

Karnali River Corridor Management Framework

BACKGROUND AND STUDY OBJECTIVES

The Karnali River is one of Nepal's greatest environmental assets and a major source of cultural heritage. It is a longest and most pristine river – the main channel of the Karnali has not yet been obstructed by hydropower development, but there is a plan to develop three hydropower dams in the main stem of the Karnali River. Dam construction not only changes the river's flow, but also impacts the environment, socio-cultural, and livelihoods of river resource-dependent communities. Therefore, it is necessary to devise a strategic framework that calls upon development interventions with due consideration to conserve treasures, heritages, and assets attached to the Sacred Karnali River before it is degraded forever.

The Karnali River Corridor Management Framework provides adequate space for sustainable management of river, water, and riparian resources while also maintaining important social and environmental treasures. The framework considers the environmental and sociocultural values observed over river corridors and stretches, and includes specific policy recommendations, which emphasize the necessity for conservation-friendly development interventions. A coordinated and holistic plan development process is required to ensure short-term interventions do not dissuade the state and people from securing long-term benefits. The suggested framework accommodates hidden treasures and values of the Karnali River and ensures for long-term prosperity of the region through judicious and sustainable utilization of the river resources.

“We don't want the Karnali to ever be like the Bagmati. We've seen how bad it can get.” – anonymous respondent, NRCT social science survey

KEY FINDINGS

- The most pristine free-flowing river, Karnali, has ecological diversity which can be used as a reference site for the restoration of degraded sites in Karnali and other areas of Nepal. The river is not only a source of hydropower, but also provides other water uses and ecosystem services. The Karnali River Corridor can bring prosperity to the Karnali region through potential tourism (religious, cultural, and ecotourism), which could re-establish and re-purpose its historic trade routes.
- The Karnali River supports endangered fish species, including Golden Mahseer, Snow Trout, and freshwater Dolphin. The Golden Mahseer habitat in the main-stem of the Karnali below the Tila confluence is the cornerstone of this species' existence. Snow Trout are ubiquitous throughout the Karnali River basin and freshwater Dolphin currently use the main-stem of the Karnali, 2km above the Chisapani to the boarder. The proposed hydropower development projects would threaten these species' existence, and thus, the identified conservation zones must now be designated into law and fishing practices regulated.
- The study revealed that different river stretches have different values and potential. Against the energy requirement, hydropower plants of varying capacities can be developed, not necessarily from the main-stem, but from tributaries with minimal conservation values, towards headwaters. Energy demands can be met from alternative technologies (i.e. solar and wind), which hardly compromise the conservation of aquatic resources and recreational values available in the main-stem Karnali River.
- The Karnali River Corridor contains highly stable hillslopes and extremely fragile landscapes, which are vulnerable to landslides, earthflow, debris torrents, and rockfall. Understanding this variability can help

inform development options, provide resilience to climate change, and reduce the risk of hazards. Current patterns of road construction are environmentally destructive and unsafe. Therefore, a master plan for sustainable road development should be developed prior to further road construction in the Karnali region.

- In the Karnali region – one of the poorest regions of Nepal—conservation efforts and livelihoods program must go hand-in-hand. People living throughout the corridor will rightfully demand livelihood opportunities that promote sustainable environmental management and river conservation. Conservation initiatives need harmonization with development interventions.
- Most stretches and tributaries of the Karnali River support freshwater biodiversity, which indicates maintained river health. However, river health closer to urban areas and farmland indicates that the water quality is degrading.
- The Karnali has massive ecotourism potential with its incredibly beautiful landscape and unique earth system. The Karnali River corridor can be developed a Nepal icon—much like Mount Everest or Chitwan National Park.
- The framework classifies Karnali River into five distinct sections based on value and opportunity of each river stretch. These sections have significant environmental and social values equivalent to other “Wild and Scenic Rivers” in the United States and other high-value protected rivers around the world. The study team proposes the inclusion of these classes in the forthcoming river conservation legislation for Nepal.

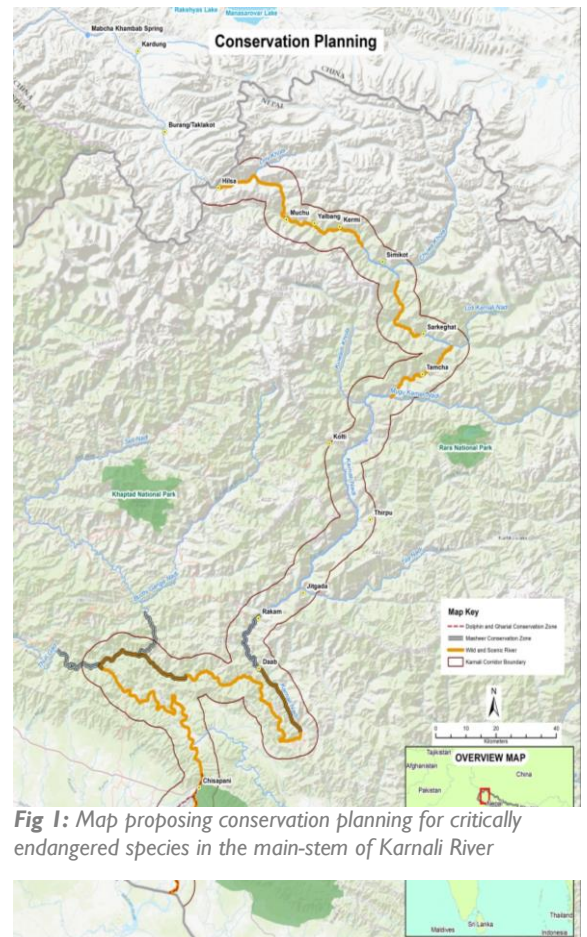


Fig 1: Map proposing conservation planning for critically endangered species in the main-stem of Karnali River

ACTION / RECOMMENDATIONS

- The Karnali River Corridor should be promoted as a Sacred River Corridor – for unique, pristine free-flowing river with high conservation value. It will draw pilgrims, trekkers, and scholars to discover hidden treasures of Karnali, including Upper Humla Karnali to the Kailash region.
- River conservation legislation should be introduced at the local, provincial, and national scale using a participatory approach that determines which sections of the river will be protected.
- NRCT recommends developing a strategy for sustainable hydropower development in the Karnali Basin based on a cumulative impact assessment - taking into account the possibility that ~6,000 megawatts of electricity can be generated by developing hydropower on the tributaries, leaving the main-stem free flowing.
- The road master plan should be designed and implemented to protect environmental and river quality, which can serve as a model for the nation.
- NRCT recommends declaring a “fish sanctuary” from Rakam to 16km below the Thuligaad confluence and 10km up the Seti Khola. This conservation area could be a world-class research area for Masheer and can support development of a remote (helicopter or boat-in) high-value catch and release fishing business.
- NRCT recommends identifying and declaring conservation areas for sport fishing, angling that diversify ecotourism opportunities linked to fishing.
- NRCT recommends capacity building for investors to encourage and invite investments in ecotourism for the area. This can gain public support and local commitment to supporting a long-term tourist economy.
- NRCT recommends that the Karnali region pursue sustainable hydropower development model to generate above 6,000 MW from tributaries, while leaving the main stem free flowing for ensured conservation of freshwater biodiversity and ecosystem integrity in situ.