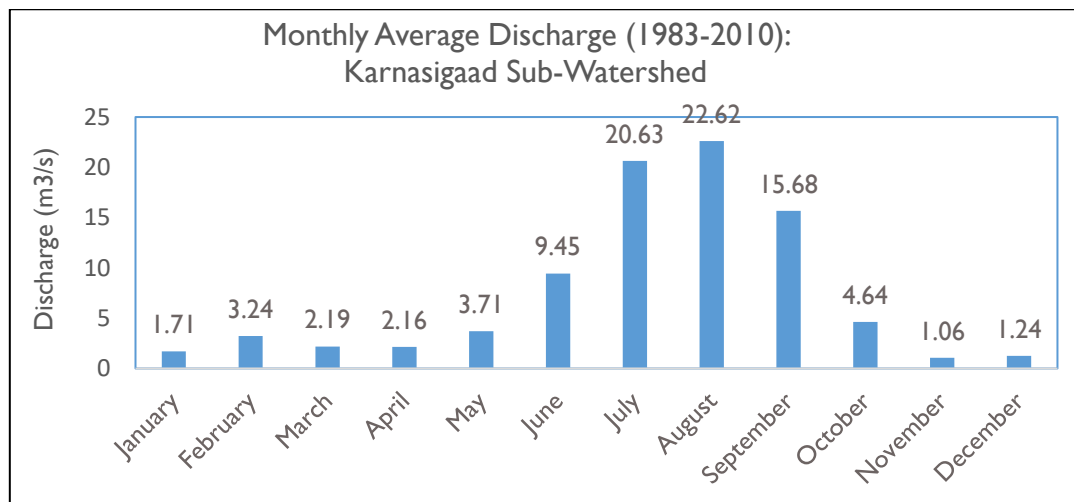


Preparation of Sub-Watershed Management Plans Engaging Key Stakeholders in Thuligaad Watershed, Doti District

BACKGROUND AND STUDY OBJECTIVES

In Doti District of Thuligaad Watershed, most streams are shrinking or drying due to various factors, including landslides, riverbank cutting, and long drought, as well as human activities, such as overexploitation and degradation of natural resources (i.e. forest, land, water), unplanned settlements, and haphazard construction of rural roads. Availability of water from the water sources is decreasing compared to past decades due to changes in rainfall patterns and degradation of water sources. Watershed management is key to managing water and related natural resources, so sub-watershed management plans are important. Until recently, there was no framework or guideline in place to develop watershed management plans at the municipal level.

Under this study, a watershed management plan was developed for Thuligaad Watershed, which covers the areas of Badikedar (322 sq. km) and Joroyal Palika (419 sq. km), both in Doti District of Sudur Paschim Pradesh. Thuligaad Watershed is identified as an important watershed of the Karnali River Basin, given that the availability of water to 91% of its households is difficult due to drying water sources, degrading water quality at water sources, and unregulated rural road construction, which contributes to landslides and destruction of aquatic habitats. Destructive fishing and overfishing in the watershed are also major issues, as they have brought down the fish stock population and affected their breeding.



Graph 1: Higher discharge in rivers during monsoon season can be reduced by enhancing water conservation measures starting from upstream to downstream of the sub-watershed, in order to enhance water availability in the dry period. (Photo credit: USAID Paani Program/ CREEW, 2019)

The objective of this study was to enhance local capacity of local governments and community-based organizations through the preparation of sub-watershed management plans within Thuligaad Watershed. The diverse, but inter-linked watershed issues can be systematically addressed through preparation of sub-watershed management plans with participation of local stakeholders during plan development and implementation. This study contributed to increasing levels of awareness and conceptual understanding of local stakeholders on the importance of catchment/watershed management. This study also contributed to assessing the status of the Thuligaad Watershed, supporting local stakeholders in building their capacity to prepare sub-watershed management plans, which include

delineation of sub-watersheds, prioritization of sub-watersheds, identification of problematic areas, and recommendation of conservation and management measures. This study also advocated to local stakeholders on the need for sub-watershed management plans and secured assurance from the municipal authority for endorsing the plan for implementation. The plan was developed in collaboration with local stakeholders, including rural municipal authorities, political representatives at the ward and municipality-levels, communities, and community based organizations (CBOs).

KEY FINDINGS

- Comparatively sub-watershed with high population density having stress on water resource is considered. Sub-watersheds with area ranging from 9.6 sq. km to 214 sq. km. have been delineated.
- Of the 125 spring/water sources surveyed in Karnasigaad sub-watershed, 23 have are drying. And of the 46 in surveyed in Kapadigaad sub-watershed 42 have been drying up! (YAE/Paani 2019)
- The discharge in sub-watersheds is 2 to 30 times more in monsoon than pre-monsoon and post-monsoon too (CREEW/Paani, 2019).
- Plenty of water in monsoon can be tapped through water harvesting and conservation measures (e.g. recharge ponds/pits, conservation ponds, catchment conservation, water source protection, plantations and greenery promotion) so that water availability can be enhanced during dry period.
- Fish species are mainly at risk/threat from destructive fishing by gillnet, current, poison, etc.; flood/landslides; increasing waste disposals and; lack of legal regulations at local level.
- The conventional sub-watershed management plans that includes protection and conservation measures for soil, land, water and forest resources should also be dynamic to include emerging stresses from human activities and climatic and environmental changes.

ACTION / RECOMMENDATIONS

- Local people are the stewards of watershed management, with important roles to play, from planning to implementation of watershed management plans. Local governments also play vital roles facilitating watershed management.
- Periodic awareness and capacity building programs are needed to continue enhancing awareness and understanding of local people and authorities on the importance of catchment/watershed management.
- Sectoral government offices can add value for effective implementation of sub-watershed management plans.



Photo: Drying of an ancient spring source in Ritha, Joroyal Rural Municipality, Doti District. (Photo credit: Ashok Kumar Shrestha, CREEW/USAID Paani Program)