

Future of Hindu Kush Himalaya: Scenarios and Pathways

Joyashree Roy¹, Eddy Moors², M.S.R. Murthy³

¹Professor of Economics at Jadavpur University, India. ICSSR National Fellow; ²Professor Water and Climate, VU Amsterdam, Netherlands; Head Climate Change and Adaptive Land & Water Management (CALM), Alterra Wageningen UR, Netherlands; ³Senior Consultant, Geospatial Solutions, ICIMOD, Nepal

Questions:

What are likely futures for the Hindu Kush Himalaya (HKH)?
What are some possible strategic actions in the present for making the HKH prosperous in future?
What are the major threats and opportunities on the way to prosperity?

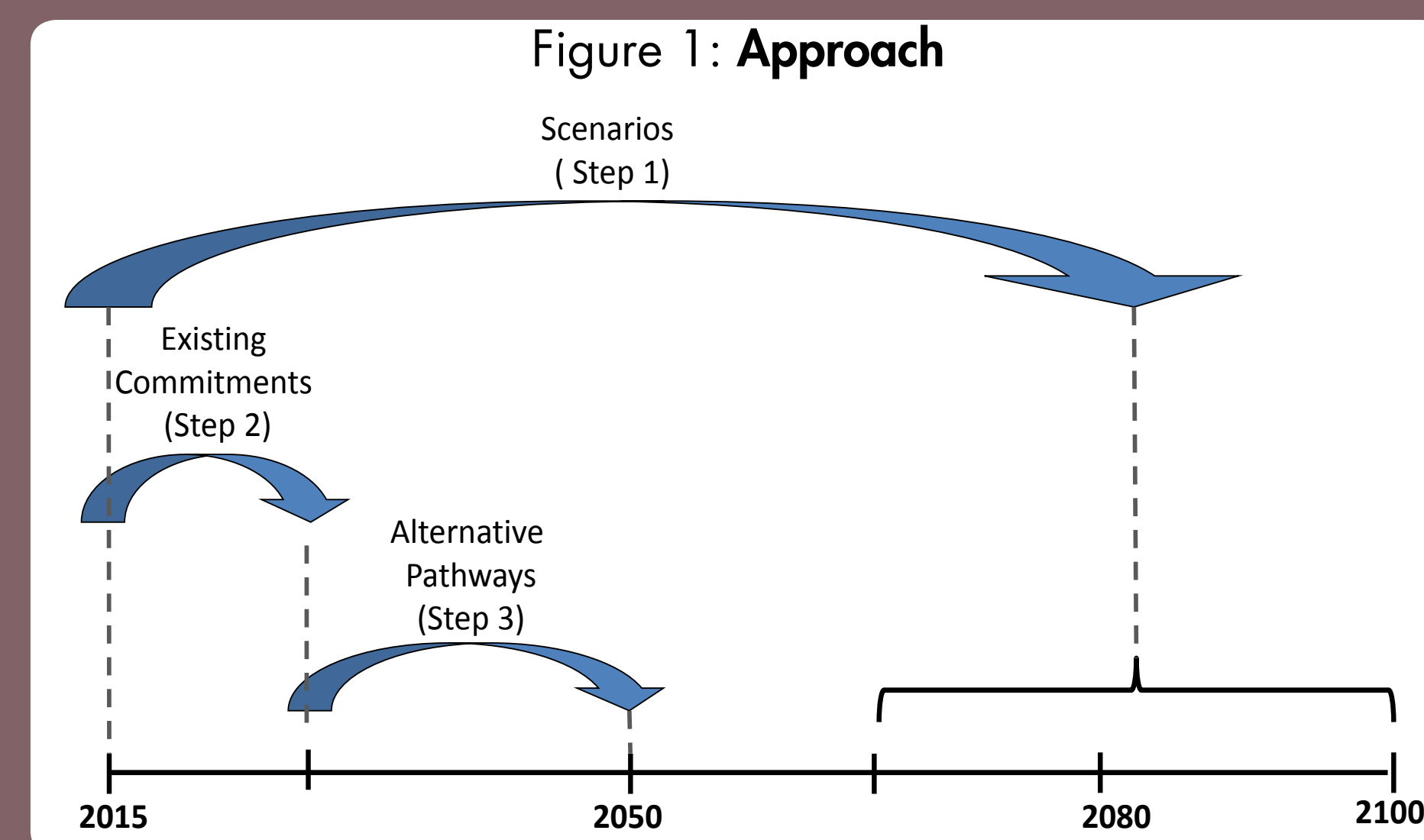
To answer these questions we present the future long term 2080 scenarios for HKH with three plausible futures. 2080 is used as a key year to represent the 30 year period from 2070 to 2100.

The three potential scenarios are as follows:

“Downhill”: Strong climate change, politically unstable region, strong ecosystem degradation.

“Muddling through”: Strong climate change, political instability medium, medium ecosystem degradation.

“Prosperous HKH”: Weak climate change, politically stable region, low ecosystem degradation.



Scenarios

Downhill

- Conflicts over resource sharing increase;
- Reduced access to emerging opportunities for efficient resource use;
- Communities remain isolated from larger market systems;
- Mountain livelihoods will not benefit from scientifically proven new practices;
- Limited skills to support local needs for inclusive growth;
- Fossil fuels will continue to dominate as a primary energy source; and
- Global temperature rise will be well above 2.0 °C.

Prosperous

- Cooperative efforts extend regionally and across sectors and across governing institutions;
- Embrace the diversity and uniqueness of the region's natural resource assets, its political life, and its capacities for collaboration;
- Biodiversity and eco-systems values will improve;
- Mitigation efforts will be largely successful;
- Economy shifts to clean and renewable energy as the main sources; and
- Climate change developments will reflect the IPCC moderate scenario.

Key Messages

Between today and 2080, environmental, social, and economic conditions in the HKH will take one of three directions: they may run *downhill*, or the region may keep *muddling* through, or it may advance toward prosperity.

A group of decision makers and scientists from the region agreed that three factors—disasters, climate change, and poor governance—pose the greatest threats to prosperity in the region.

The group's discussions envisioned two broad alternative paths toward prosperity for the HKH in 2080:

- large-scale investment with regional cooperation, or*
- bottom-up investment with local and national cooperation*

However, the group warned against policies that could push the region downhill or stall it in its present muddle. Each path involves substantial collaboration among state and non-state actors, but with an emphasis on different levels (regional, national, or sub-national).



Figure 2: Workshop responses

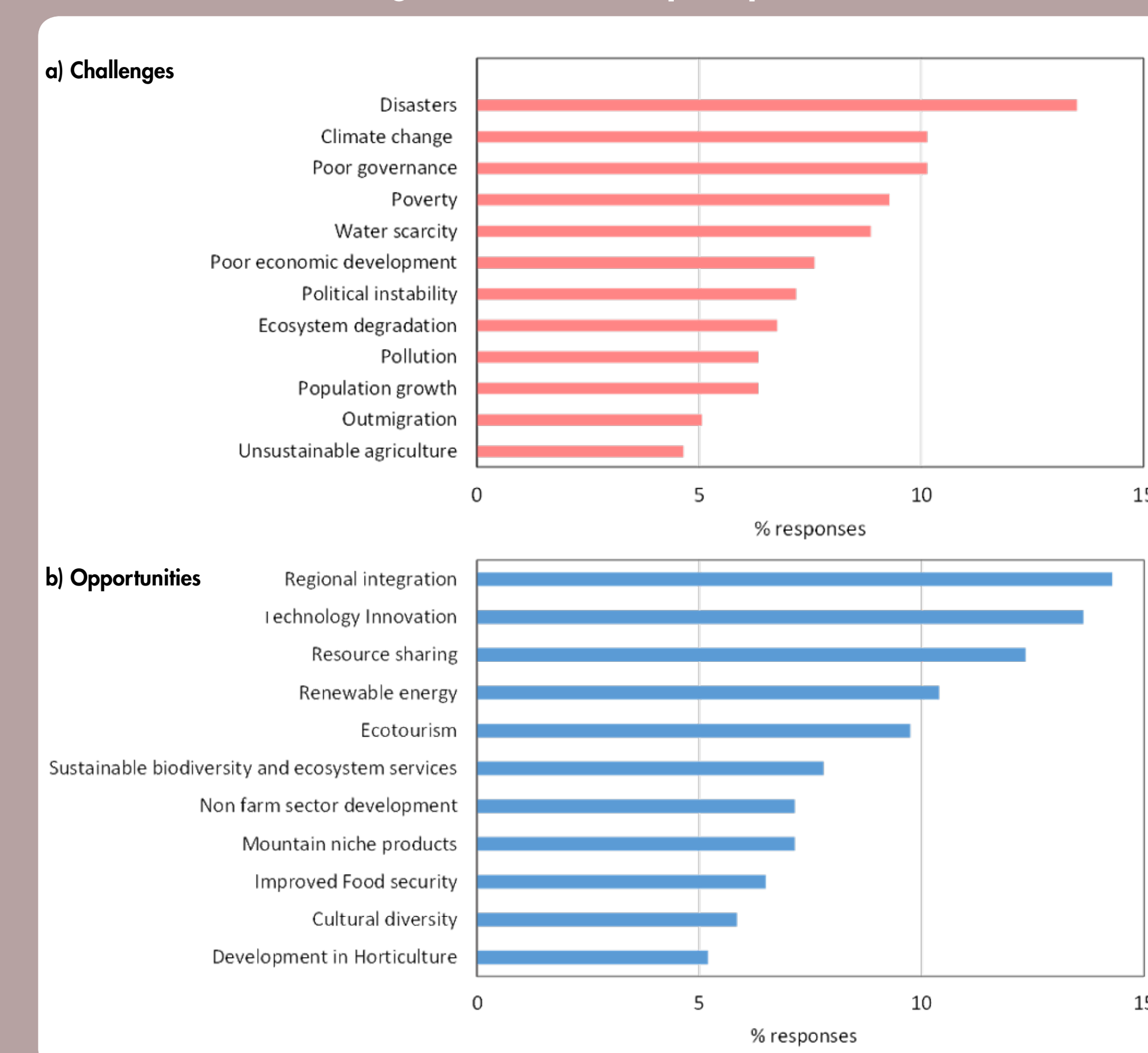


Figure 3: Scenario score values
Scores on a scale of 1 (poor) to 5 (good)



Policy Messages

To avert the downhill scenario for the HKH in 2080, institutional mechanisms are needed to confront the main challenges and to help resolve conflicts of interest – at various levels, and among various social groups.

The HKH risks merely muddling through if it continues business as usual – that is, if the HKH continues along a path that does not account for present and future challenges.

To achieve prosperity in 2080, the HKH has two available paths – *large-scale investment with regional cooperation, and bottom-up investment with local and national cooperation*. Both paths critically presuppose cooperation and coordination.

The two paths toward prosperity in the HKH are not mutually exclusive – both can be integrated. Decision makers may combine elements of either path at various stages, making trade-offs between the benefits and risks associated with different actions at different levels.

Alternate pathways to prosperity:

1. Large scale investments including regional cooperation:

- Uses the region's naturally available resources with higher priority to centralised or large scale developmental projects.
- Water and energy will be the critical resources to address food, energy, gender inequality and persistent poverty.
- Large-scale human resource mobilisation, and collaboration among state, corporate, and non-state actors will be critical.

- Trade and cross-border resource sharing, improved communication and mobility-enhancing infrastructure, and strengthened institutions are enabling systems.

- The Indus Water Treaty is one example of this pathway.

2. Bottom up investments with cooperation across multiple levels:

- Utilizes water and energy as critical resources, but on smaller-scale and decentralized development programmes that aspire to national self-reliance
- Involves large number of coordinated developmental and social non-state actors, both nationally and sub-nationally.
- Need for multilevel governance structures to maintain local diversities, to mobilise financial resources for projects, and to monitor progress across actors in line with scenario goals.
- Farmer-based irrigation systems, local springshed management, village level upstream-downstream water sharing mechanisms, microhydel projects are a few examples