

# Understanding Biodiversity Conservation: Buffer Zone Resources and Land Use Change in Argayuli VDC of Chitwan National Park, Nepal.

Nirmala Rajaure (Nepal)

**Key words:** Access to land; Land distribution; Land management; Remote sensing; Conservation, Land Use, Buffer Zone, Socio-economic survey, Vegetation Analysis

## SUMMARY

Chitwan National Park is the oldest national park in Nepal situated in the inner Terai lowland of South Central Nepal. Area surrounding park or reserve, encompassing forest, agriculture lands, settlements, cultural heritages, village open spaces and other land use forms has been considered as buffer zone. Argayuli VDC where the study was conducted, is one of the buffer zone VDCs of Chitwan National Park in Nawalparasi District, Nepal.

The main objectives of this study included: To determine Socio-economic status of households, To analyze vegetation of Buffer Zone Community Forest and find out demand and supply of forest resources, To study land use change pattern, To study incidence of rhino occurrence and involvement of Buffer Zone VDC people in Rhino poaching activities.

Methods adopted to meet these objectives were Stratified Random Sampling of households, Vegetation Analysis, Land Use Change between 1978-1992 and Questionnaire Survey.

The result showed that People of Argayuli buffer zone area are predominantly dependent on agriculture and are heavily dependent on the buffer zone community forest for their sustenance. 48.6% of households faced food deficit problem and 15.7% of households did not have food even for a month. The households managed their deficit mainly by remittance and wage labour. From land use change map, forest area increased by 12.71%. The buffer zone forest fulfill 32% of fuel wood and 0.9% of green fodder. In order to fulfill their demand, people used national forest which lies outside the buffer zone of same VDC, community forest of adjacent VDC, private lands and 2.9% of surveyed households even go to the Park. People extract fuel wood and fodder from the community forest in an unsustainable way. Rhinoceros were considered the most destructive animal as the agricultural crops were damaged each year that made local people behave adversely

---

Understanding Biodiversity Conservation: Buffer Zone Resources and Land Use Change in Argayuli VDC of Chitwan National Park, Nepal. (12017)  
Nirmala Rajaure (Nepal)

FIG Working Week 2023  
Protecting Our World, Conquering New Frontiers  
Orlando, Florida, USA, 28 May–1 June 2023

on rhino conservation and park management. However, People with higher level of education were reported to be more supportive of conservation.

In order to protect the Buffer Zone area, installation of biogas as an alternative energy source can decrease demand of fuel wood and Improved breed of livestock can reduce the demand of fodder and minimize pressure on forest. Benefit from buffer zone program should be shared for the income generation activities. Awareness regarding the importance of endangered animals is highly recommended.

---

Understanding Biodiversity Conservation: Buffer Zone Resources and Land Use Change in Argayuli VDC of Chitwan National Park, Nepal. (2017)  
Nirmala Rajaure (Nepal)

FIG Working Week 2023  
Protecting Our World, Conquering New Frontiers  
Orlando, Florida, USA, 28 May–1 June 2023