Geospatial indicators assessment in community forests in Indeshowar, Nepal

The Forest and Farm Facility (FFF)[1] in Nepal focuses on strengthening the capacities of forest and farm producer organizations (FFPOs) to ensure inclusive governance and strategic intervention in policy dialogue through advocacy, business incubation and resilient livelihoods. The FFF Nepal program, led by Federation of Community Forestry Users Nepal (FECOFUN) in collaboration with the Ministry of Forests and Environment (MoFE), operates in the western region of the Churia landscape focusing on five districts (i.e., Makwanpur, Nawalpur, Nawalparasi, Kapilvastu and Dang) of Bagmati, Gandaki and Lumbini Provinces.

A monitoring system is being operationalized to track progress of the FFF efforts using geospatial technologies. The results for selected FFF geospatial indicators are presented for the community forests in Indeshowar (Figure 1) where FFF is supporting planation of Walnut and Sichuan Pepper since June 2019. The total area of the community forests under FFF interventions in Indeshowar is about 54 ha with a mean elevation and slope of 1585 m and 21 degree, respectively. Total beneficiary households are 286 with a population of 1354. About 3 ha of community forest land was used as demonstration plot. Table 1 presents the initial results for selected indicators of accessibility, soil, land, forest and water resources within the area of interest.
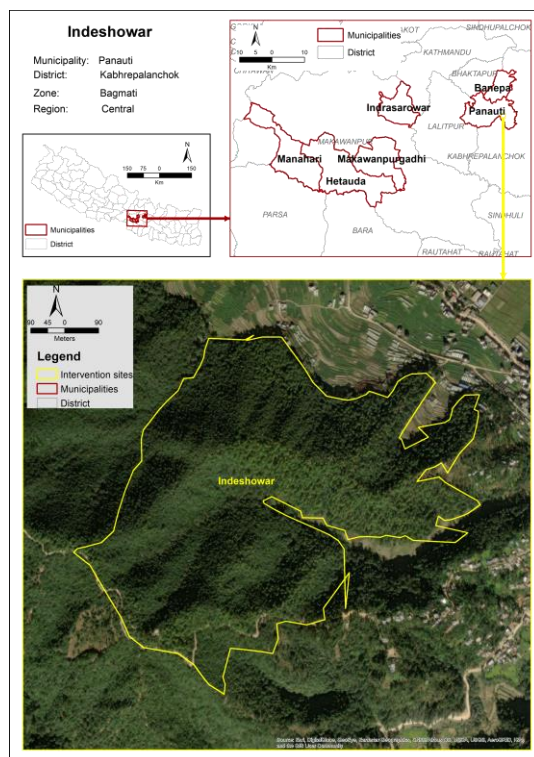

Figure 1: Geographic extent of intervention sites in Indeshowar community forest, Nepal[2]

Table 1: Initial results from Forest and Farm Facility geospatial indicator assessment

Indicators	Time period	Value	Unit
Distance from settlement	2022	100	m
Distance from road	2022	0	m
Mean soil organic carbon content at 0 cm depth	2018	2.9	%
Water body area	2019	0, 0	ha, %
Cropland area	2019	11, 20	ha, %
Forest land area	2019	42, 78	ha, %
Net change in forest area	2000-2019	2.29, 4.24	ha, %
Net change in cropland area	2000-2019	-3.04, -5.62	ha, %
Tree cover loss	2001-2021	0.15, 0.27	ha, %
Aboveground living biomass carbon stock density (max, mean, min)	2010	150, 104, 1.2	Mg C/ha
Belowground living biomass carbon stock density (max, mean, min)	2010	39, 28, 0.3	Mg C/ha

[1] The FFF, a global partnership between FAO, IIED, IUCN and Agricord, is aimed at strengthening FFPOs representing smallholders, rural women, forest communities and indigenous peoples as a means for achieving the Sustainable Development Goals (SDGs) and responding to climate change. The FFF, in its second phase, is working in ten countries: Bolivia, Ghana, Madagascar, Togo, Viet Nam, Ecuador, Kenya, Nepal, United Republic of Tanzania and Zambia.

[2] The boundaries and names shown, and the designations used on these map(s) do not express any opinion whatsoever on the part of FAO concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers and boundaries. Dashed lines on maps represent approximate border lines for which there may not yet be full agreement.

Forest and Farm Facility