

PROCEEDINGS OF THE WORKSHOP ON

WEFE nexus in the Hindu Kush Himalaya

From concept to implementation

11 November 2021

Key messages

- The water–energy–food–ecosystems (WEFE) nexus approach can ensure sustainable use of resources; improve efficiency in the way resources are used; and increase access to resources for all, including poor and marginalised groups. This meeting affirmed that WEFE has great scope for implementation at the transboundary landscape and river basin levels in the Hindu Kush Himalaya (HKH).
- The WEFE nexus approach can be implemented in the HKH with due consideration of some unique challenges posed by the relative lack of transboundary cooperation and the lack of data, tools, and frameworks to unpack nexus-related information.
- Key for nexus implementation is clear understanding of the issues, which include interconnectedness, synergies, and tradeoffs among different sectors; political economy analysis; climate change impacts; and relevance and applicability of the nexus to the region.
- Cooperation and collaboration among countries sharing the resources is also key for WEFE nexus implementation in the transboundary river basins and landscapes in the region.
- Given its experience in water, energy, food, and ecosystems and its related knowledge and networks, the International Centre for Integrated Mountain Development (ICIMOD) is well placed to lead the nexus implementation activity, build on its existing knowledge, and leverage both its in-house experts and varied networks of experts.
- The framework developed by ICIMOD is pragmatic, uses a participatory approach, and focuses on wider stakeholder consultation. The gathering considered two options: (1) the Koshi Basin–Central Himalaya–Ganges; and (2) the Upper Indus Basin (Gilgit-Baltistan)–Western Himalaya–Indus region for piloting the framework since there are established networks and data are in place.
- The next steps include developing a WEFE framework for piloting in the HKH; developing a WEFE communication and awareness strategy for the HKH through which different knowledge products would be used to raise awareness among political actors on the nexus concept and related opportunities (this could include a forward-looking strategic basin report embedded in the nexus approach); and developing a concrete action plan with the WEFE framework, detailed steps, methodology, and timeline for piloting in the Koshi River sub-basin.

Background

The WEFE nexus approach with its focus on the interactions and synergies across the sectors of food, energy, water, and ecosystems can ensure sustainable use of resources; improve efficiency in the way resources are used; and increase the access of resources to all, including poor and marginalised groups. The WEFE nexus approach is also beneficial for mitigating and adapting to the impacts of climate change, so there is a need to mainstream the approach into policy, planning, and practice. However, the HKH region has a peculiar set of challenges which require special consideration for the implementation of the approach. These challenges include access and availability of data and information and a knowledge gap on the kind of interactions and synergies across these sectors. The region lacks tools and frameworks to unpack nexus-related information. As the river basins and landscapes of the HKH are transboundary, cooperation among countries that share resources is key for the implementation of the nexus approach.

Given this set of unique challenges, any plan to implement WEFE nexus approach in the region needs to have a clear understanding of the context, interconnectedness, relevance, and applicability of the nexus to the region. Recent developments in methodologies for implementing the nexus approach in transboundary landscapes are encouraging, particularly the method developed by the [UNECE Water Convention](#) for transboundary river basins, which shows promising opportunities in the transboundary context and applicability to HKH region.

The below detailed framework for WEFE nexus implementation in the region developed by ICIMOD considers the conducive biophysical and socioecological setting provided by ICIMOD's transboundary river and landscape approach. The framework seeks to assess socioeconomic, geographical, and geopolitical contexts of pilot areas; evaluate the state of water, food, energy, and ecosystems services; analyse key sectors, actors, resource flow, and governing systems at different scales; and understand the links and interlinkages. It is based on the UNECE Water Commission's six-step methodology for WEFE nexus assessment in transboundary basins.

The workshop on 'WEFE nexus in the Hindu Kush Himalaya' reviewed the framework and answered some of the key questions pertaining to the draft framework of the WEFE nexus approach implementation in the HKH developed by ICIMOD.

The workshop was organized in collaboration with the [Transboundary Rivers of South Asia \(TROSA\)](#), [OXFAM](#), and [United Nations Economic Commission for Europe \(UNECE\) Water Convention](#), to explore the potential for implementation of the [water-energy-food-ecosystem \(WEFE\) nexus](#) approach in the Hindu Kush Himalaya (HKH). TROSA is supported by [the Swedish International Development Cooperation Agency \(SIDA\)](#).

Framework for WEF E nexus implementation in the HKH

1. What are the strengths/weaknesses of the framework developed by ICIMOD, and how can we further improve the framework for implementation in the HKH?

Strengths

The framework is pragmatic, uses a participatory approach, and focuses on stakeholder consultation. It gives due consideration for project growth and continuity over time and has clear workflows for WEF E implementation in the transboundary context. It has an efficient resource management approach and includes multisource evidence.

Weaknesses

The framework needs to be more context-specific in terms of policy, relevance, and shared understanding of the nexus in the HKH. Activities such as political economy analysis are key for synergies and tradeoffs, but the document lacks such analysis of the region. The link between WEF E and climate change needs to be established upfront. The rationale for the WEF E nexus approach for the region could include information on ways to sustain livelihoods while maintaining healthy ecosystems. Ecosystems, and not environment, needs to be established as the last 'E' in WEF E.

The framework needs to identify tradeoffs, synergies, and ways to mainstream the approach into planning documents. Similarly, the framework is silent on challenges and ways to address them. It needs to mention the challenges of scale (small scale at the community level to sub-basin/basin levels) and emphasise the need for switching between scales and tradeoffs at local levels. For example, transboundary water cooperation in the region is primarily bilateral, and more information is needed on the approach going beyond bilateral cooperation.

2. What are the potential major outputs and indicators?

Develop a WEF E communication and awareness strategy for the HKH and use different knowledge products (brochures, factsheets, issue briefs) to raise awareness among political actors on the nexus concept and related opportunities. This could include a forward-looking strategic basin report embedded in the nexus approach.

Conduct ecosystem valuation – although a challenging undertaking – to bring better acknowledgement of ecosystem values on economic outputs at local, national, and regional levels.

Adopt a systematic approach like the six-step process developed by the UNECE Water Convention to rank trade-offs and identify issues and solutions to address them.

Build synergy with other water resource management approaches such as integrated water resources management (IWRM); integrated river basin management (IRBM); and other resources, solutions, and strategies.

3. What are the potential risks/uncertainties?

The major potential risk is the impact of the lack of both enabling environments at national levels and a regional policy framework for transboundary issues. This means focusing only on the larger transboundary scale could be ambitious for WEFE nexus piloting in the HKH.

There is a risk that the framework may be viewed as just one more framework and be viewed as academic and not practically implementable.

These uncertainties could be addressed by establishing convergence and complementarities with other frameworks such as IBRM, IWRM, or benefit-sharing mechanisms. The framework could avoid using jargon and keep the messaging user-focused for more political buy-in and participation by stakeholders.

Important methodological steps in the WEFE nexus

1. What should be the key phases in implementing the WEFE nexus in the HKH?

Scoping to piloting: Start at a small scale with demonstration projects in individual countries at the sub-basin level

Identify priorities, engage multiple stakeholders, and develop mutually agreed methodologies and present to policymakers. This may include the following:

- Assessment of resources for different sectors
- Set of identified synergies and tradeoffs
- Stakeholder consultations and follow-up meetings
- Monitoring, evaluation, and learning plan

Build synergy with other approaches like IWRM, IRBM, Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), and nature-based solutions.

2. What are the key activities for each phase?

Undertake a detailed political economic analysis at the sub-basin level to explore the potential for nexus piloting.

Establish a clear understanding of the availability and access to data (physical, environmental, socioeconomic) as a key criteria for selecting basins for nexus pilots, with a higher priority for those basins/sub-basins that offer better access to data (e.g. Indus and Koshi basins).

Elaborate the challenges of piloting at the larger scale (as opposed to the smaller scale) by step five of the UNECE Water Commission's six-step methodology for WEFE nexus assessment in transboundary basins; the sixth step onward should be on analysis and simultaneous data collection.

Build on the existing knowledge within ICIMOD and leverage its in-house experts as well as reach out to experts within the Himalayan University Consortium network.

3. Who can be the partners/potential partners for the WEF nexus in the HKH?

Government – relevant ministries and their line agencies, i.e. departments of water, power/energy, food, environment, etc.

Academia/researchers – experts, institutions, universities

Civil society/INGOs/NGOs: [Food and Agriculture Organization of the United Nations](#), [United Nations Development Programme](#), [International Water Management Institute](#), [International Union for Conservation of Nature](#), [World Meteorological Organization](#), [World Wildlife Fund](#)

Private sector/micro, small, and medium enterprises: those that are heavily ecosystem services-dependent

Financial institutions: multilateral development banks (World Bank, Asian Development Bank), businesses, and national investors

Donor agencies and other stakeholders who can provide relevant inputs for each scale and phase of the project

Subregional bodies such as [BIMSTEC](#), [SAARC](#), [SACEP](#)

4. What could be an ideal institutional mechanism or governance structure for implementation?

A strong/deep-rooted governance structure that is accountable, transparent, and responsive in selected sites is needed. Given the geopolitical situation in the region, it would be ideal to start with existing dialogue platforms and knowledge networks such as the Upper Indus Basin Network, Brahmaputra Dialogue, and Mahakali Dialogue.

A regional coordinating body/steering committee to lead the activity – an intergovernmental organisation such as ICIMOD is rightly placed to take this responsibility

A virtual HKH nexus solution platform developed through regional coordination could provide periodic updates on implementation activities.

Potential areas/basins for the WEF nexus pilot

1. Which area or basin could be suitable for piloting the WEF nexus in the HKH considering scale (transboundary, national, community)? Why is the chosen area suitable for piloting the WEF nexus?

Workshop participants unanimously proposed two areas: Koshi Basin–Central Himalaya–Ganges and Upper Indus basin (Gilgit-Baltistan)–Western Himalaya–Indus since they both have required conditions already in place.

KOSHI BASIN–CENTRAL HIMALAYA–GANGES

- Geographical features: high elevation, hills, hydropower plants, coal-fired plants in Bihar, potential swap in hydropower through benefit sharing
- Transboundary: China, Nepal, and India
- Strong upstream–downstream linkages (glaciers, erosion, sediment, floods, hydropower plants, agriculture)
- Strong knowledge base and scientific studies
- Already-existing platform for collaboration: [Koshi Disaster Risk Reduction Knowledge Hub](#)
- There are good practices such as bilateral agreements between the three riparian countries that share the basin: China, India, Nepal.

UPPER INDUS BASIN (GILGIT-BALTISTAN)–WESTERN HIMALAYA–INDUS

- Transboundary: China, India, and Pakistan with Indus tributaries within Pakistan
- Southern slopes, forests/grasslands contributing to river flows
- Available civil society organisations to collaborate for projects: [WWF](#), [IUCN](#), [The Aga Khan Development Network](#), [Gilgit-Baltistan Rural Support Programme](#)
- Local institutions – local support organisations, conservation committees, and civil society organisations
- Economically – projects in pipeline for hydropower, Indus cascade (where several hydropower plants are planned in the Indus Basin from Gilgit-Baltistan to Islamabad)
- Governance – water distribution – one of the largest irrigation systems in Asia
- Regional cooperation – Indus water treaty ratified with the help of the World Bank

2. What are the potential risks and challenges?

Challenges

- Lack of data, an institutional mechanism (intermediary entities), and multilateral agreements
- Obstacles to conducting a good feasibility study to understand the full scenario
- Lack of clarity between the nexus and other frameworks such as IRBM and IWRM (Is WEFE more of an analytical tool that can be used in the implementation context, rather than for implementation itself?)
- Obstacles preventing space for lessons and flexibility to make changes
- Transboundary-ness and multiple stakeholders
- Lack of resources to gather data and process such data to input in the WEFE nexus

Risks

- The project does not take off because of unforeseen factors, which could include growing population, socioeconomic changes, and climate and other environmental changes in the HKH region
- Stakeholder capacity to understand nexus linkages (synergies and tradeoffs) impedes implementation

Way forward

Including private sector representatives in the nexus conversation

This could be achieved through involving private sector representatives in the stakeholder consultation and dialogues as well as engaging them in specific technical assessments.

Crisp workshop report, planning document for piloting

ICIMOD will prepare a crisp workshop report with key messages, discussion points, and actions and share with the participants and wider stakeholders.

ICIMOD will develop an updated WEFE framework for HKH

ICIMOD will update the HKH WEFE framework based on the recommendations of the workshop and take it forward for piloting in the Koshi River sub-basin.

ICIMOD will also develop a plan for piloting WEFE in the Koshi River sub-basin for implementation in 2022, in collaboration with the identified potential stakeholders including the private sector.