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## Impact of War on Land Use Systems in South Darfur by Applying Multi-Temporal Satellite Imageries

RAZAN SALIH IBRAHIM<sup>1</sup>, MANAL AWAD KHIRY<sup>1</sup>, TARIG ELSHEIKH MAHMOUD<sup>2</sup>, AMNA.A HAMID<sup>3</sup>

<sup>1</sup>*University of Khartoum, Dept. of Forest Management, Sudan*

<sup>2</sup>*University of Kordofan, Gum Arabic Research Center, Sudan*

<sup>3</sup>*Ministry of Science and Technology, Authority of Remote Sensing, National Center for Research, Sudan*

### Abstract

Land resources play an important role in shaping rural livelihoods. They are considered as a source of wealth, tribe identity, and social peace, but can also act as a source of conflict. Humans are largely argued to be responsible for land and natural resources management because they have the capacity to engage in productive activities that require planning, technology and collective work. For this reason, land has always been an important aspect in defining and reshaping relations between the different beneficiary groups. Conflicts in Darfur, as a result of civil war, has shattered the lives and livelihoods of more than a million people, mainly through its devastating effects on land use and land cover. The current paper aims to assess the impact of civil war on land use/land cover (LULC) change in Nyala locality, South Darfur State, Sudan, using multi-temporal satellite imagery for 2 points in time (1986 and 2011). In detail, the study intended to detect, identify and map the vegetation cover change during the study period. This enabled quantification of change and analysis of drivers and direction of change due to different land use/land cover patterns. Moreover, the study was designed to identify the main causes of this change regarding the role of local and displaced people in dealing with the fragile natural resource base in the area. The change detection analysis was carried out using supervised classification to end up with different types of land cover. The study found continuous land cover change during the period and it was evidently that these changes were man-made and this is basically due to over-cutting, over-grazing, charcoal and bricks making and construction activities. It could be concluded that land use/land cover structure in South Darfur State underwent obvious changes and that there were significant relations between land cover changes / land degradation and the civil war in Darfur.

**Keywords:** Civil war, land use systems, remote sensing, South Darfur