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“Development on the margin”

Resilience and Vulnerability in the Face of Potential Climate Change: The Case of Sudan

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Abstract

The present study was undertaken generally for the purpose of assessing the changes and causes of vegetation cover from 1984 to 2010 in a sample unit covering parts of Renk County in southern Sudan. Normalized difference vegetation index (NDVI) was used to analyse the remote sensing images to indicate the trend of vegetation cover changes over time and space. Results indicate a strong positive correlation relationship of NDVI with rainfall in southern Sudan occurring in 1994, 2002, 2005 and 2010 in large area of Renk County that has been colonized by green vegetation. The main cause of the increased vegetation expansion or probably the rate of woodland encroachment in grassland savannah zone has been attributed to a variety of factors such as: Availability of moisture (*e.g.* irrigation), changes in rainfall patterns and minimum or no human impact, particularly during the north-Southern war. Results also indicate that Renk County adopts an integrated approach in addressing key drivers of vulnerability which include socio-economic aspects of the impacts of potential climate change. The successful experience of forests and trees thus far has been recognised by local communities as a significant contributor to building resilience against external shocks due to the risky environment and also due to the intra-seasonal and inter-annual variability of rainfall. The study demonstrates that forests contribute to rural development; help to reduce the vulnerability of communities and allow the rural poor to survive through recurrent hungry seasons. The study suggests that specific plans for adaptation to climate change need to be incorporated into wider regional and national development planning.

Keywords: Climate change, marginal land, marginal people, resilience, resource management, Sudan, vulnerability.