

FRESHWATER HEALTH INDEX

PROVIDING A “HEALTH CHECK” AND TRADEOFF VISUALIZATION FOR HYDROLOGIC BASINS

Maíra Bezerra, Ph.D., Moore Center for Science, Freshwater team

ISAT/CIC workshop, November 16th, 2022

CONSERVATION
INTERNATIONAL



IN A NUTSHELL...

- The Freshwater Health Index (FHI) is a framework for sustainable watershed management
- Experience in Southeast Asia (3S) and Southern Africa (Cubango-Okavango) has demonstrated its utility in transboundary water dialogues
- CI would like to find ways to support CIC projects in incorporating the FHI into your work

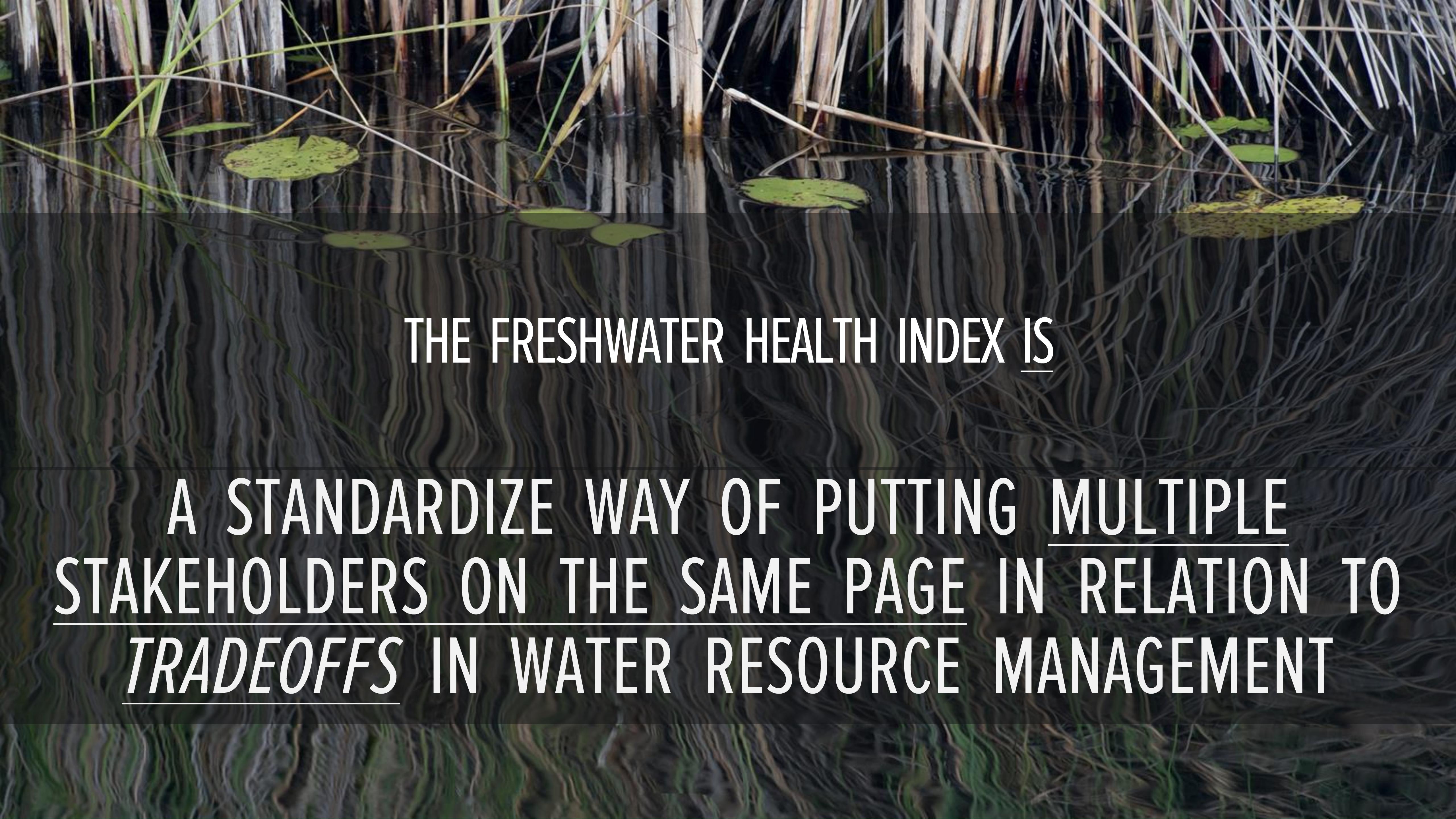
PLEASE, OPEN THE FOLLOWING LINK



<https://webtools.freshwaterhealthindex.org/en.php>

Session code: 123456

Country: ISAT



THE FRESHWATER HEALTH INDEX IS
A STANDARDIZED WAY OF PUTTING MULTIPLE
STAKEHOLDERS ON THE SAME PAGE IN RELATION TO
TRADEOFFS IN WATER RESOURCE MANAGEMENT

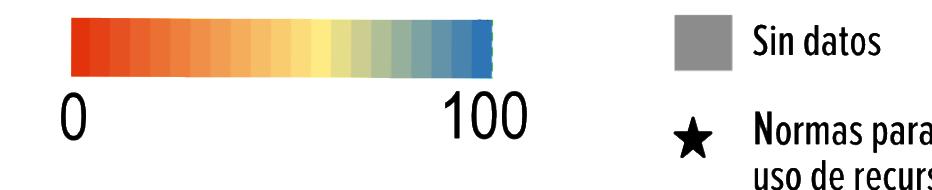
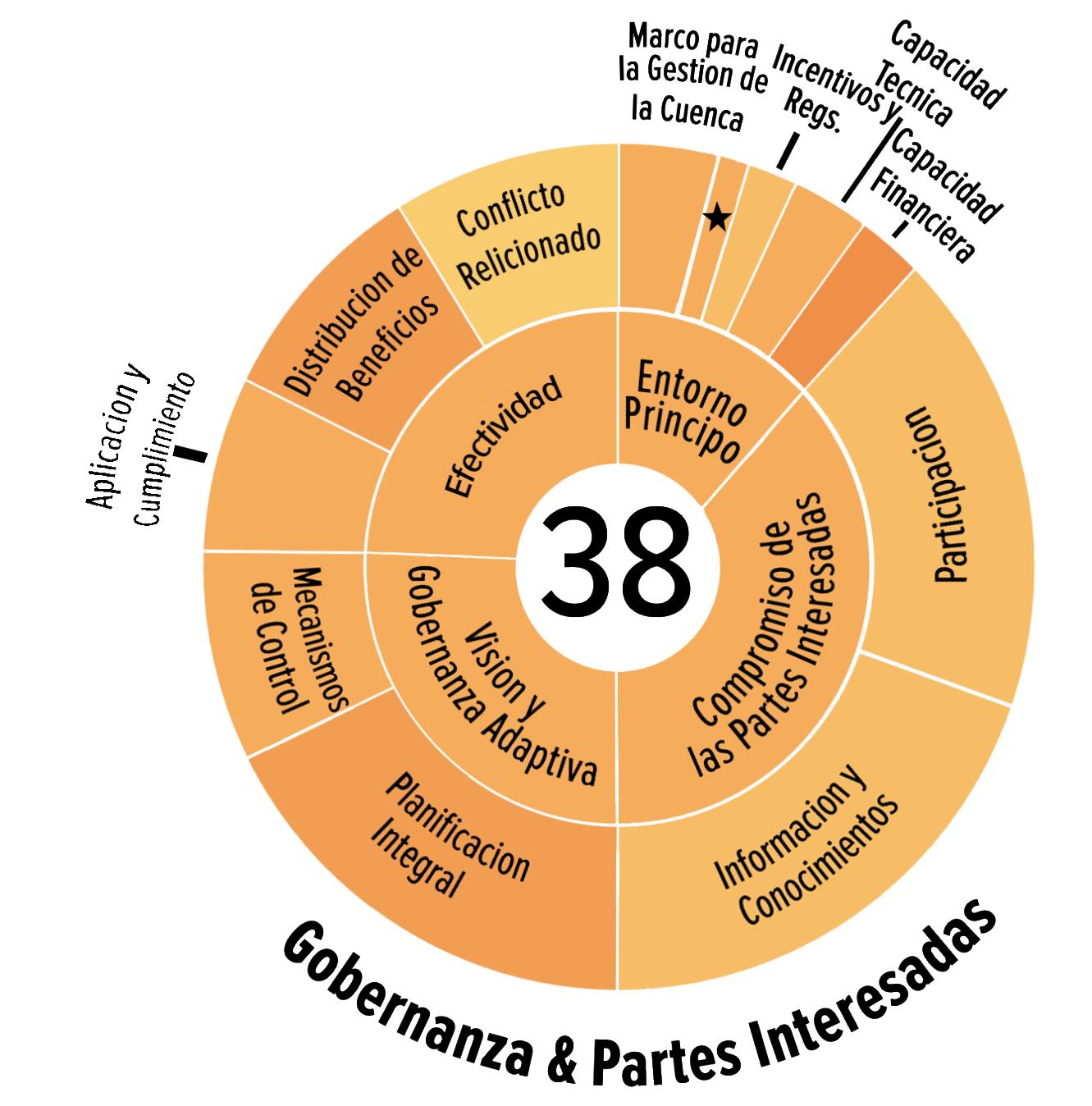
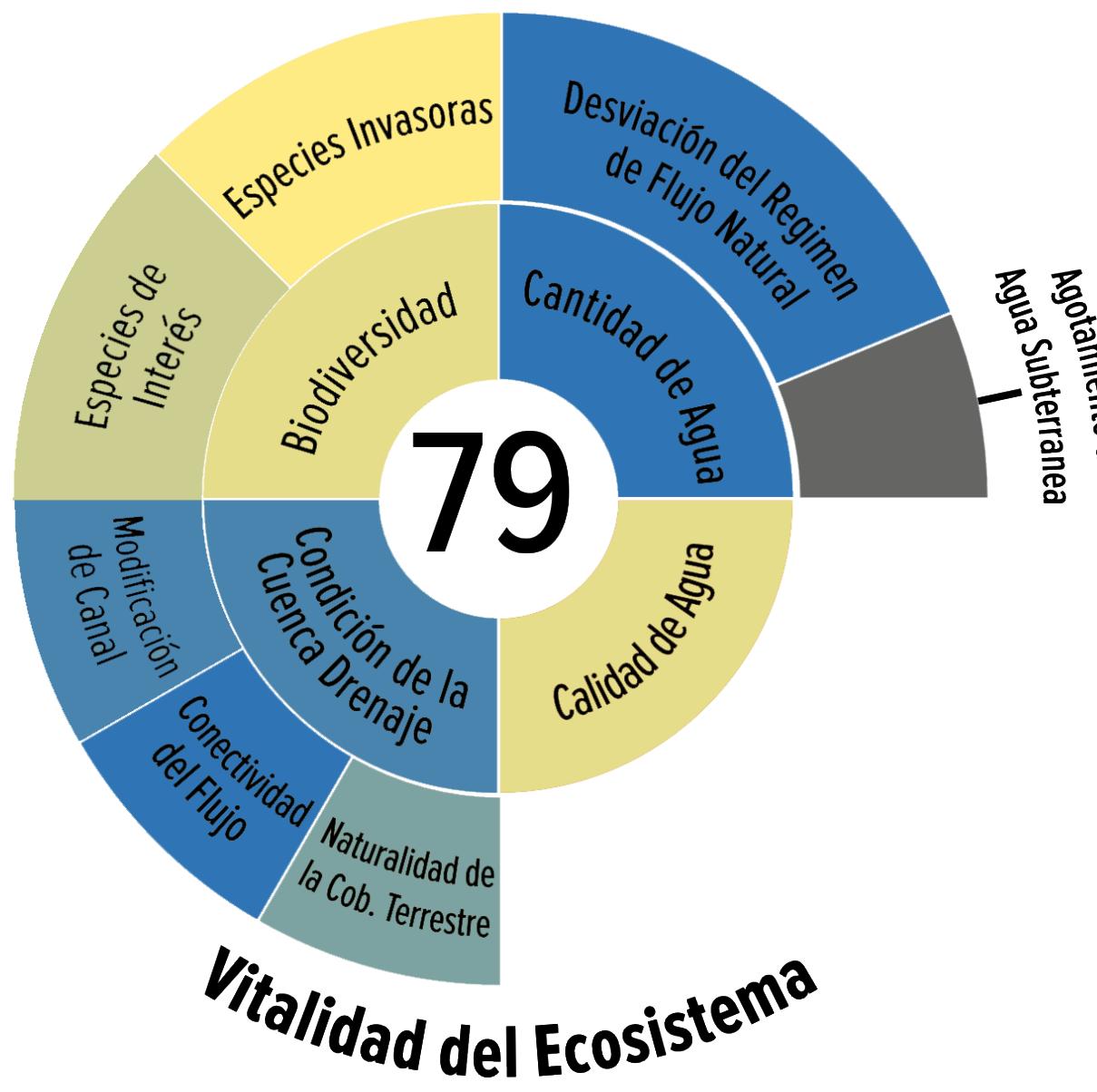
A photograph showing a group of approximately 15 people in a workshop or meeting room. They are seated around several round tables covered with blue cloths. On the tables, there are laptops, notebooks, pens, and various small items. In the background, there are whiteboards and posters with logos and text related to water management. The overall atmosphere appears to be a professional gathering or training session.

HOW DOES THAT MATERIALIZE?

**BY USING A COMPOSITE INDICATOR SYSTEM AS THE BASIS
TO CONVENE AND DISCUSS PRIORITIES FOR WATER
MANAGEMENT IN A PARTICULAR BASIN**

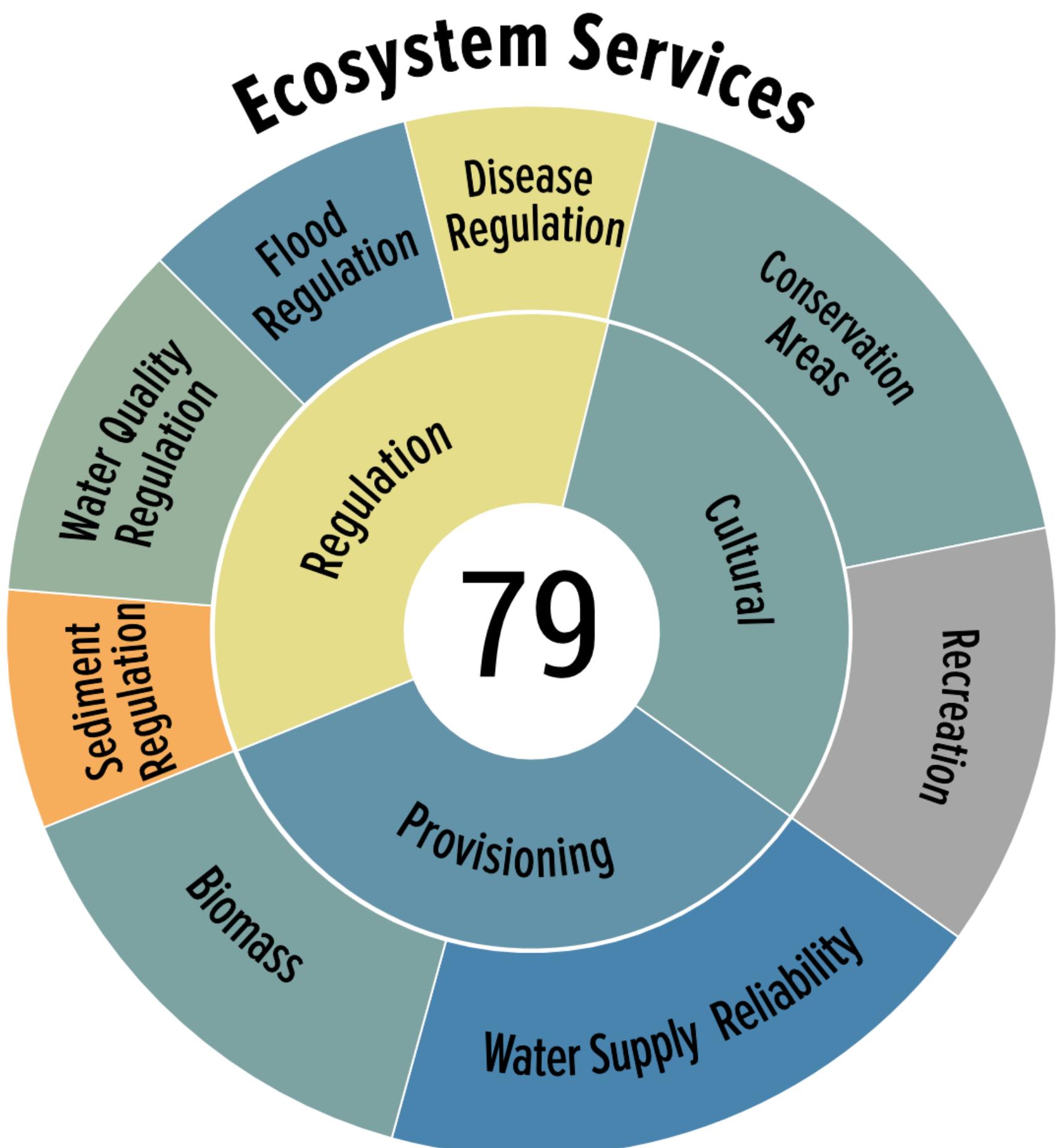
COMPOSITE INDICATOR SYSTEM

- Freshwater ecosystems at the center – assessment for water security
- Focus on ecosystem services – identifies trade-offs
- Assesses governance – addresses underlying root causes of challenges
- Stakeholder engagement – involves decision makers from all sectors

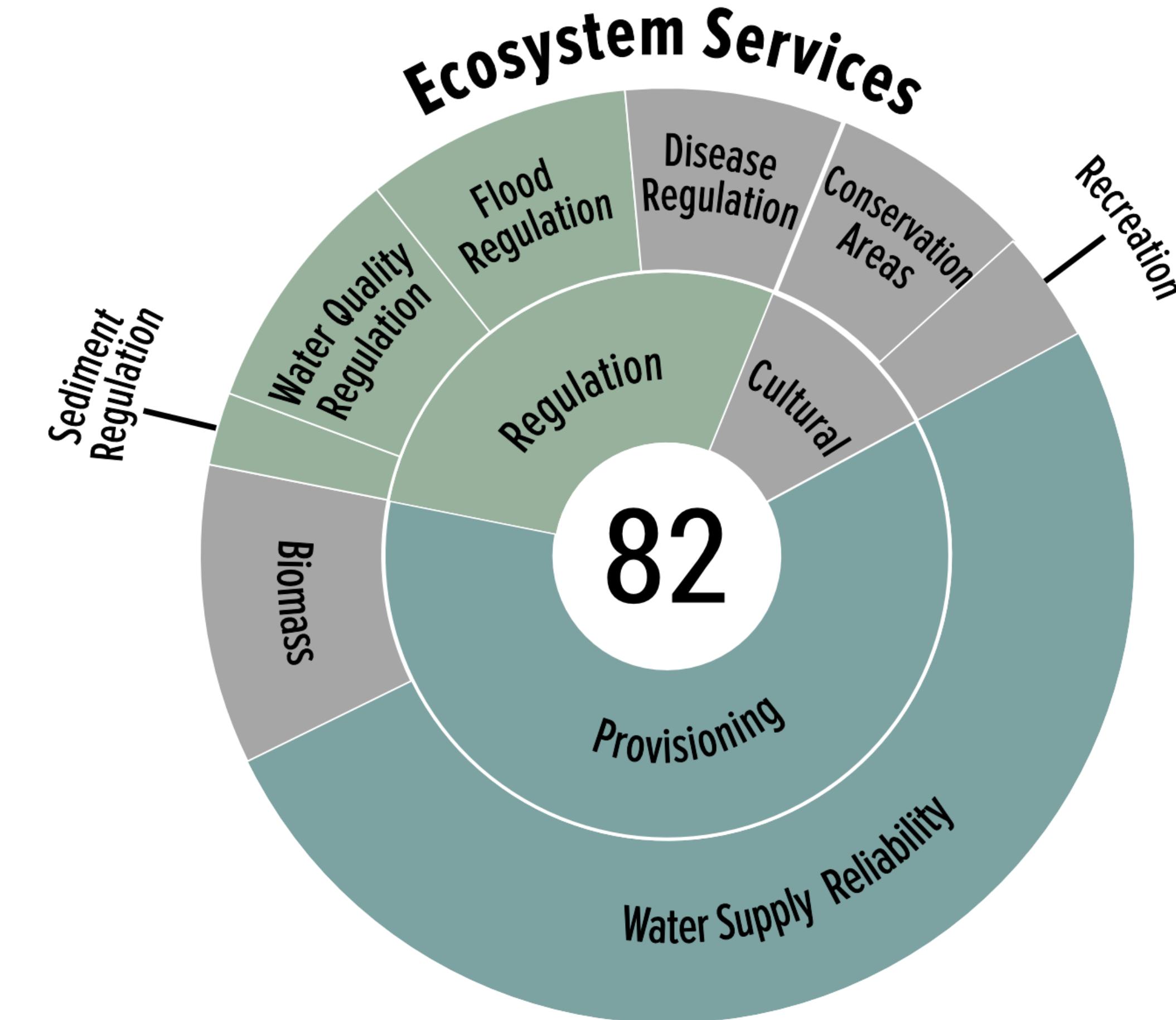


RESULTS FROM WEIGHT EXERCISE

WEIGHTS VARY BY STAKEHOLDER PREFERENCES & THIS INFORMATION IS USED DIRECTLY IN THE ASSESSMENT



LOWER MEKONG
(LAO PDR, VIETNAM, CAMBODIA)



DONGJIANG
(CHINA)

ASSESSING PERCEPTION OF WATER GOVERNANCE

Nivel general de monitoreo de la cantidad de agua

Los ejemplos incluyen, pero no se limitan a: caudal de riachuelo que se mide regularmente, estimada o modelada en la cuenca

Clasificación	Criterios
1	Existen restricciones en los recursos, los datos se controlan y aplican de forma muy deficiente
2	Existen restricciones en los recursos, los datos se controlan y aplican de forma deficiente
3	Existen restricciones en los recursos, pero los datos se controlan y aplican de forma regular
4	Existen restricciones en los recursos, pero los datos se controlan y se aplican bien
5	Existen restricciones en los recursos, pero los datos se controlan y aplican muy bien



Muy Bajo

Aceptable

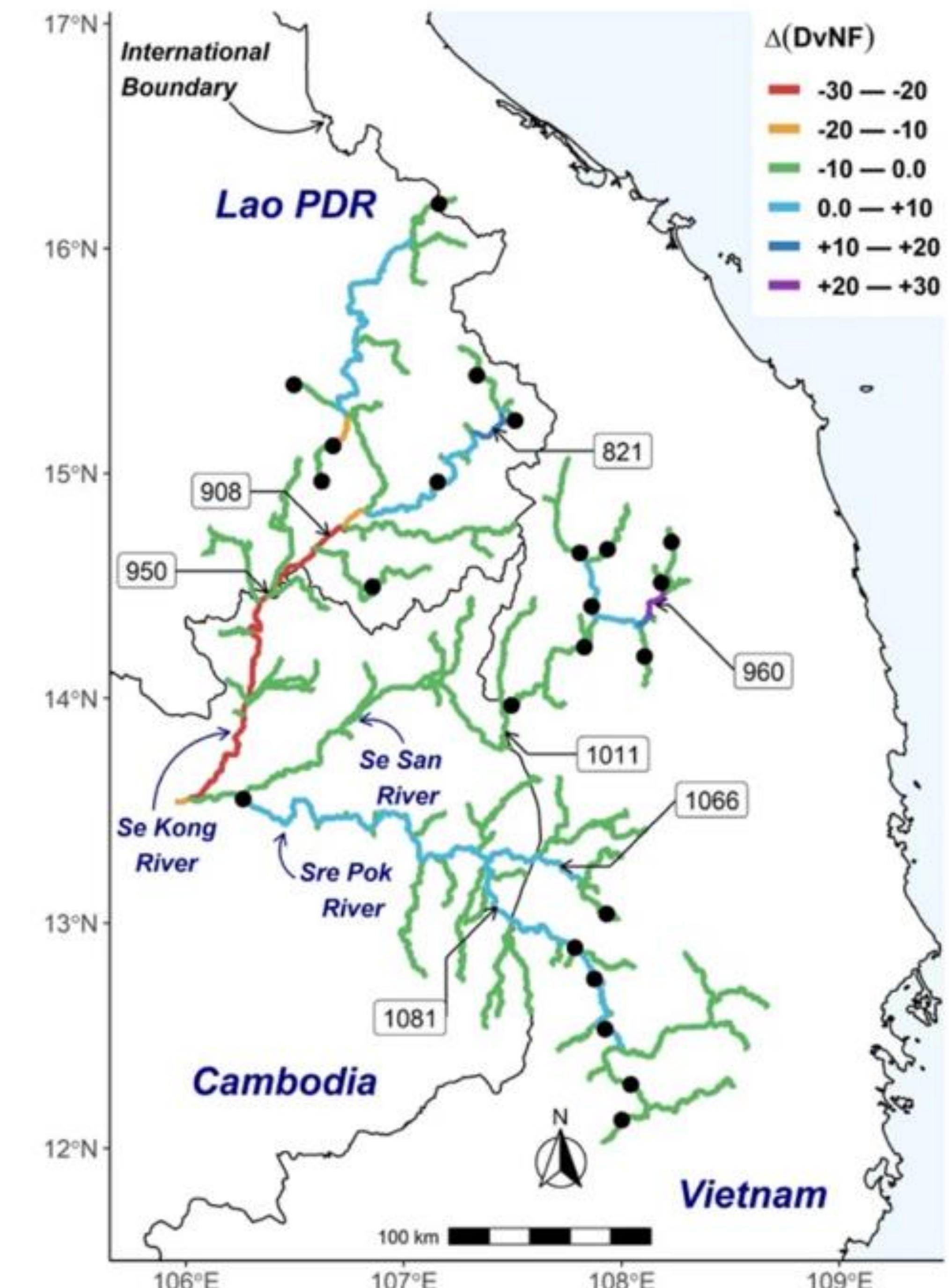
Muy Alto

FINE SCALE ASSESSMENT

Prioritizing local data to:

- 1) Ensure legitimacy
- 2) Help pinpoint areas of concern and establish agreed-upon baselines for monitoring
- 3) Target recommendations where green and grey actions are needed

Satellite/remote sensing and modeled datasets *can be used*, but require further discussion with decision makers



SCENARIO ANALYSIS

3S, Lower Mekong
FLOW CONNECTIVITY AND DAM DEVELOPMENT



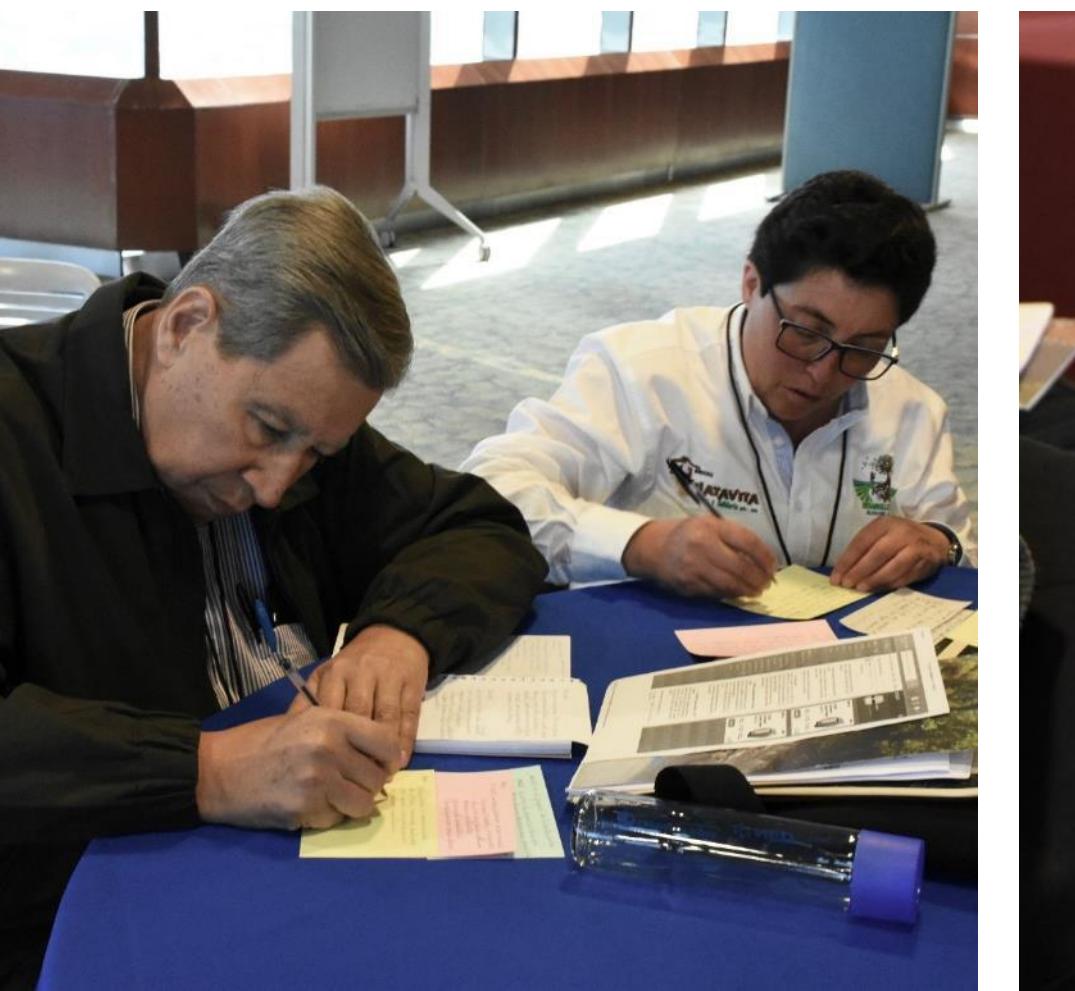
EXISTING



+LOWER SESAN

Modeling with Partners--NASA

- Future scenarios – for climate change, land-use change and dam development – are the most important way that we can influence decisions around investing in natural capital in a basin.
- Scenarios reveal areas that may be threatened in the future (e.g., where dams could impact fisheries) and where ecosystem restoration could have downstream benefits.



PEOPLE DEPENDENT ON FRESHWATER BASINS WHERE WE WORK:

BOGOTA CONSERVATION CORRIDOR, COLOMBIA:
10,000,000

ALTO MAYO BASIN, PERU:
280,000

OKAVANGO BASIN, ANGOLA,
BOTSWANA, NAMIBIA:
1,000,000

GUANDU BASIN, BRAZIL:
10,000,000

UMZIMBUVU, SOUTH AFRICA:
4,500,000

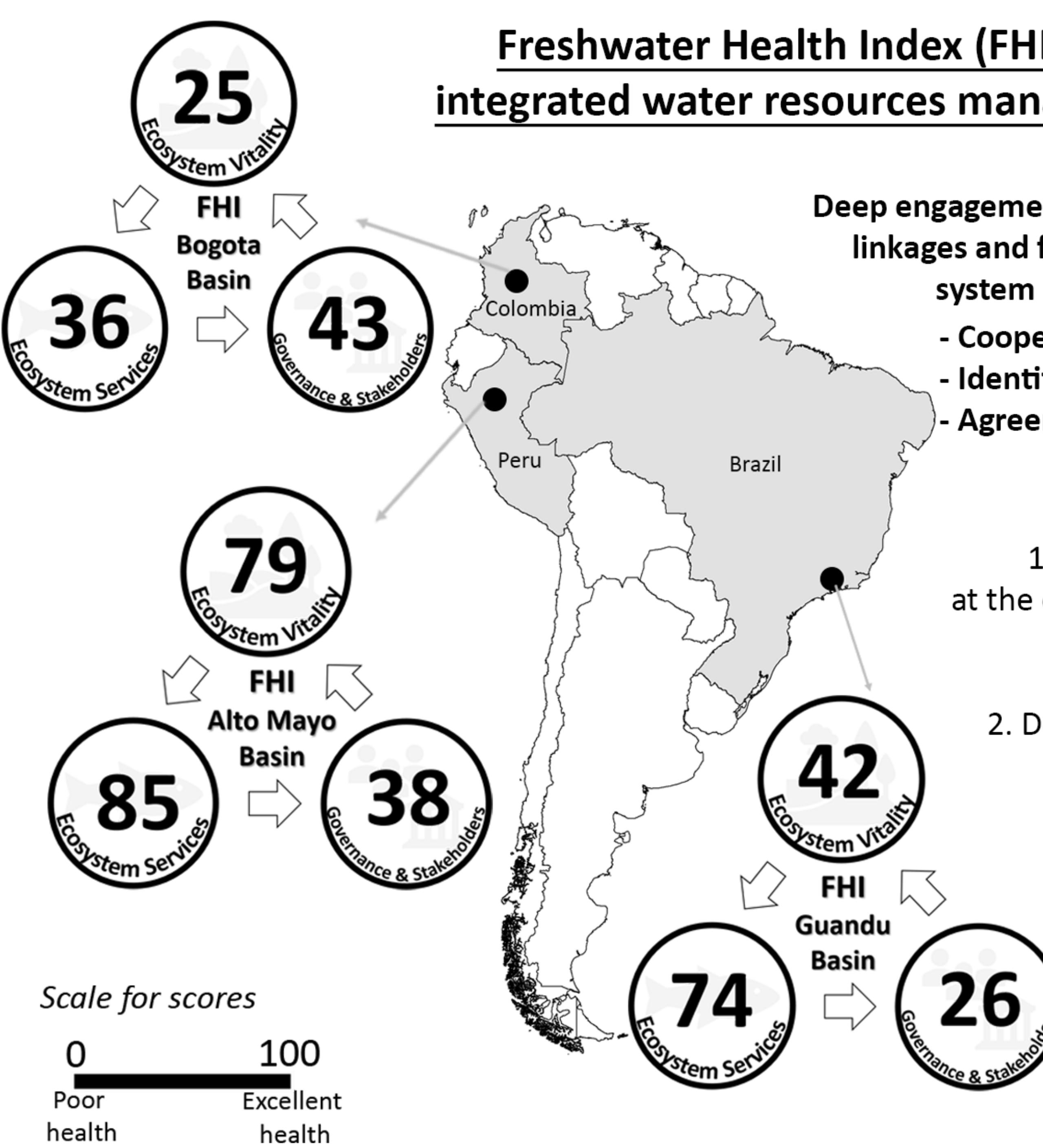
LANCANG, CHINA:
1,200,000

DONGJIANG BASIN, CHINA:
53,300,000

SEKONG, SREPOK & SESAN
(3S) BASIN, LOWER MEKONG
(CAMBODIA, LAOS AND VIETNAM):
3,400,000

TONLE SAP BASIN, CAMBODIA:
4,500,000

Freshwater Health Index (FHI) contributes to effective integrated water resources management in Latin America

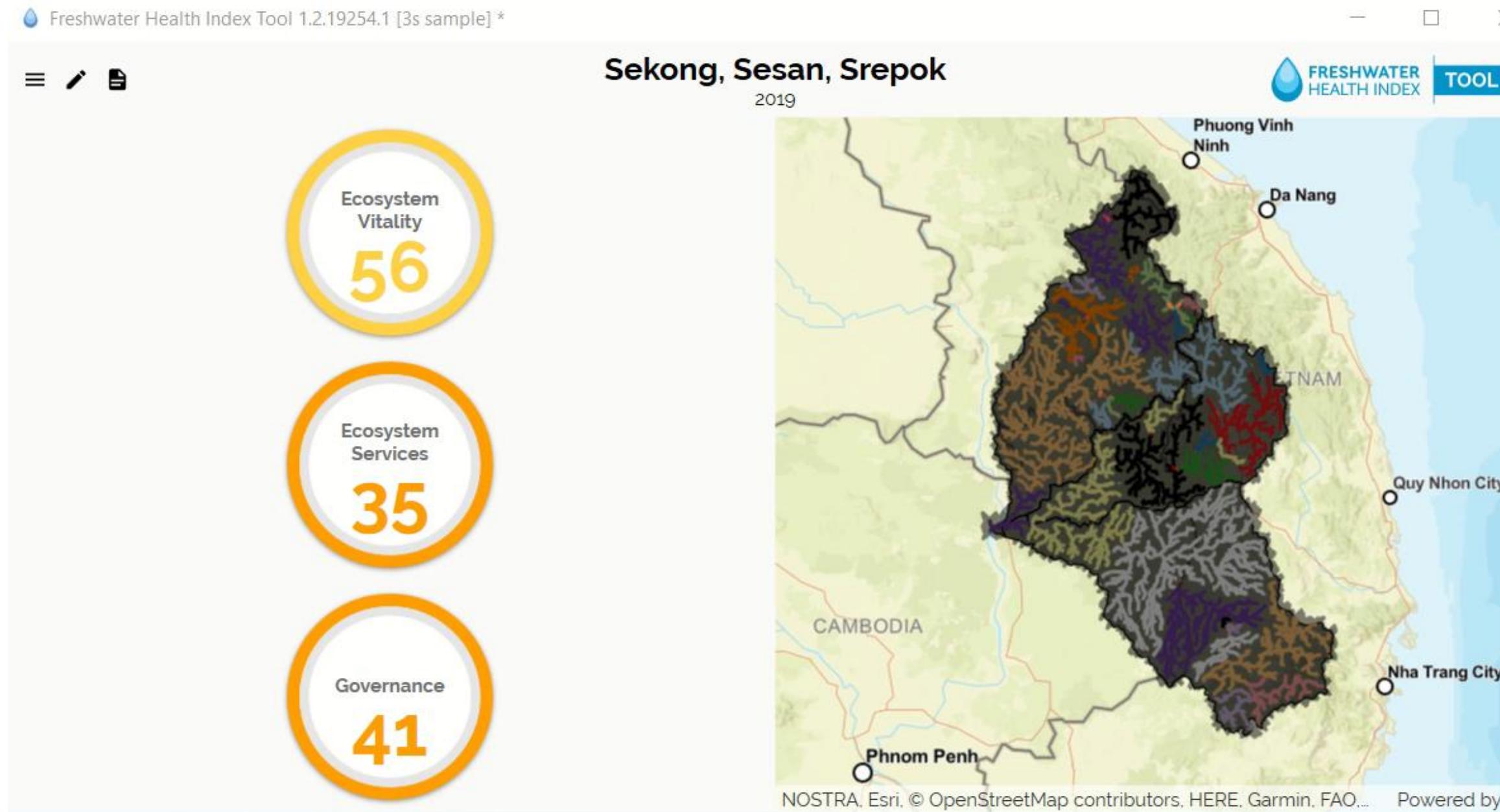


Deep engagement with stakeholders to clarify the linkages and feedback between the biophysical system and ecosystem services facilitates:

- Cooperation
- Identification of problems and solutions
- Agreement on common objectives

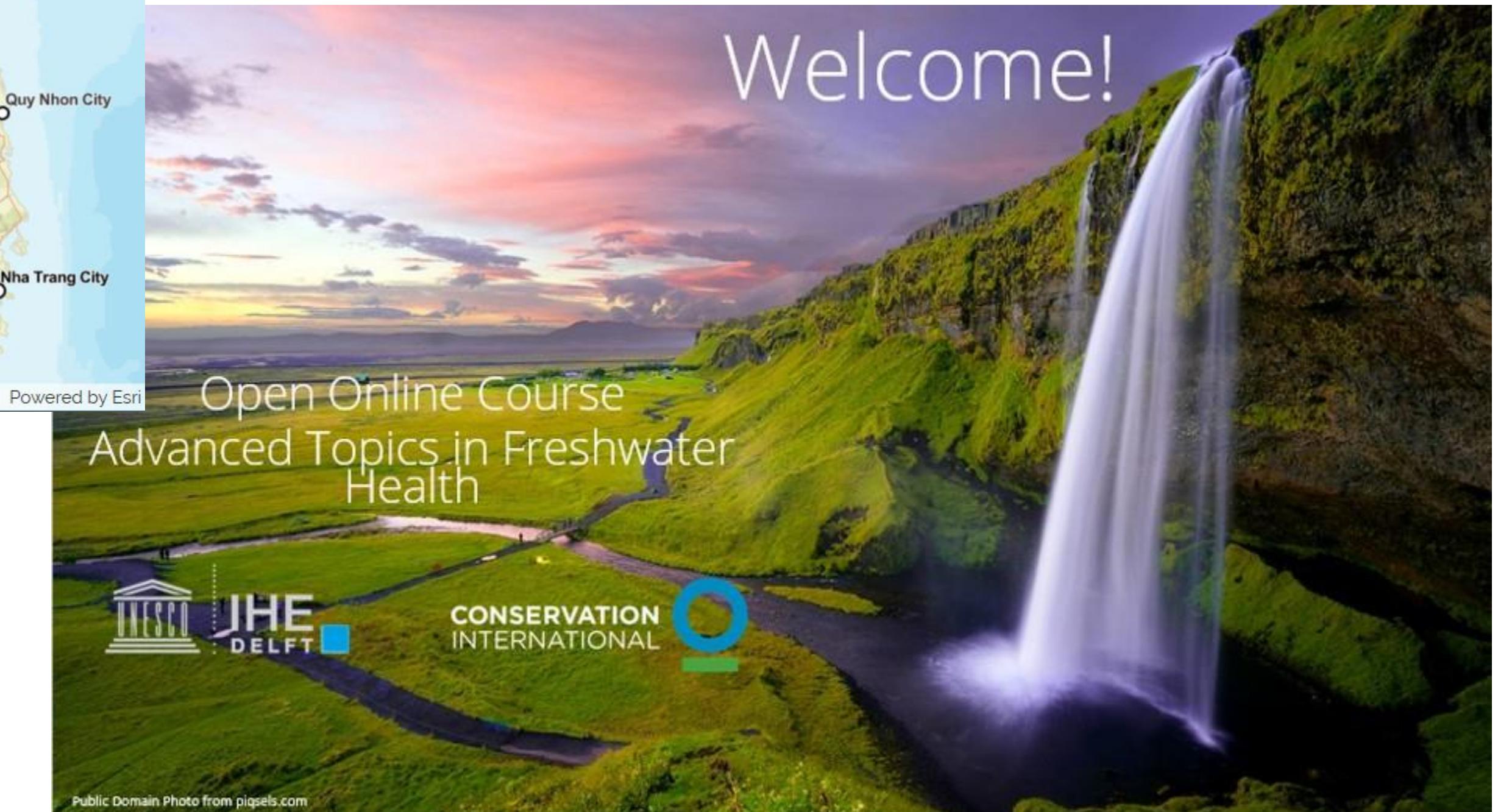
- General FHI results:**
1. Human needs met fairly well but at the expense of the ecosystem ecology in Alto Mayo and Guandu basins
 2. Demand of services met poorly and ecosystem severely degraded in the Bogota basin
 3. Governance and Stakeholder engagement needs significant improvement in all three basins

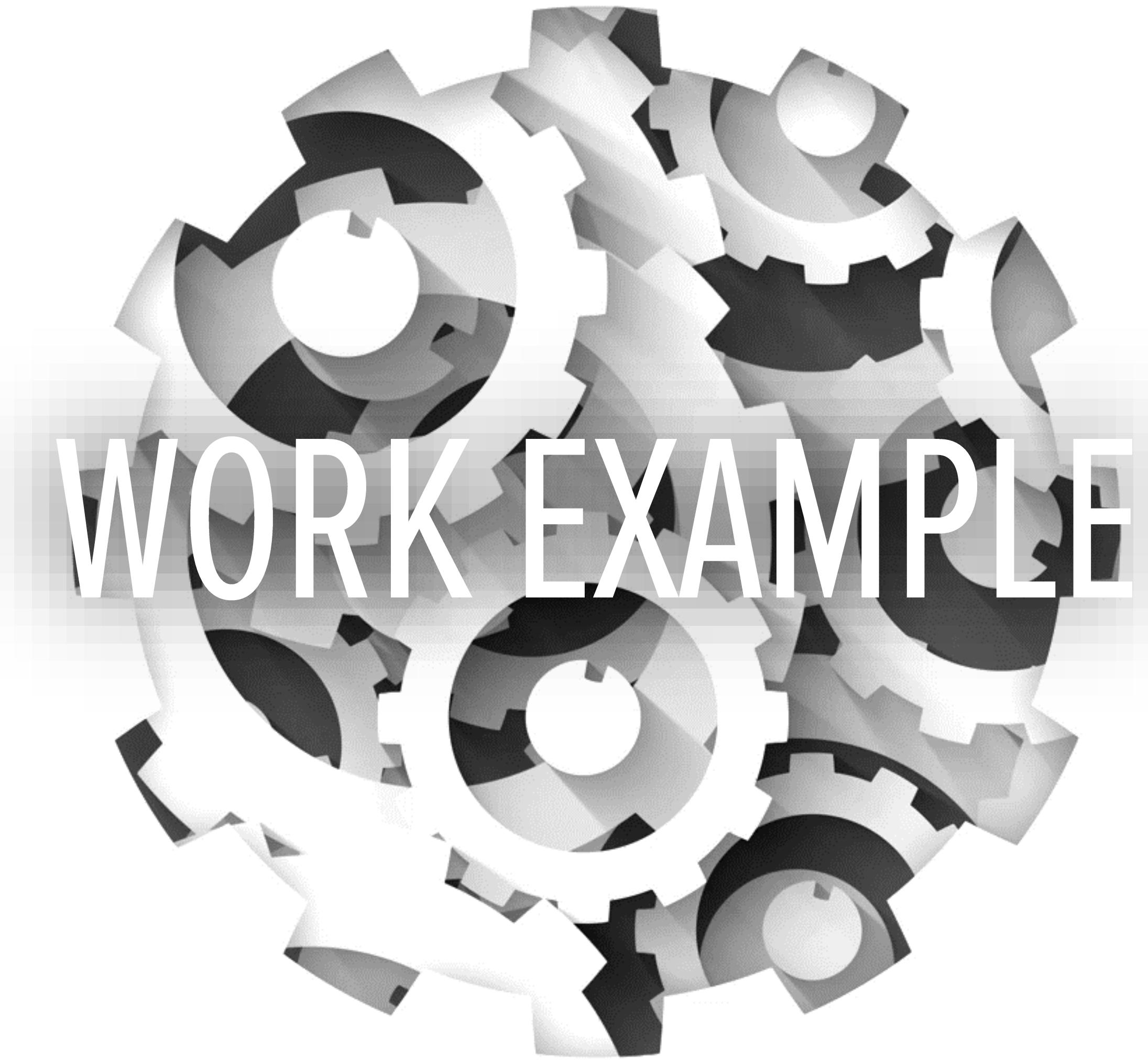
GETTING MORE USERS TO WORK WITH THE FHI



Desktop and web-based tools available
to collect and synthesize data

Open online courses offered
through IHE Delft





DEVIATION OF NATURAL FLOW REGIME

An aerial photograph showing a network of winding, shallow, light-blue lakes and lagoons. These water bodies are surrounded by dense green vegetation and some brown, dry land. The lakes have irregular, winding shapes, creating a complex pattern across the landscape.

GRACIAS
OBRIGADA

Maíra Bezerra, Ph.D.: mbezerra@conservation.org

SALTWATER LAKES IN SOUTHERN PANTANAL, BRAZIL
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