For Mainstreaming Lakes and other Lentic Water Systems in the Global Water Agenda

Linking Integrated Lake Basin Management (ILBM) and Integrated Water Resources Management (IWRM) to Achieve Integrated Lentic – Lotic Basin Management (ILLBM)

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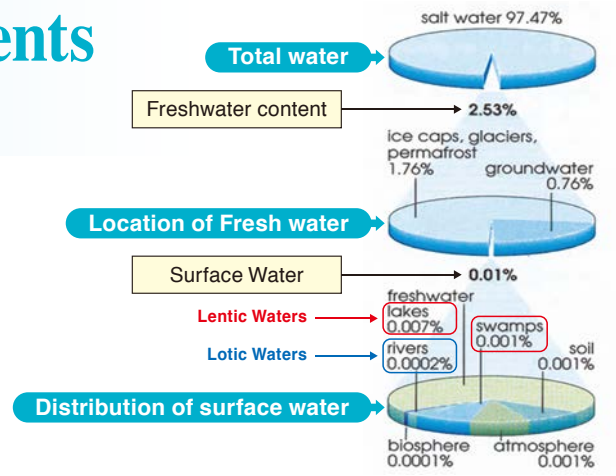
Lakes as Essential Components of Global Water Resources

Only about two percent of all the earth's water is freshwater, with the majority of even this small fraction being locked up in the form of icebergs and glaciers, or locked far underground beyond easy reach. And it is estimated that more than 90 percent of it would be in natural and artificial lakes. Those lakes provide many uses for sustainable human livelihoods and economic development, while serving as essential habitats for a great variety of flora and fauna.

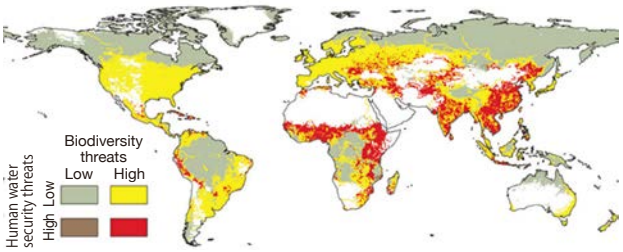


Distribution of the world's water

Source: I.A. Shiklomana, 'Global water resources' in Nature and Resources, Vol.26,No.3,1990

Global Threats to Human Water Security and Biodiversity

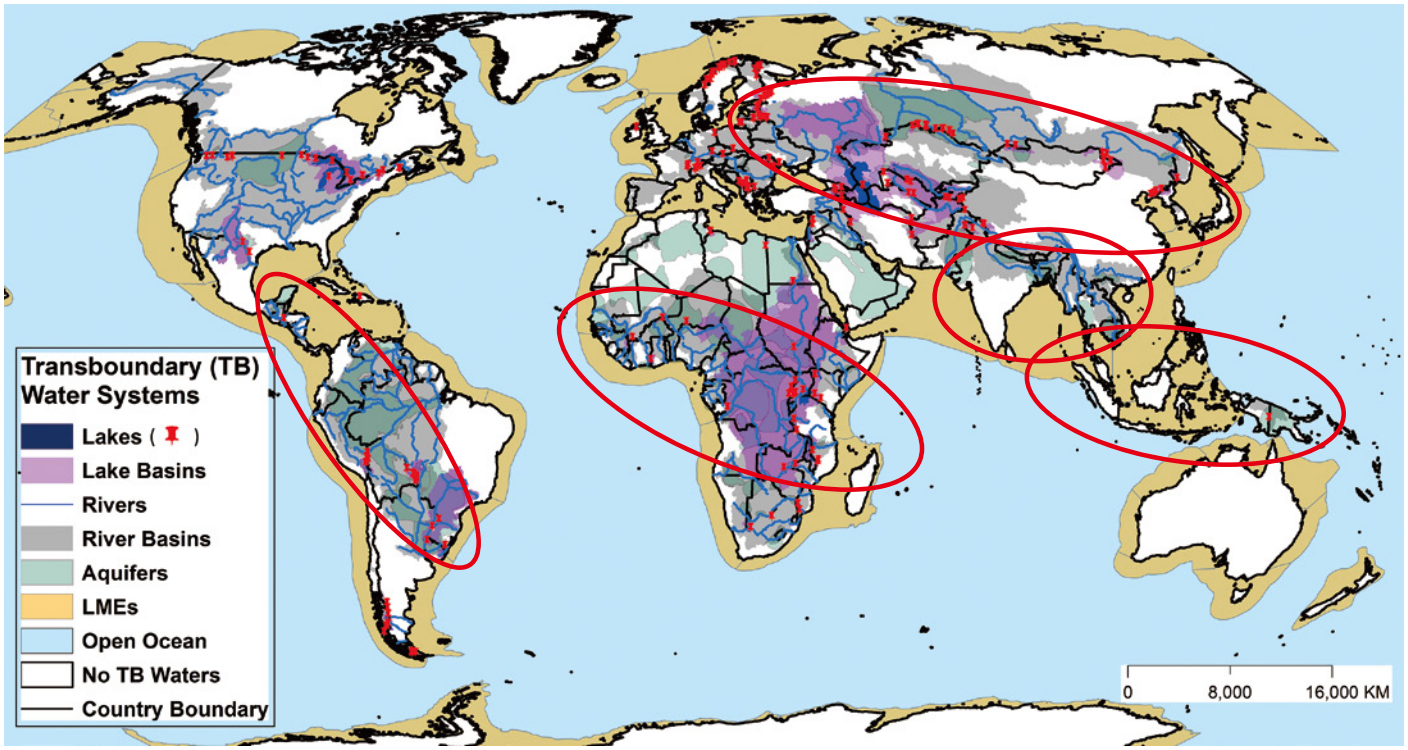
Lakes are vulnerable, and their overall condition is deteriorating. C. J. Vörösmarty et al. have highlighted the global threats to Human Water Security (HWS) and Biodiversity (BD). The geographic pattern in the figure illustrates large, nearly contiguous blocks where the HWS threat, BD threat, or both predominate. Much of the developed world faces the challenge in reducing the BD threat and protecting Biodiversity, while also maintaining established water services. The developing world often illustrates tandem threats to HWS and BD, posing an arguably more significant challenge.



Prevailing Patterns of Threat to Human Water Security and Biodiversity

Source: https://media.nature.com/full/nature-assets/nature/journal/v467/n7315/extref/nature09440-s1.pdf

Overlapping the HWS and BD threats map with the location of lakes and reservoirs, illustrating the transboundary lakes in the Transboundary Waters Assessment Programme (TWAP) efforts, there are numerous regions with highly vulnerable lentic-lotic water systems, identifiable as lake clusters.

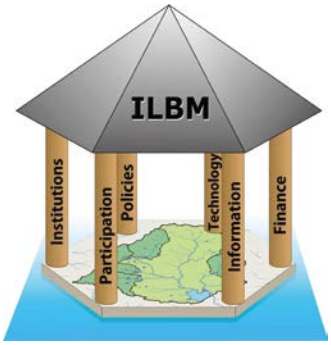


Transboundary Water System and Lake Linkages

For Sustainable Management for Lake Ecosystems

What is Integrated Lake Basin Management (ILBM)?

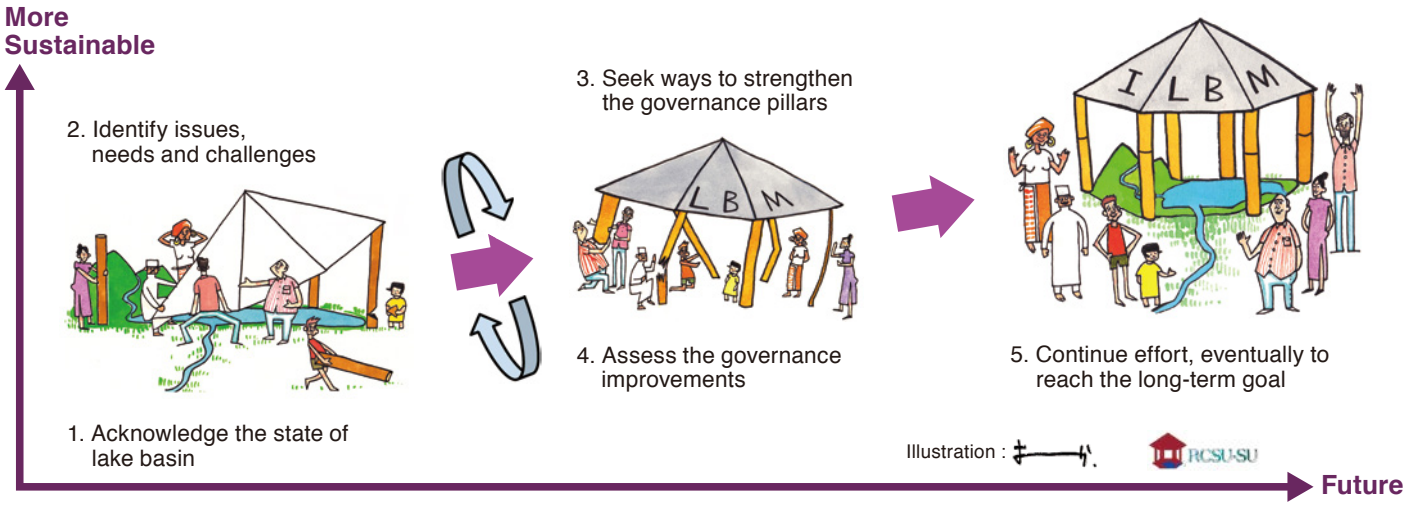
ILBM is an approach for achieving sustainable management of lakes and reservoirs through gradual, continuous and holistic improvement of basin governance, including sustainable efforts for integrating institutional responsibilities, policy directions, stakeholder participation, scientific and traditional knowledge, technological possibilities, and funding prospects and constraints.



Six Important Elements of Effective Governance

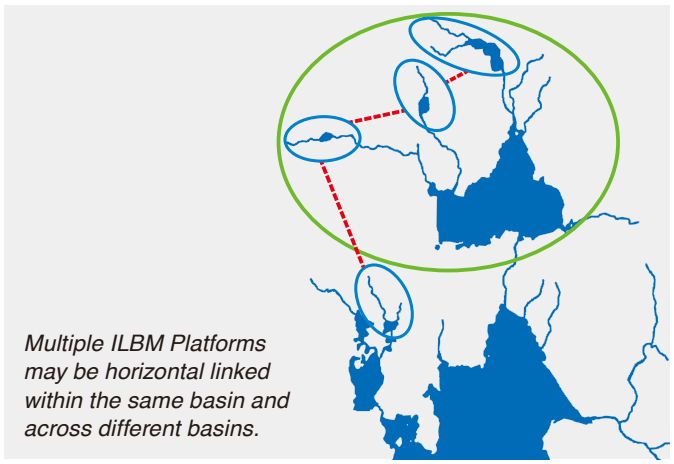
What is the ILBM platform Process?

ILBM Platforms is a virtual stage for collective stakeholder actions for improving the basin governance through ILBM. The extension of the scope of application, from a basic ILBM framework to a cyclic process framework, is proposed in relation to the conventional planning and implementation processes as follows.

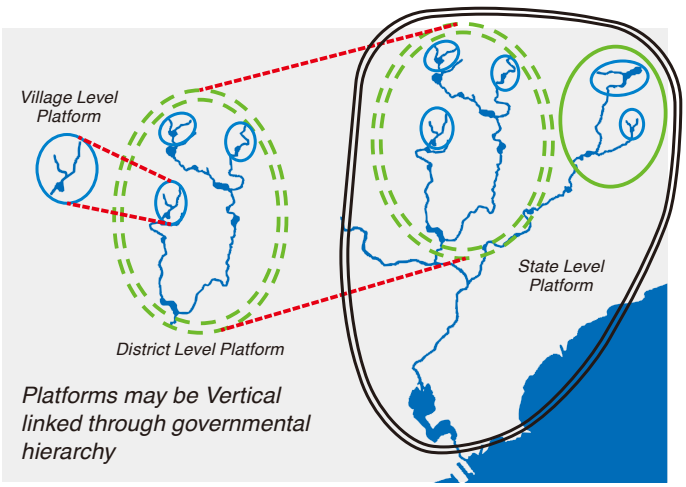


Governance Linkages Within and Beyond the Lake Basin

ILBM can address multiple different sectors and also various basin scales. The horizontal linkage becomes an issue in relation to the involvement of multiple sectors within a particular lake basin. For the overall sustainability of lake basin resources, these different frameworks must be interlinked in some manner. Regarding the vertical linkage the micro-, meso-, and macro-scale basin governance elements are linked through the hierarchical nature of political decision-making and/or government bureaucracy rules.



Horizontal Linkage Must Exist Among the Micro-Scale Basin Within a Meso-Scale Basin



Vertical Linkages of Lake Basin Governance

KEY MESSAGES

1. Only slightly less than one percent of the freshwater on the Earth's surface globe is in a readily-usable form, with more than 90% of it being in lakes and reservoirs.

2. Lakes are very vulnerable to human activities and their overall condition is deteriorating on a global scale. It is clear that lake clusters around the world are experiencing tandem threats to their Human Water Security and Biodiversity values.

3. ILBM is the only conceptual framework reflecting the lessons learned from global lake basin management experiences and the unique features of lentic water systems.

4. Integrated Water Resource Management (IWRM) can best manage lakes for sustainable ecosystem services within an Integrated Lake Basin Management (ILBM) framework for lake basins. More broadly, the concept of IWRM translates to Integrated Lentic – Lotic Basin Management (ILLBM).

Learn More

https://www.ilec.or.jp/en/pubs