



MIDDLE RAPTI

WATERSHED BRIEFER

Community Vision:

For a Middle Rapti Watershed economy that will develop to ensure peoples prosperity through biodiversity and natural resource conservation with assurances for social justice, sustainable management, and multiple uses.



THE MIDDLE RAPTI WATERSHED

The Middle Rapti Watershed features a wide range of topography, from plains in the south (200m), along a border with India and rugged Siwalik hills in the north (1,000m). The hills are comprised of sandstone, siltstone and mudstone, which, in spite of the heavy forest cover, are fragile and create high volumes of sediment that fall into the rivers and streams below.

The Rapti River starts in Gaumukhi and Naubhani in Pyuthan district at 3,000 meters before descending through the Jhimruk watershed to the north and into Middle Rapti. The river is a braided stream with numerous tributaries that change patterns over time, a typical feature of flood plain waterways. Fifty-three percent of the population relies on agriculture as a primary livelihood, while 22% reports labor-based work as their main occupation. Five percent of the population engages in “off-farm” work such as markets and retail shops. Four percent work in the service industry and 3% raise livestock. Like many areas of Nepal, outmigration to urban centers, India, and further abroad is becoming more common, especially for young men. According to our household survey, 6.2% of people have migrated for work.

The main fertile floodplain in the watershed is also known as the Deukhuri Valley – an important “watch” area not only for its agricultural production, but also for its rapid population growth. Significant migration to this valley from Rolpa, Rukum, Arghakhanchi, and Gulmi are exerting significant pressure on the fields, rivers, and forests in this area.

Overfishing is a current concern in Middle Rapti, as traditional fisher communities have been replaced by commercial fishing ventures. With this change, more destructive fishing techniques have become common, such as poison, explosives, and electric current.

MIDDLE RAPTI BY NUMBERS

WATERSHED	Middle Rapti
PROVINCE	Number 5
TOTAL DRAINAGE AREA	456.4 km ²
NUMBER OF STREAMS	47
MAJOR RIVERS	Rapti, Arjun, Khabhari, Gurung, Supaila, Dolai, Kakrahawa, Sikrahawa, Narti, Kaudiya, Arnahawa
LAKES AND WETLANDS	Jakhera
LAND USE	Forest - 61%; agricultural land - 30%; rivers - 8%; grazing land - <1%
MUNICIPALITIES	Lamahi
RURAL MUNICIPALITIES	Rapti, Gadhawa and Rajpur
POPULATION	194,241 (48% male; 52% female)(CBS 2015)
ETHNIC GROUPS	Brahmin/Chhetri/Thakuri - 20%; Janajati - 66% (55% Tharu); Dalit - 6%; Others - 7%

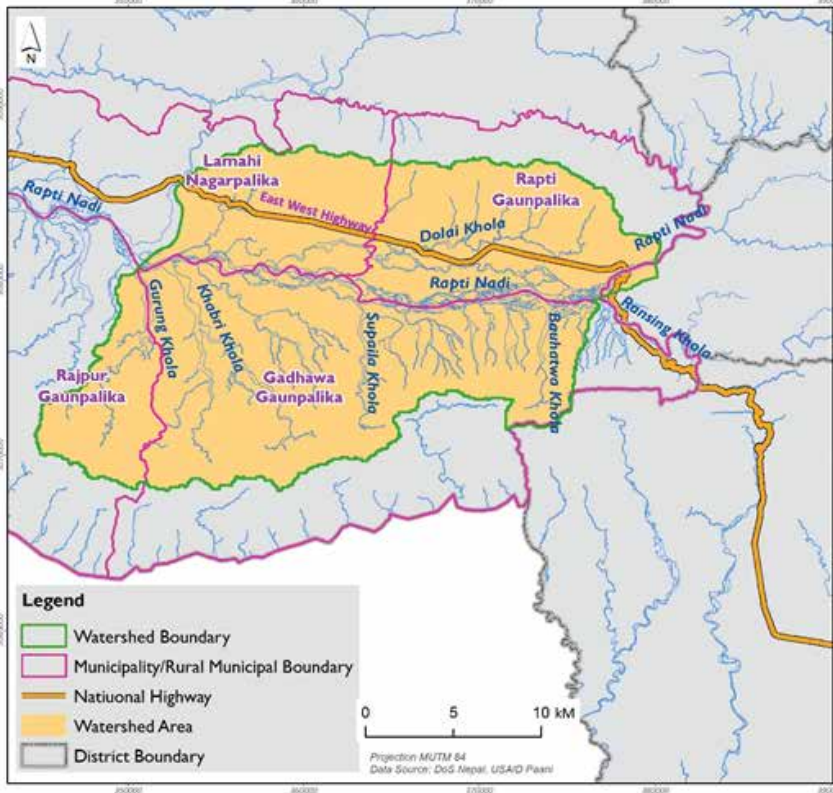
Location Map

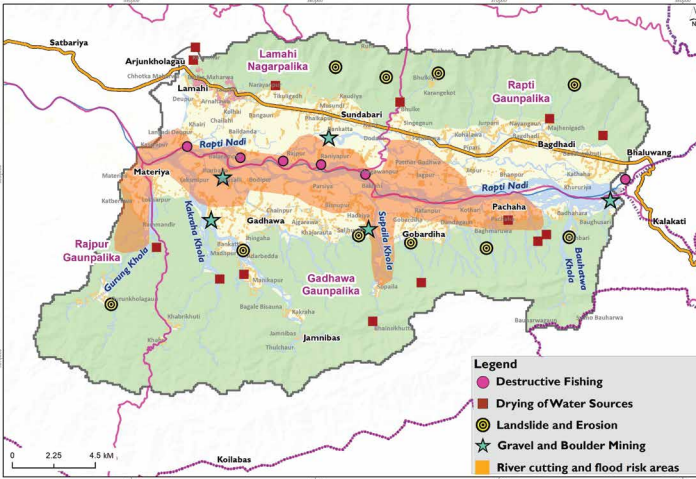
Watershed Name: Middle Rapti

River Basin: Rapti River Basin

Watershed Code: 248

USAID Paani Program



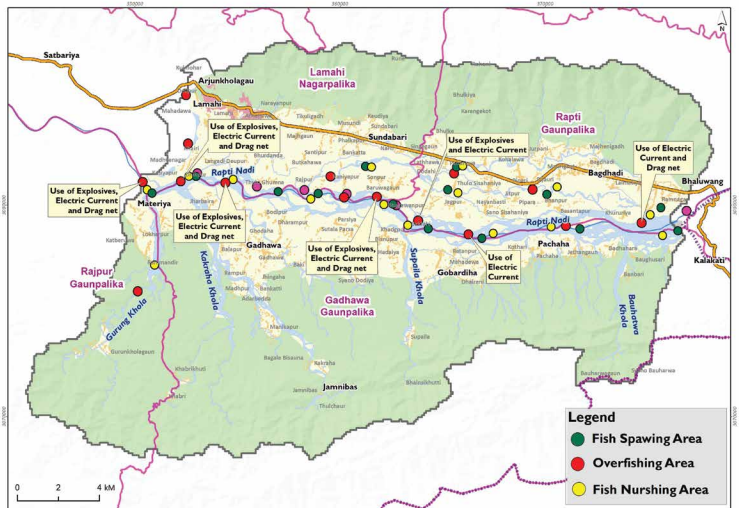


ENVIRONMENTAL ISSUES IN THE MIDDLE RAPTI WATERSHED



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 MIDDLE RAPTI 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 MIDDLE RAPTI 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 Middle Rapti 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 resources	
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
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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 accessibility	Water quality
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WAYS FORWARD IN THE MIDDLE RAPTI 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 Middle Rapti that provide remediation or improvements for all groups in the watershed.

ISSUE	ACTION/RECOMMENDATIONS
<p>FLOODS, RIVER CUTTING AND LANDSLIDES</p>	<ul style="list-style-type: none"> • Provide training and support for low-cost stabilization techniques for slopes and river banks; • Provide improved support to control water runoff; • Raise awareness about forest fires and open grazing, and the relation of these phenomena to landslides and flooding; • Strengthen the early warning system in Middle Rapti; • Construct raised water taps and toilets; • Conserve wetlands to aid flood control; • Disseminate materials through radio and print promoting watershed management best practices; • Improve implementation of disaster preparedness and response plans (DPRP) and local disaster risk management plans (LDRMP); and • Raise and/or relocate infrastructure (e.g., shelter houses, taps) out of flood plains and other vulnerable areas.
<p>DECLINING FISH STOCKS AND UNSUSTAINABLE FISHING PRACTICES</p>	<ul style="list-style-type: none"> • Form fishing groups to discuss sustainability and cooperation issues on the river; • Initiate dialogue with state government agencies (once established) to discuss fishing issues; • Promote ecotourism as alternative livelihood option for traditional fishing communities; • Mobilize community-based anti-poaching units to combat destructive fishing practices; and • Build capacity in community forest user groups to monitor aquatic biodiversity and reduce overfishing threats.
<p>DRYING WATER SOURCES</p>	<ul style="list-style-type: none"> • Restore degraded forest area by plantation and natural regeneration; • Promote use of rain water harvesting technologies, such as rainwater tanks and water recharge ponds; • Improve soil erosion control; and • Conduct awareness programs on water use policies.