

## Remote sensing support for regional sustainable development

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Sustainable forest management has become the primary goal of forestry institutions worldwide, as it involves managing forests to achieve production of continuous flow of services without excessive reduction of their future productivity. In this paper a case study in semi arid forest (El Rawashda forest reserve, Gedaref State, Sudan) serves as a research.

Multi-temporal Landsat ETM+ and Aster data acquired on early dry season dates in 2000 and 2006 have been used for classification and mapping land cover. Training data were selected in easily identifiable areas of the following four classes: Grassland, Close forest, Open forest and bare land. Following classification of imagery from the individual years, a post-classification, approach of subtracting the classification maps, 2000 and 2006, was applied. An advantage of the approach is that provides "from-to" change information. As part of our analysis we have compared area estimates from the Landsat classifications with aster classification. In our research, the potential to derive indicators of sustainable resource use from satellite remote sensing is discussed. Particular attention focuses on indicators related to land cover condition and type in semi-arid forest environments. This includes quantitative and qualitative assessment of forest cover change as well as the impacts of human and other biophysical factors on the forest. Each of these issues is discussed with emphasis placed on the potential to increase the level of information extraction beyond that derived with conventional approaches in order to more usefully inform sustainable development practices.

### Biography

Wafa Nori has completed her Ph.D. at the age of 25 years from Dresden University of Technology. She is Assistance Professor at Faculty of Natural Resources & Environmental Studies, University of Kordofan (Sudan).

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