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TILA KARNALI

WATERSHED BRIEFER

Community Vision:

To create an inclusive and prosperous Tila Karnali Watershed, support green infrastructure and ecotourism, and manage biodiversity responsibly.

THE TILA KARNALI WATERSHED

The Tila Karnali Watershed sits in the Karnali Basin of Nepal in the northwestern part of the country and extends across Kalikot and Jumla districts. The elevation of Tila Karnali ranges from 4,790 m in the north to 738 m in the south. Agriculture is the most common occupation and 25% of the cultivated land is irrigated.

Roads to Rara Lake pass through Tila Karnali, which has meant more traffic and connectivity with other areas to the north and south. This location also offers some opportunity to develop ecotourism in the area.

Hydropower is a rising concern in the watershed, as commercial interests seek to utilize the high flow rates of the steep rivers. At the time of this report, 10 micro hydropower projects are operating in the watershed and four larger projects are planned for the area. Of those four projects, Tila 1 and Tila 2 are expected to generate 440 MW and 420 MW of electricity, respectively. These projects will affect hydrological flows in Tila Karnali.

Through numerous consultation and hundreds of surveys, respondents listed many other phenomena that are changing the availability of water in Tila Karnali, including deforestation, climate change, mining, rural road construction, steep slow cultivation, landslides, and erratic rainfall patterns.

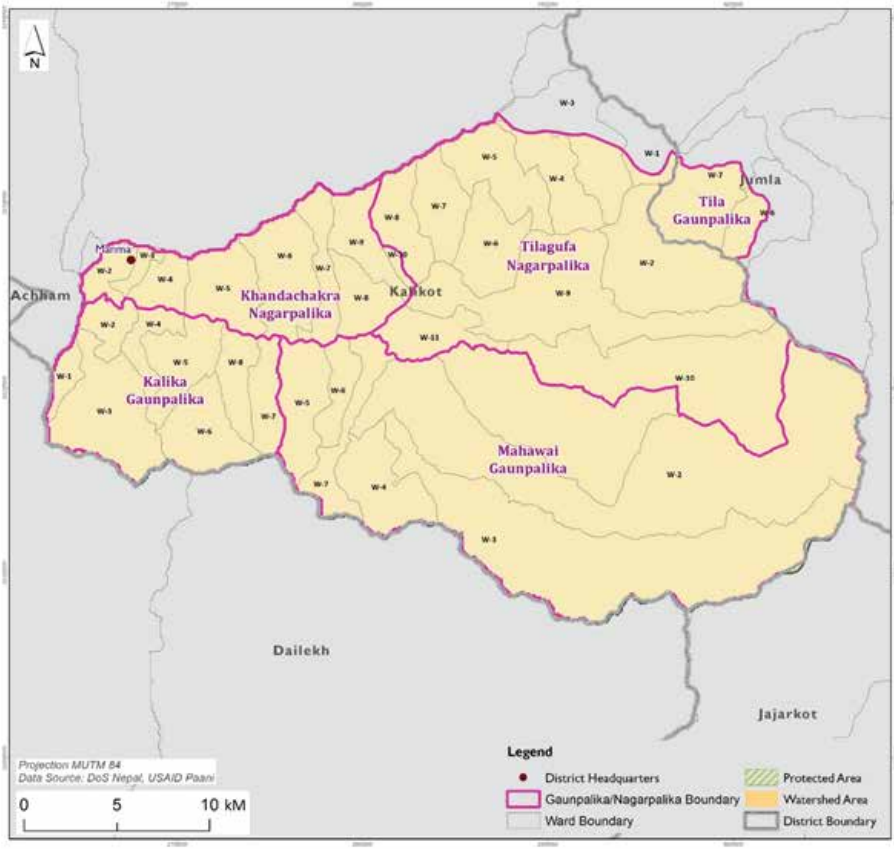
TILA KARNALI BY NUMBERS

WATERSHED	Karnali
PROVINCE	Number 6
TOTAL WATERSHED AREA	767.5 km2
NUMBER OF STREAMS	20
LANDCOVER	Forest - (56%), grazing land - (25%), cultivation - (16%), barren land - (2%) and water bodies - (1%).
TOTAL DRAINAGE LENGTH	963 km
MUNICIPALITIES	Khadachakra and Tilagufa
RURAL MUNICIPALITIES	Tila, Mahabai, and Subha Kalika
POPULATION	52,402 (49.9% male; 50.1% female)
POPULATION DENSITY	68 person/km2
ETHNIC GROUPS	Brahmin/Chhetri/Thakuri (77.1%); Dalit (21.0%), Janajati (1.6%)

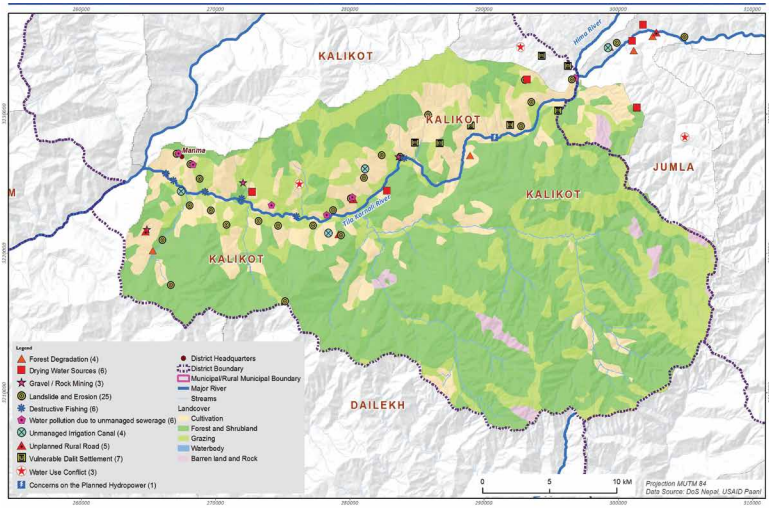
Location Map

Watershed Name: Tila Karnali

River Basin: Karnali **Watershed Code: 340**

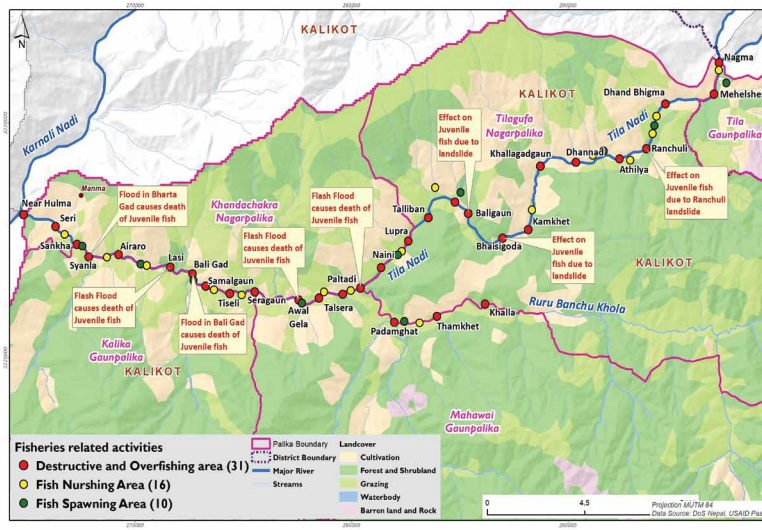


ENVIRONMENTAL ISSUES IN THE TILA KARNALI WATERSHED



The environmental issues identified in this map were provided by watershed stakeholders who participated in Paani-sponsored entry and exit workshops. By identifying these issue "hotspots," it is hoped local governments and constituencies will be able to draw on this information to make short- and long-term plans to insure clean water, robust biodiversity, and sustainable use of natural resources.

THREATS TO AQUATIC BIODIVERSITY IN THE TILA KARNALI WATERSHED



This aquatic biodiversity map was constructed with the assistance of various stakeholders who helped to locate places where they noted challenges specifically related to aquatic habitats and biodiversity. Combining GIS and ground-truthed data to create reference maps such as this one will be helpful in developing effective strategies to protect aquatic health in the watershed

ENVIRONMENTAL REPORT CARD
FOR THE TILA KARNALI WATERSHED

This health report card illustrates watershed health conditions measured against a set of pre-defined indicators chosen through a multi-stakeholder consultation process. These indicators show the current health status of Tila Karnali and using a color code for the threats, opportunities, and challenges facing the watershed.

WATERSHED HEALTH CONDITIONS

GOOD | FAIR | POOR

GOVERNANCE AND EQUITY

- Households engaged in local level planning
- Community active in NRM groups
- Conflicts over NRM
- Women and marginalized groups in leadership positions
- Equitable access and benefit sharing with natural resourcces
- People comply with environmental laws and regulations
- Government enforces laws and regulations
- Coordination between local and provincial government

SUSTAINABLE INFRASTRUCTURE

- Hydropower
- Roads
- Gravel mining
- Irrigation

CLIMATE RESILIENCE AND DISASTER RISK REDUCTION

- Areas vulnerable to landslides, floods and landslides
- Use of climate resilience adaptation practices
- Households with access to early warning systems

BIODIVERSITY AND HABITAT

- Household sanitation
- Quantity of fish
- Fishing Practices
- Land use and land cover
- Solid waste disposal
- Invasive species
- Species diversity

WATER

- Water availability
- Water acccessibility
- Water quality

SUSTAINABLE AGRICULTURE

- Agricultural productivity
- Soil management and fertility

WAYS FORWARD IN THE TILA KARNALI WATERSHED

Numerous stakeholders from the watershed formulated these recommendations that represent a variety of viewpoints, from government officials to local business owners and residents. In that way, these actions and commitments seek to address environmental issues in Tila Karnali that provide remediation or improvements for all groups in the watershed.

ISSUE	ACTION/RECOMMENDATIONS
DECLINING FISH NUMBERS	• Form aquatic animal conservation groups and mobilize these groups for conservation efforts; • Develop an aquatic animal conservation act and enforce capture fishing guidelines; • Initiate dialogue with relevant government agencies to coordinate conservation efforts; • Monitor biodiversity changes with community biodiversity register maintained by local fishing communities; • Provide leadership and advocacy training for fishing groups, civil society organizations, community-based organizations, and community forestry user groups; and • Conduct awareness-raising events focused on the importance of conserving aquatic biodiversity.
IMPROPERLY CONSTRUCTED ROADS	• Raise awareness about the Environment-Friendly Local Governance Framework to local government officials; • Provide trainings for low-cost stabilization techniques on slopes and river banks (e.g., Gabion boxes); • Support local agencies to develop regulatory frameworks for environment-friendly rural road construction; and • Require all road projects to include environmental mitigation plan prior to construction.
DROUGHT AND DRYING WATER SOURCES	• Raise awareness for sustainable water use and promote rainwater harvesting technologies; • Promote replantation around water sources and barren land in the watershed; • Restore traditional khaals (ponds) constructed in the upper ridges of mountains to store water; • Promote recharge/conservation ponds and construct eyebrow pits to promote infiltration activities; and • Implement springshed management activities for restoring flow discharge in the watershed.
DISCRIMINATION AGAINST DALITS IN TERMS OF NATURAL RESOURCE ACCESS	• Facilitate access of local communities to aquatic and natural resources; • Sensitize local actors and authorities on the need for inclusive development principles in decision-making; • Draft and enforce inclusive policies and programs that preclude the possibility of discrimination; and • Provide trainings and capacity building to local Dalit leaders to improve their understanding of local planning processes.
FOREST DEGRADATION AND WILDLIFE POACHING	• Raise awareness about forest fires and the factors that lead to their occurrence; • Promote replantation programs and conservation activities; • Initiate community-based anti-poaching activities through community forest user groups; • Mobilize media to help promote awareness of poaching activities in the watershed.
INEFFECTIVE SOLID WASTE MANAGEMENT	• Introduce waste management principles such as reduce, reuse and recycle; • Provide solid waste management trainings for local government representatives, NGOs, and CBOs; • Promote proper waste management in schools and throughout the community; and • Advocate for stronger enforcement of existing solid waste policies and laws.