

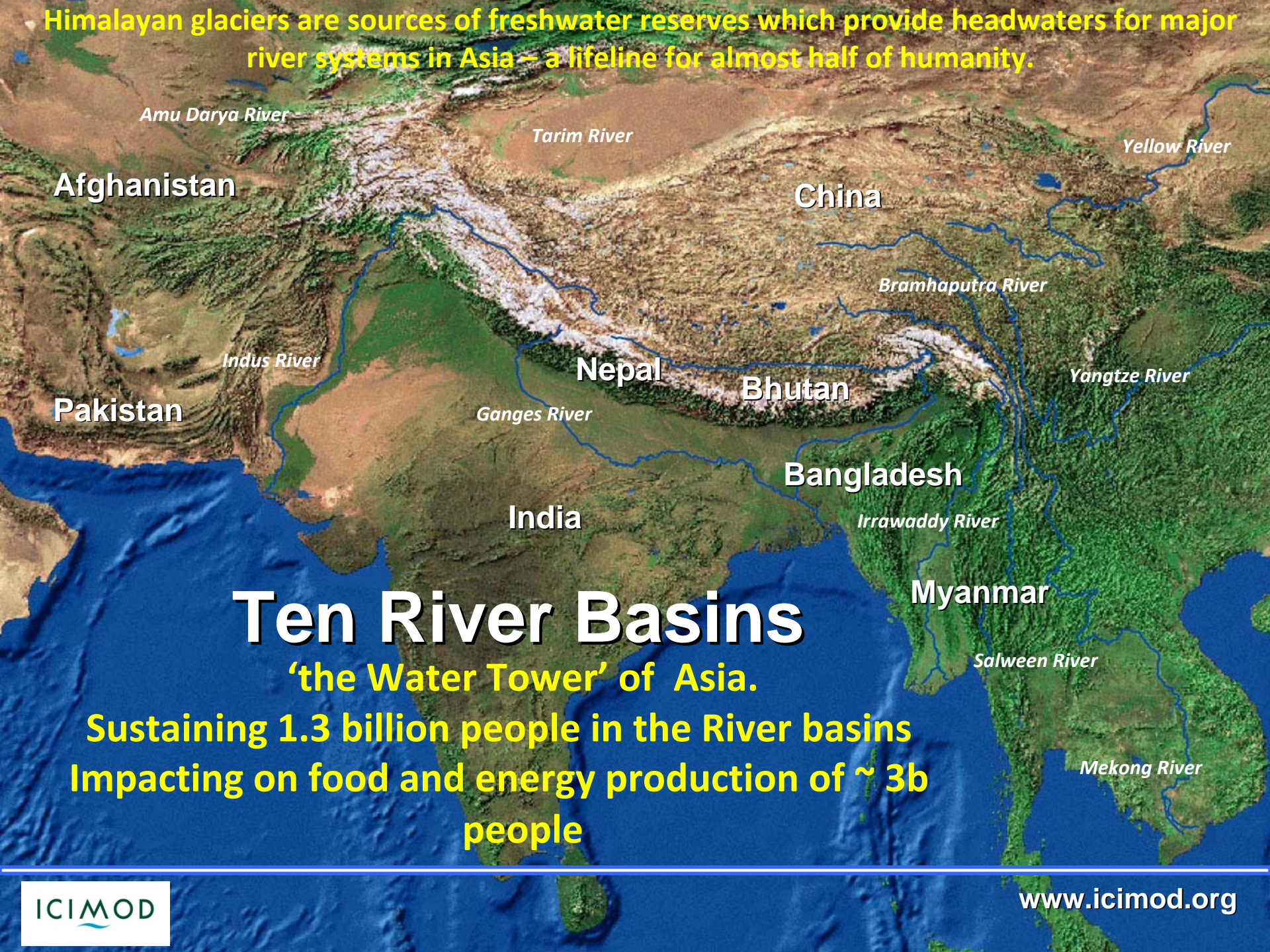
# Regional Water Governance Strategy in Hindu Kush Himalaya Region

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International Centre for Integrated Mountain Development

Kathmandu, Nepal

▶ Himalayan glaciers are sources of freshwater reserves which provide headwaters for major river systems in Asia – a lifeline for almost half of humanity.



Afghanistan

China

Pakistan

Nepal

Bhutan

India

Bangladesh

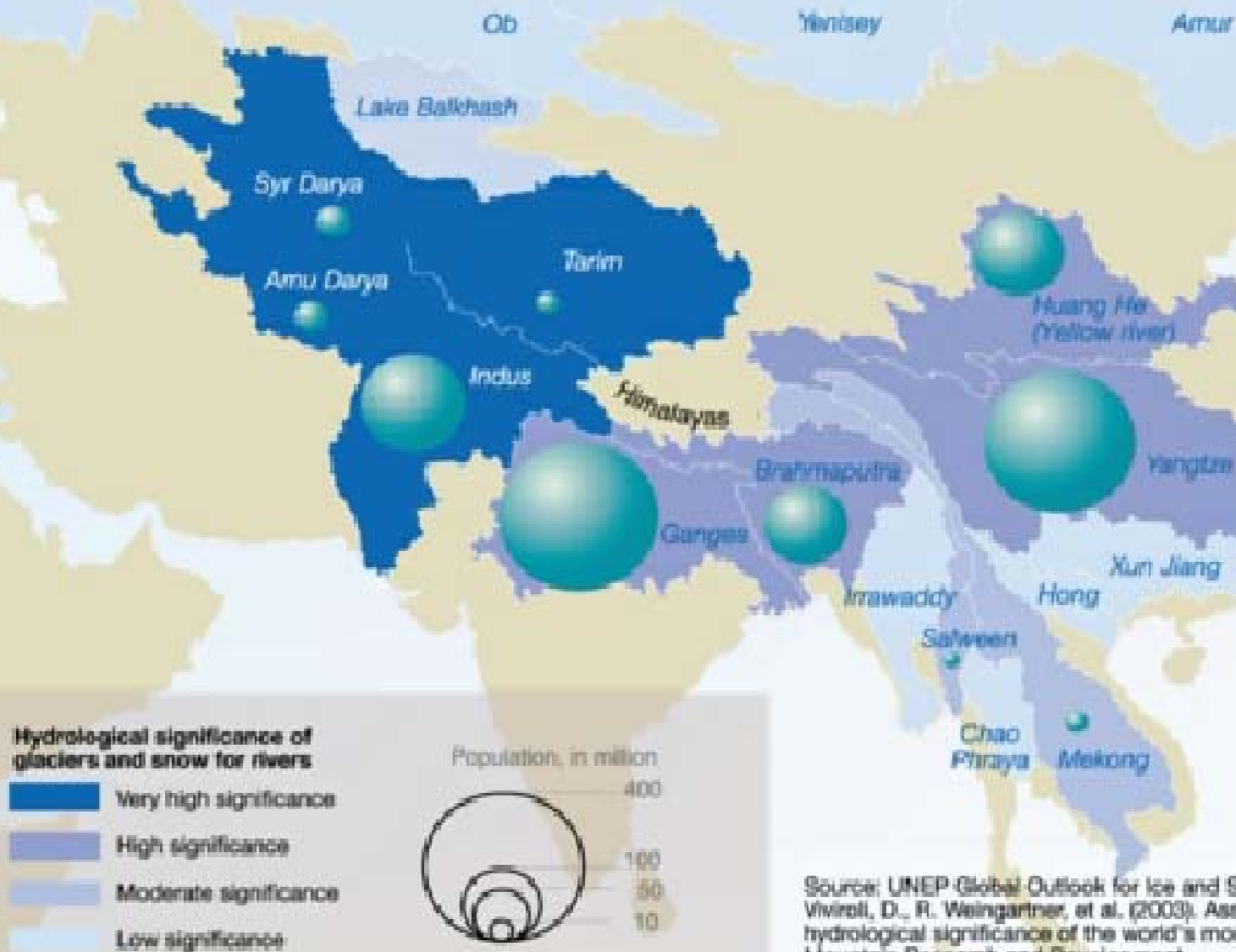
Myanmar

# Ten River Basins

‘the Water Tower’ of Asia.

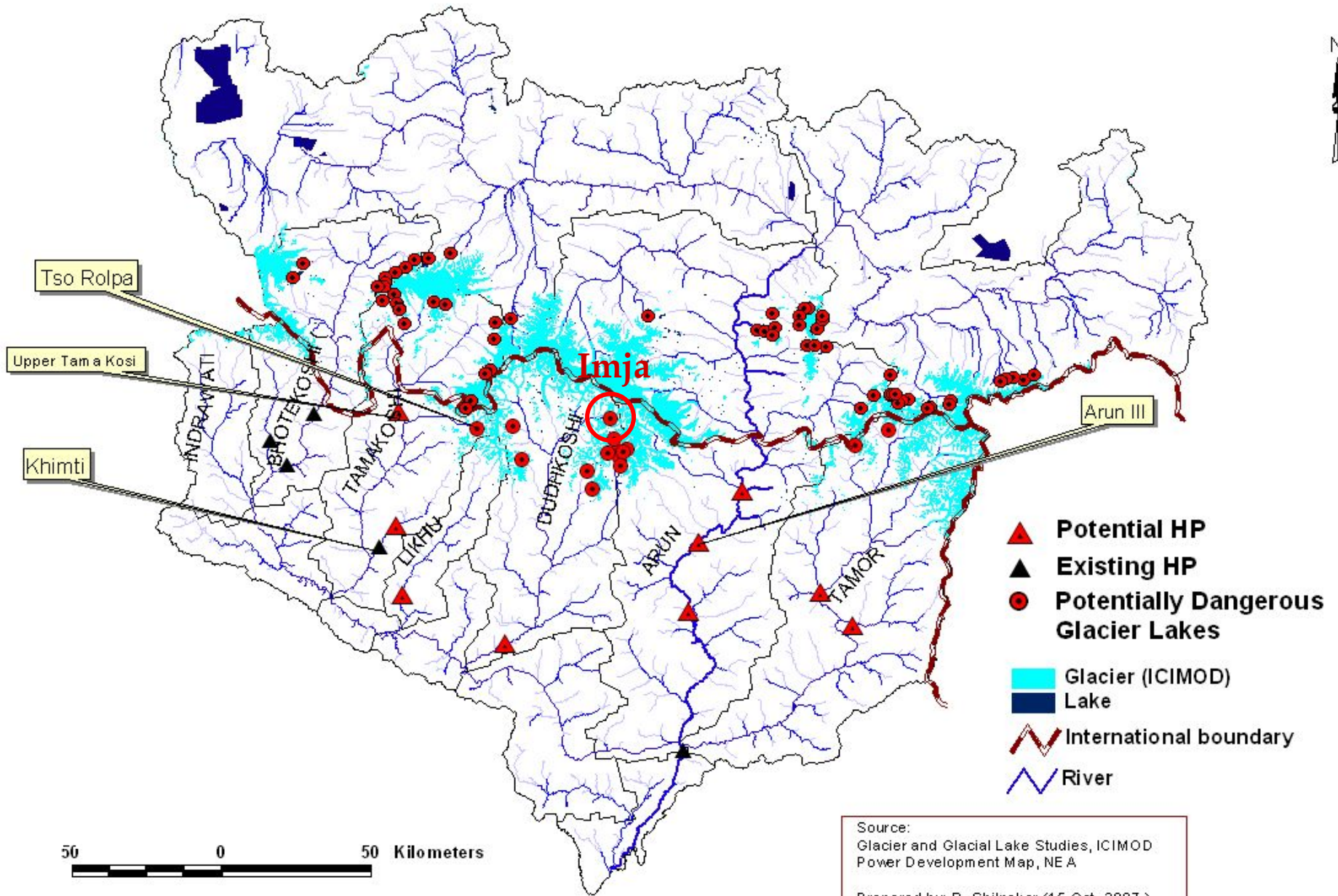
Sustaining 1.3 billion people in the River basins  
Impacting on food and energy production of ~ 3b  
people

# River basins and their hydrological significance

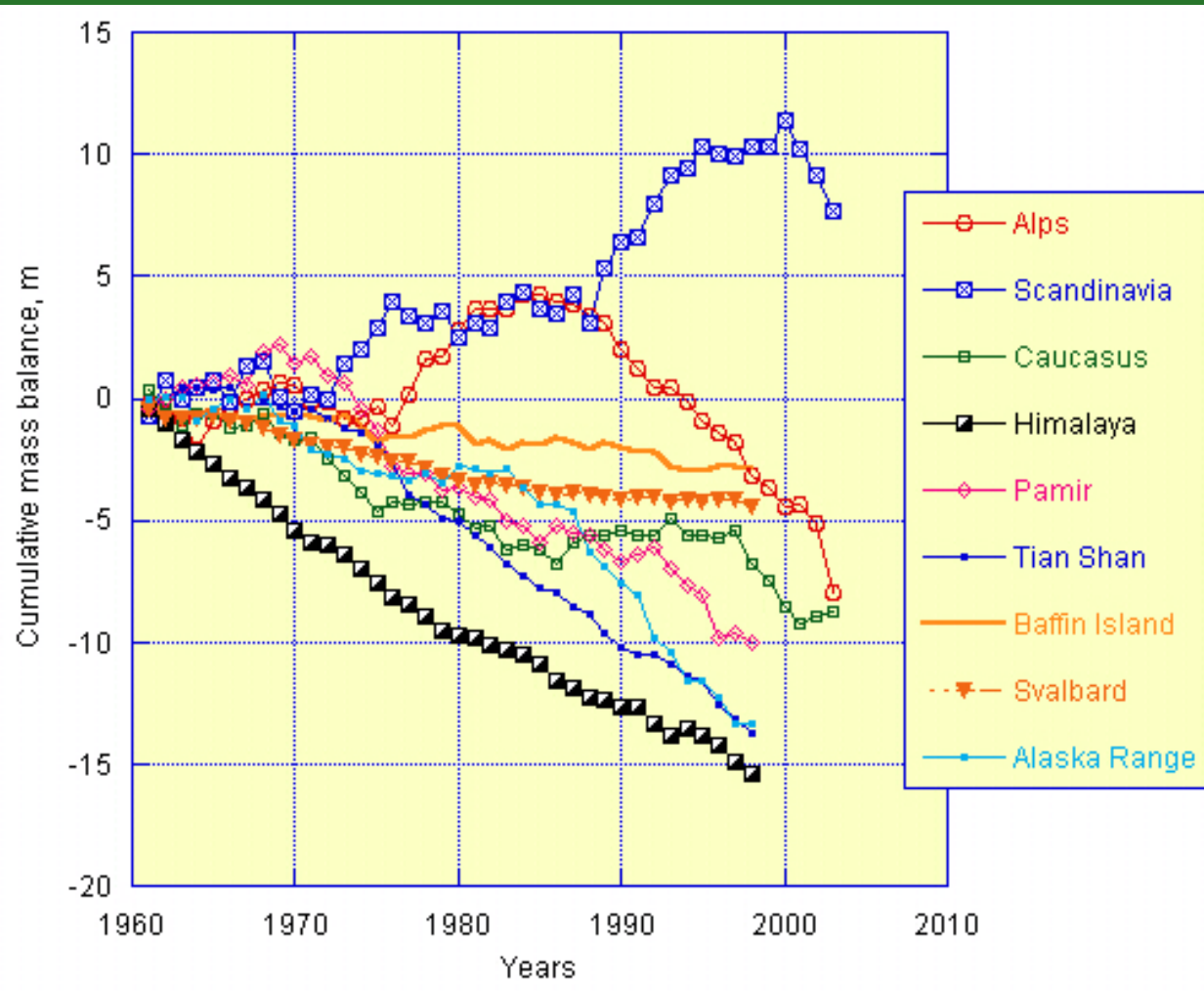


Source: UNEP Global Outlook for Ice and Snow, 2007; Viviroli, D., R. Weingartner, et al. (2003). Assessing the hydrological significance of the world's mountains. Mountain Research and Development.

# Potentially Dangerous Glacier Lakes and Hydropower Stations in the Kosi Basin



# Changing Glacier Mass Balance



► **Himalayan glaciers are shrinking more rapidly than elsewhere**

Dyurgerov and Meier, 2000

# Climate Change Impacts on Water Resources

- As glaciers melt, **river runoff** will first increase and then decrease;
- Extreme events already on the rise;
- Likely shortage scenario for downstream agriculture and other users
- Wellbeing of about half billion people in the HKH region including China will be affected.

## 1. River basin approach

- Integrate IWRM with IRBM
- Promote co-operation between the physiographic regions through ecosystem management & market chains
- Enhance local socio-economic development and community participation in local decisions;
- Implement mechanisms for allocation of water rights within the river basins;
- Develop domestic capital markets and partnership with private sector for risk management

## 2. Promote Regional Economic Co-operation

- Co-operation in water should be part of the broader regional economic cooperation framework with focus on water;
- Enhance co-operation between upstream - downstream countries as producers and consumers of ecosystem services;



# 3. Use problems as opportunity

- Drivers like climate change and globalization have added new dimensions and opportunities for regional co-operation;
- Supply augmentation through water storage (both natural and human-made) should be part of IWRM/IRBM.
- Increase role of knowledge hubs in documenting and sharing good policies and practices.



**Thank You!**