



Tropentag, September 10-12, 2025, hybrid conference

“Reconcile land system changes  
with planetary health”

## Reconciling community needs with forest health: Impact on vegetation cover in Noura Natural Forest, Sudan

HANADI MOHAMED SHAWGI GAMAL, ASMA ELYAS MOHAMED ELZUBAIR , ZEINAB AHMED  
ABDEL HAMEED

*University of Khartoum, Fac. of Forestry; Forest Products and Industries, Sudan*

### Abstract

Natural forests provide essential ecosystem services, including providing a habitat for diverse plant and animal species, regulating the water cycle, sequestering carbon, and supplying natural resources for local communities. However, overuse of natural forests by local communities can lead to changes in vegetation cover, which compromises forest health and ecological functions.

In Sudan, the Noura Natural Forest is one of the most important in Sinjar State. It is considered a vital ecosystem, providing a habitat for numerous plant and animal species and supporting the daily lives of local communities. However, overuse of the forest by local communities is leading to changes in vegetation cover, which affects forest health and ecological functions. Therefore, it is essential to study the impact of local community utilisation of natural forests on changes to the Noura Natural Forest's vegetation cover.

This study aims to assess this impact and provide recommendations for improving forest health and ecological functions. To this end, a combination of social surveys and remote sensing techniques were employed to collect data. The Statistical Package for the Social Sciences (SPSS) software (version 25) was used to analyse the data. The results show that the local community relies heavily on the forest for various products and services, including firewood, building materials and non-wood forest products. Furthermore, the study reveals that the forest is facing degradation due to illegal logging, grazing and a lack of protection. The findings highlight the need for sustainable forest management practices that balance the needs of the local community with forest conservation. The study recommends implementing sustainable forest management practices, such as involving local communities in conservation efforts, to ensure long-term health and productivity of the Noura Natural Forest.

**Keywords:** Local community needs, natural forest, Sudan, sustainable forest management, vegetation cover change