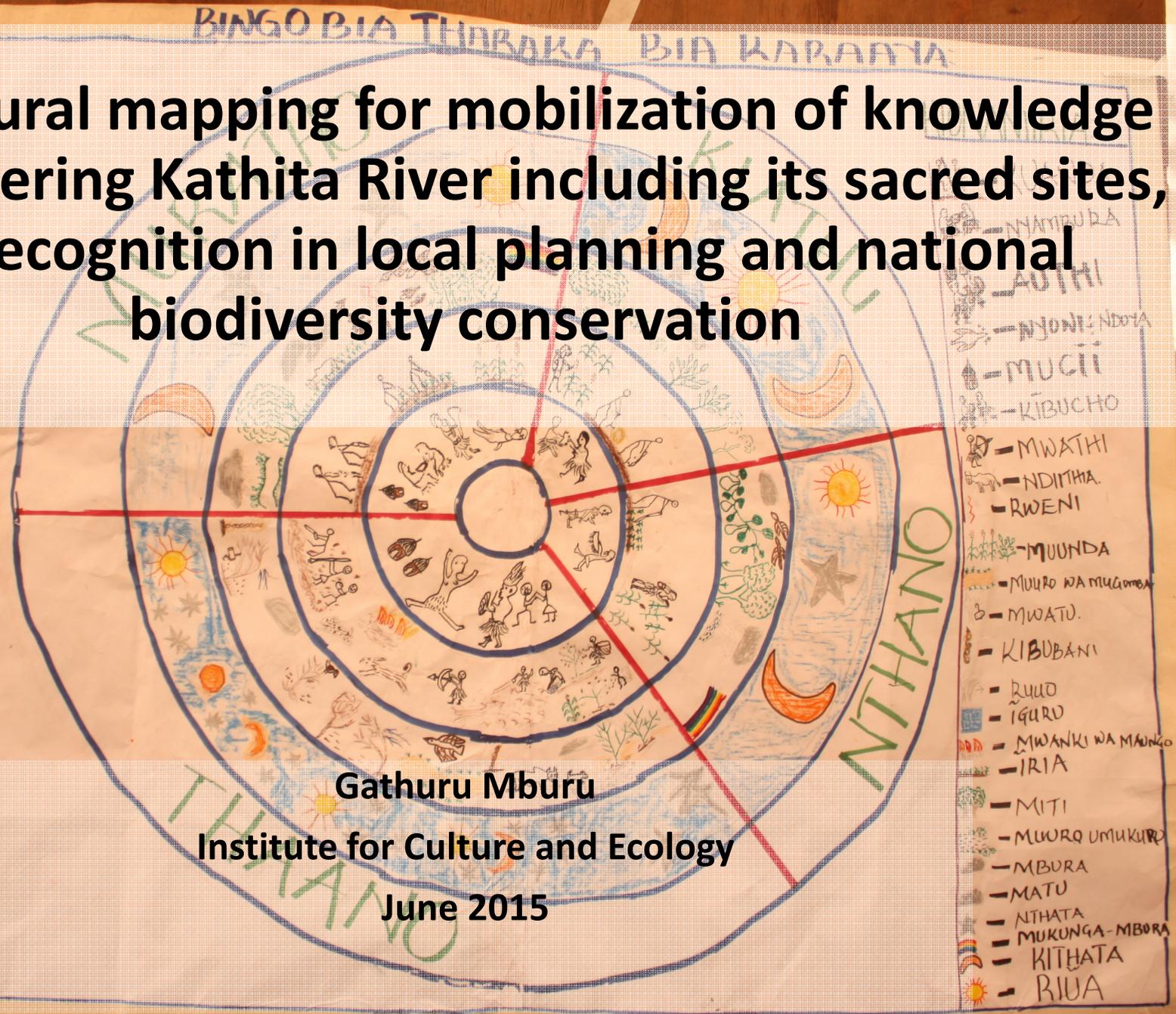
Objectives:

bottom-up MEB piloting project

- Emerging from and contribute to **local needs** for mobilizing existing and new knowledge, creating synergies for solutions that contributes to the wellbeing of the community.
- Develop methods, procedures and good examples for **how evidence can be mobilized** for needs, from local to global, and across knowledge systems.
- Create **mutual learning** about co-generation of knowledge across diverse knowledge systems.



Eco-cultural mapping for mobilization of knowledge for recovering Kathita River including its sacred sites, and recognition in local planning and national biodiversity conservation



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June 2015

Process Tharaka region, part I

Community identified problem:

- Strong concern for Kathita River: destruction, traditional ecological law not respected

Community dialogues

- Consensus building, cross-generational learning, distilling traditional ecological law

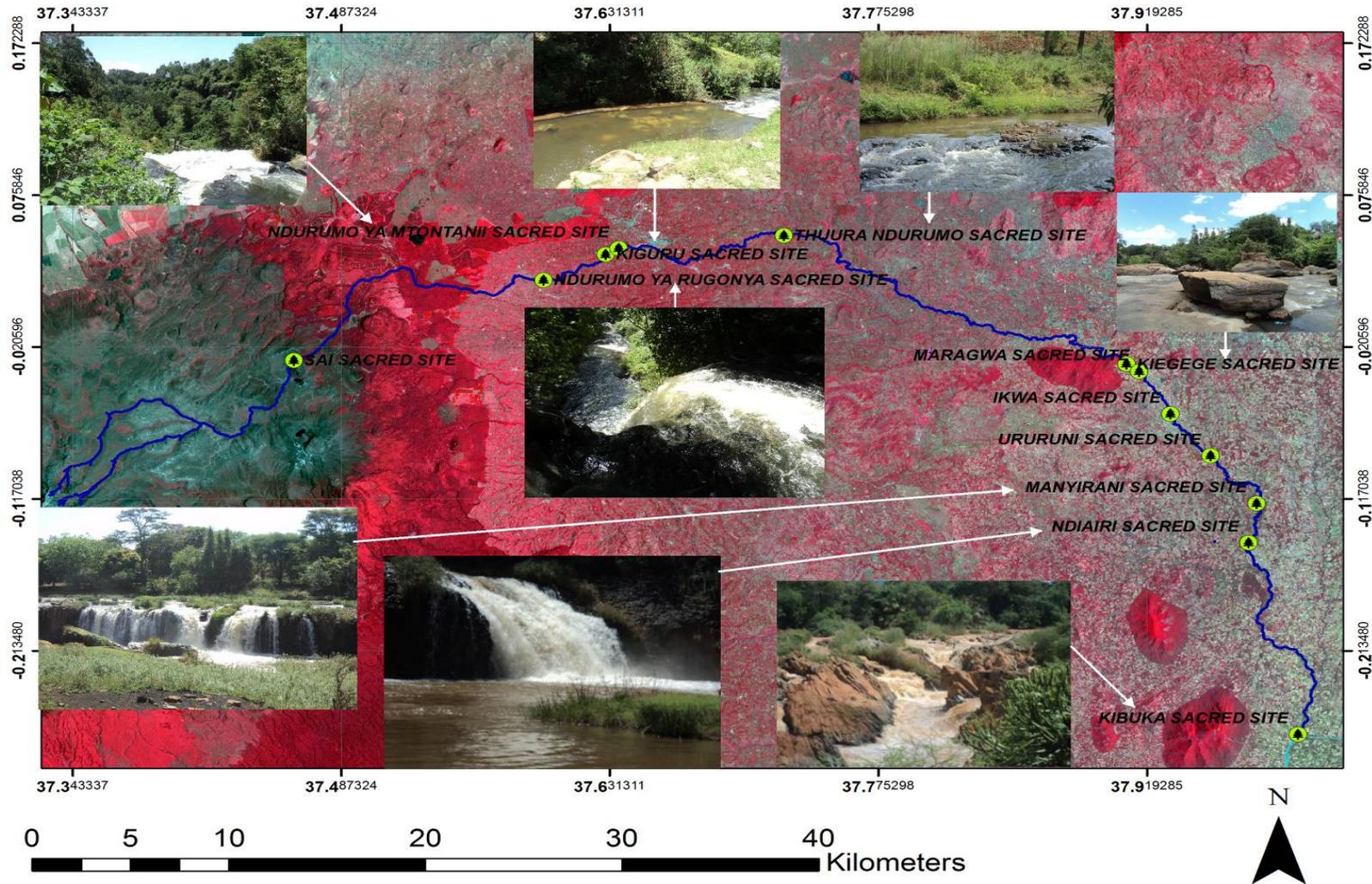
Eco-cultural mapping for mobilizing knowledge

- Participatory mapping: past and the present, identifying sacred sites

Eco-cultural mapping process



Draft digitized map



Process Tharaka region, part II

Maps generated

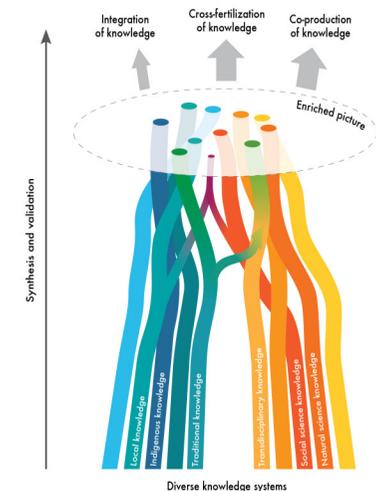
- distilling knowledge and practices
- realizing a broad intra-community validation process

Interactions with key authorities

- National Museums of Kenya (NMK) to register sacred sites and sacred river
- Registration of Traditional Ecological Laws
- The Water Resources Management Authority (WARMA) for river monitoring and regulation

Preliminary reflections

- Community learning, as based on traditional knowledge, strengthening agency, and securing territory and rights and authority to manage
- Strong emphasis on the local relevance and needs (phase 1)
- Focus on mobilizing knowledge (phase 2)
 - Appropriate methods: ecocultural mapping and calendar
- Interactions with science and policy to support stakes and improve governance (Phase 3)



Conclusions

- Diversity of knowledge, and *knowledge systems* for resilience and sustainable futures
 - part of governance
- Knowledge mobilization as a process that can lead to agency and transformative change
- From the 'integration of knowledge forms' to the 'mobilisation of knowledge actors' (Tabara and Heras 2014)



Further research

- Further research to follow up on agency, empowerment, and transformative capacity that may emerge
- Implications for understanding the role of mobilizing knowledge for transformative capacity





Thank you!

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Process approach

Preparatory stage

- Community dialogues for consensus building as well as cross-generational learning
- Distilling traditional ecological law (TEL)

Eco-cultural approaches

- Development of eco-cultural maps
- Development of seasonal eco-cultural calendar
- Joint problem identification

Joint planning

- Monitoring the river together with WARMA
 - Documenting with NMK for gazettement as sacred river
 - Analysis of TEL and conventional environmental law with lawyer
-

Objectives of the pilot

Support revitalization, validation and presentation of local knowledge and experiences related to the governance of Kathita River on community's own terms

Restoration of the socio-ecological system of which Kathita River is part

Support initial dialogues between knowledge systems in jointly identifying and formulating the problem facing the ecosystem

Reindeer herding as indicator for Sápmi cultural landscape

Collaborative study between Swedish Biodiversity Centre and the Saami Parliament 2013



Foto: Petter Sjaggo

“The Guna Yala dialogue”

Knowledge for the 21st Century

Indigenous knowledge, traditional knowledge, science and connecting diverse knowledge systems

Usdub, Guna Yala, Panama 10 – 13 April 2012

Topics:

- Validation
- Documentation
- Sharing of knowledge
- Co-production of knowledge

