



# Utilization of RLCMS and NLCMS Data in Environmental Management



Recognizing the gaps in consistent land cover maps across the HKH region, SERVIR-HKH at ICIMOD developed RLCMS and NLCMS using publicly available Landsat satellite imagery. These maps enabled comprehensive land cover change analysis and supported various applications, including environmental monitoring, resource management, and policy development.

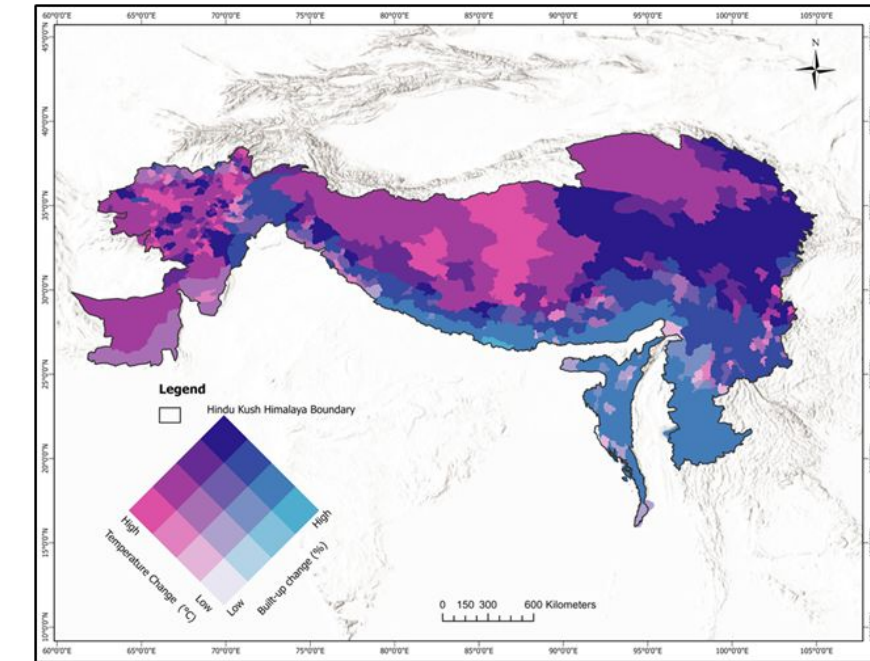
## Partners & Collaborators

- Forest Research and Training Centre
- Global Land Analysis and Discovery (GLAD) group at the University of Maryland
- SilvaCarbon, US Forest Service
- Bangladesh Forest Department
- SERVIR Southeast Asia

## Land cover data downloaded

- **Nepal:** 3,684 times (Sept 17, 202 –Feb 2, 2024)
- **HKH:** 1,421 times (Sept 21, 2023–Aug 15, 2024)
- **Afghanistan:** 64 times (July 20, 2022–Sept 9, 2024)

Land cover data is used in informed settlement planning, prioritization



Launch of NLCMS for Nepal

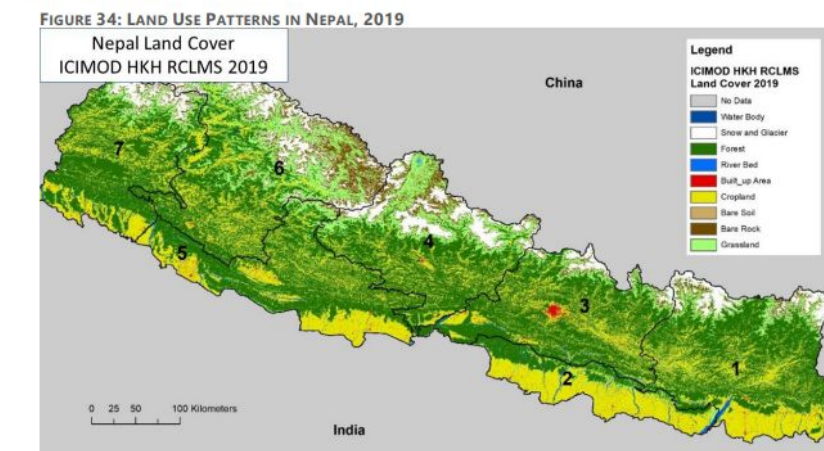


NLCMS data is used as the national reporting

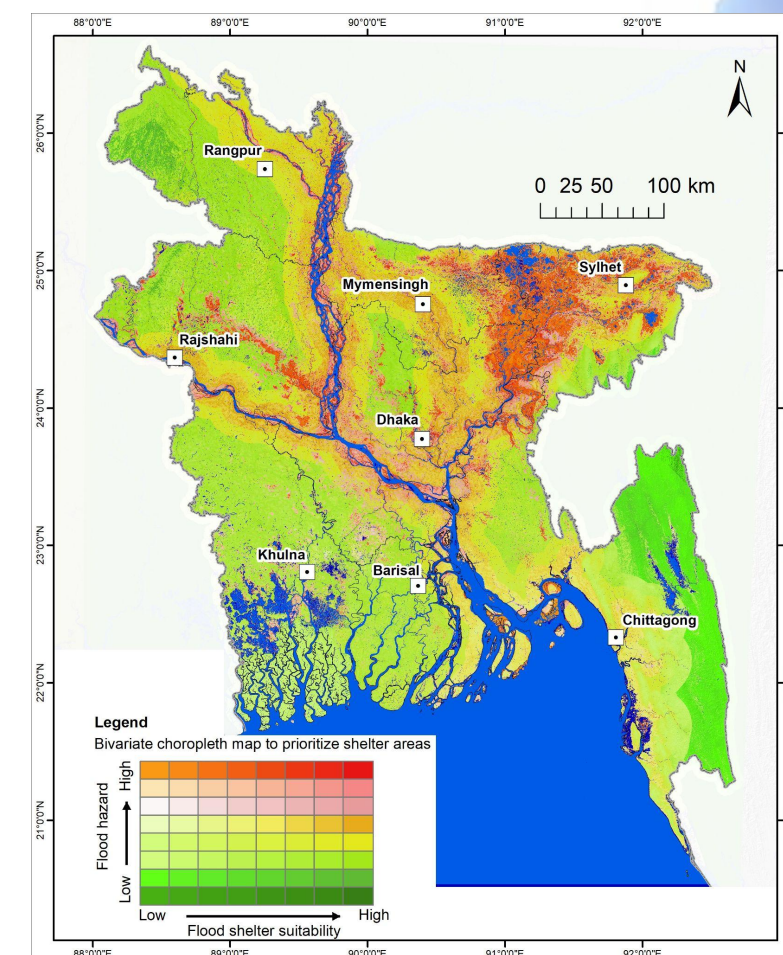


Land cover data is used in the World Bank report

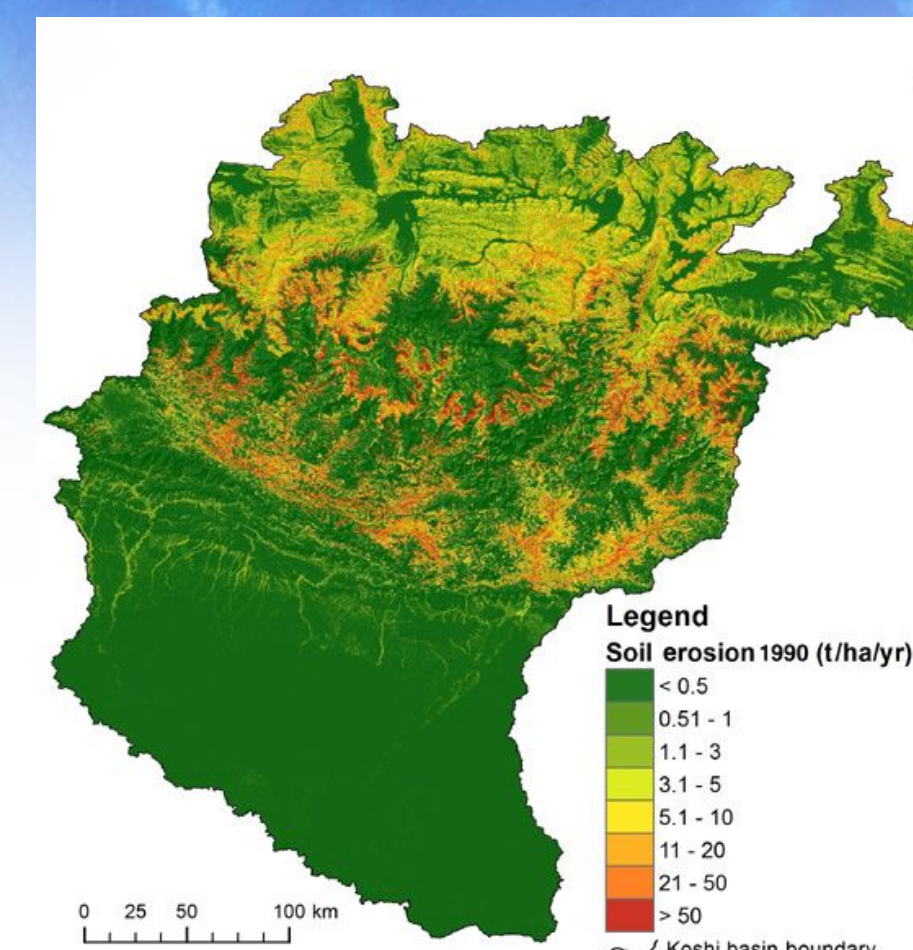
The agricultural sector employs the largest share of the workforce in Nepal, 63%, followed by 21% in services and 16% in industry, in various occupations around farming, livestock, forestry, and fishery across the value chain. In terms of occupations, the most prevalent occupations are found in the retail sector—the largest occupation (using the International Standard Classification of Occupations (ISCO) 4-digit categorization) are shopkeepers making up almost 12% of the workforce, and together with shop sales assistants the group makes up over 17% of the workforce. Other most prevalent occupations are in the construction industry and in education.



Notes: Data source is ICIMOD HKH RLCMS 2019 data on types of land cover. Cropland and agricultural labour (both crop farming and livestock production) are concentrated to the south of the country, provinces 1, 2 and 5 having the largest shares of labour in the agricultural sector (Figure 34). These areas comprise of a large share of southern Nepal, that have high risks of both droughts and heat stress, and a high risk of physical asset damage resulting from river flooding. Yet at the same time these areas have also the highest resilience ratio, that is, in southern parts of the country asset losses translate to the lowest level of consumption losses. Taken together, although agricultural livelihoods face heightened environmental risks in the south, risks to the welfare of agricultural households may be more

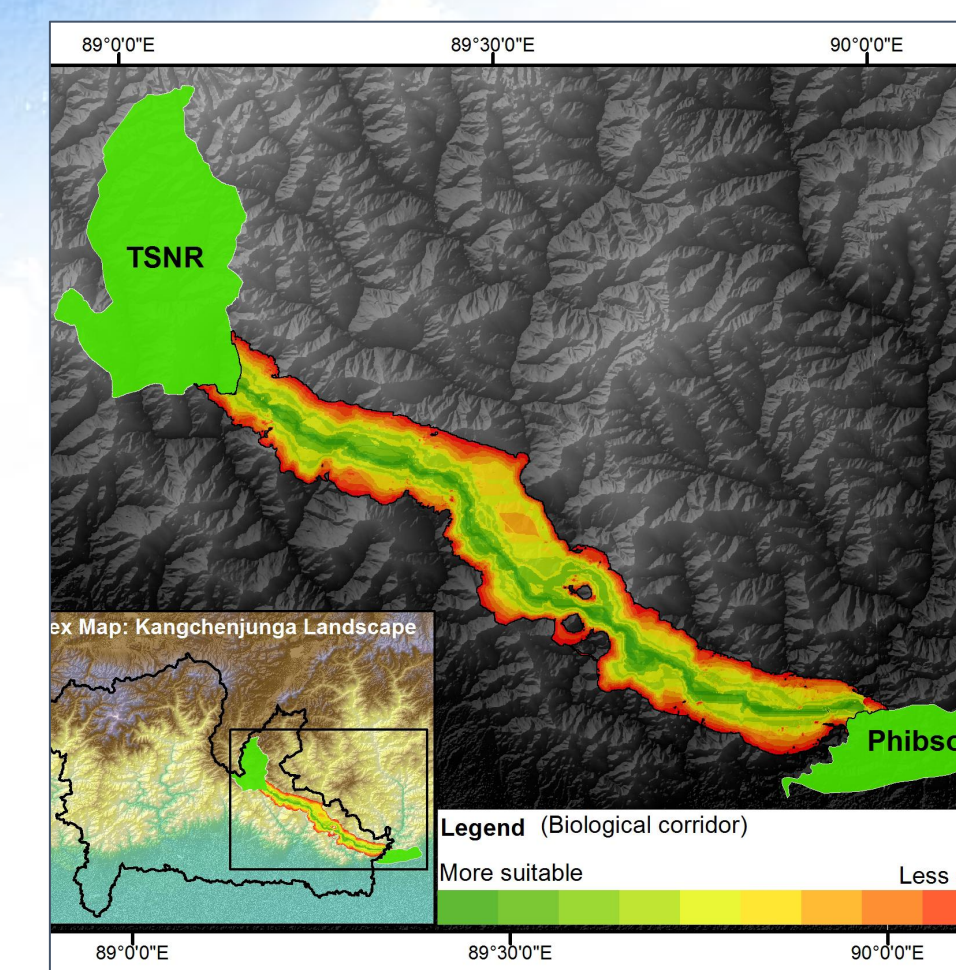
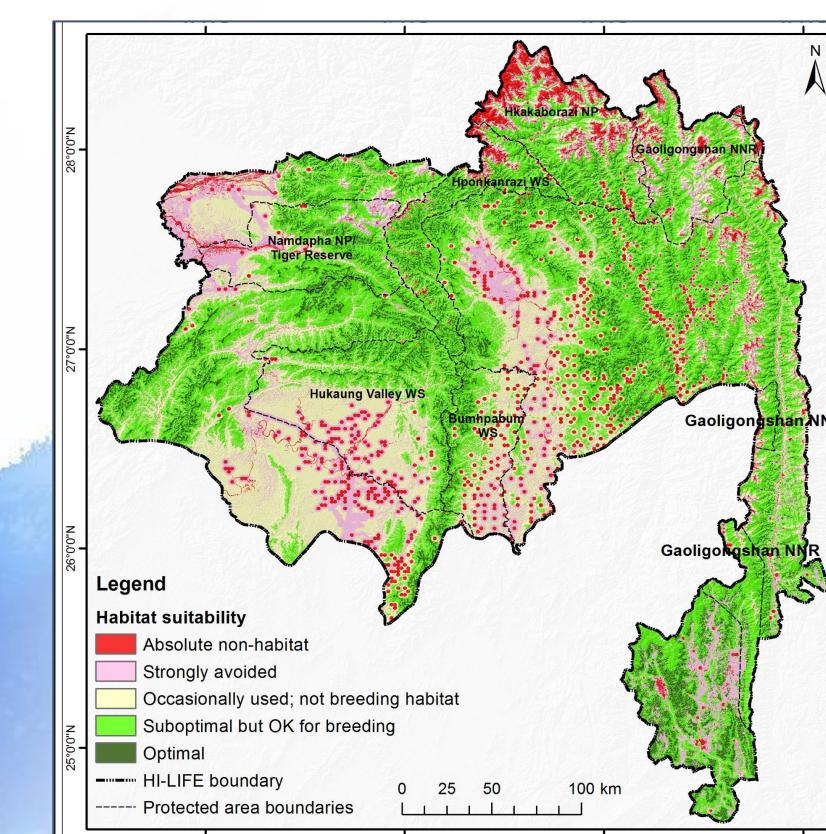


Land cover data is used in flood shelter suitability mapping



Land cover data is used in soil loss assessment.

Land cover data is used in the habitat suitability study



Land cover data is used in the biological corridor design

## Outcomes & Impacts

- Stakeholders employed Earth observations and machine learning to develop annual land cover maps
- Enabling assessment and analysis of changes
- Utilize land cover data as a national product
- Enhancing partner's mapping capabilities
- Supporting environmental management at the HKH region

## Next Steps:

- We will continue to generate national and regional land cover data
- Using RLCMS land cover data, in 2025 we will generate a soil erosion map for the HKH region

