Assessment of land cover: Land use changes from1990 – 2020 in the northern Albertine rift

Although agriculture was the main driver of forest cover/ use change in the 1990s, the oil and gas discovery and development in the 2000s has further increased the pressure on the land resource through attracting job seekers and investors, and infrastructure development including construction and upgrading of the critical oil roads, which has catalysed increased human settlement and access to originally hard to reach areas and natural resources.

Recommendations

1. The developers, state and non-state actors should work together to reduce the cumulative impacts of their actions in the landscape. They should work with the mandated institutions to ensure maintenance, and restoration, of the natural vegetation in the landscape.

2 Government should as much as possible avoid placement of oil and gas associated infrastructure in biodiversity-rich, undisturbed areas and where it is already established, stringent measures to ensure habitat protection should be instituted.

3 The Office of the Prime Minister need to plan the Energy sources in refugee camps and refugee hosting communities and sustainably manage to minimize environmental impacts and conflicts with host communities over the use of natural resources.

4 Community benefits initiated by developers, state and non-state actors need to go beyond supply of basic needs to consideration of economic viability of resources and activities assigned to communities should include restoration of forest cover both on private and public land in the Bugoma landscape.

5 There is need for Forest Sector Support Department (FSSD) to strengthen the capacity (technical and financial capacity) of District Forest Services (DFS) and National Forestry Authority (NFA) staff, to define roles of local governments clearly separating them from those of NFA field based staff, and to provide adequate supervision.

Email: office@ecotrendsalliance.org || Website: http://www.ecotrendsalliance.org || Tel: +256 414 666 776

Main findings

1. In 1990 Tropical High Forest, fully stocked was at 8.46% but in 2015 it had reduced to 7.67%. Woodlands decreased from 25% in 1990 to 14.21% in 2005 and further to 8.88% in 2015. However, it increased to 10.8% between 2015 and 2020 but this increase is mainly within the protected areas, especially in Buliisa district (See maps).

2. Decrease of forest and woodland between 1990 and 2005 was due to increased commercial activities like Tobacco plantations, maize and rice growing, which were mainly market-driven (WCS and MUIENR, 2008). Subsistence farmland, uniform farmland and urban or built-up areas significantly increased over the same period.

3. Plantation forest (Deciduous and coniferous plantation or woodlot) increased over the years. This increase is considered good because it is envisioned that increase in plantation forest will lead to reduced pressure on the remaining natural forest.

4. The wetlands and rivers on community land in Masindi, Hoima and Kikuube districts are now more exposed and were more visible on the 2020 map. So, wetland cover increase is just increase in visibility of the initially existing wetlands, which were previously shielded by woody vegetation.

5. Degradation and deforestation of Central Forest Reserves has mainly been of the frontier type with communities first selectively cutting the preferred trees for timber followed by charcoal burning and then clearing for agriculture. In private forests, however, either selective logging or clear felling to either give way for another enterprise, or get rid of vermin wildlife, is practiced (WCS and MUIENR, 2008).

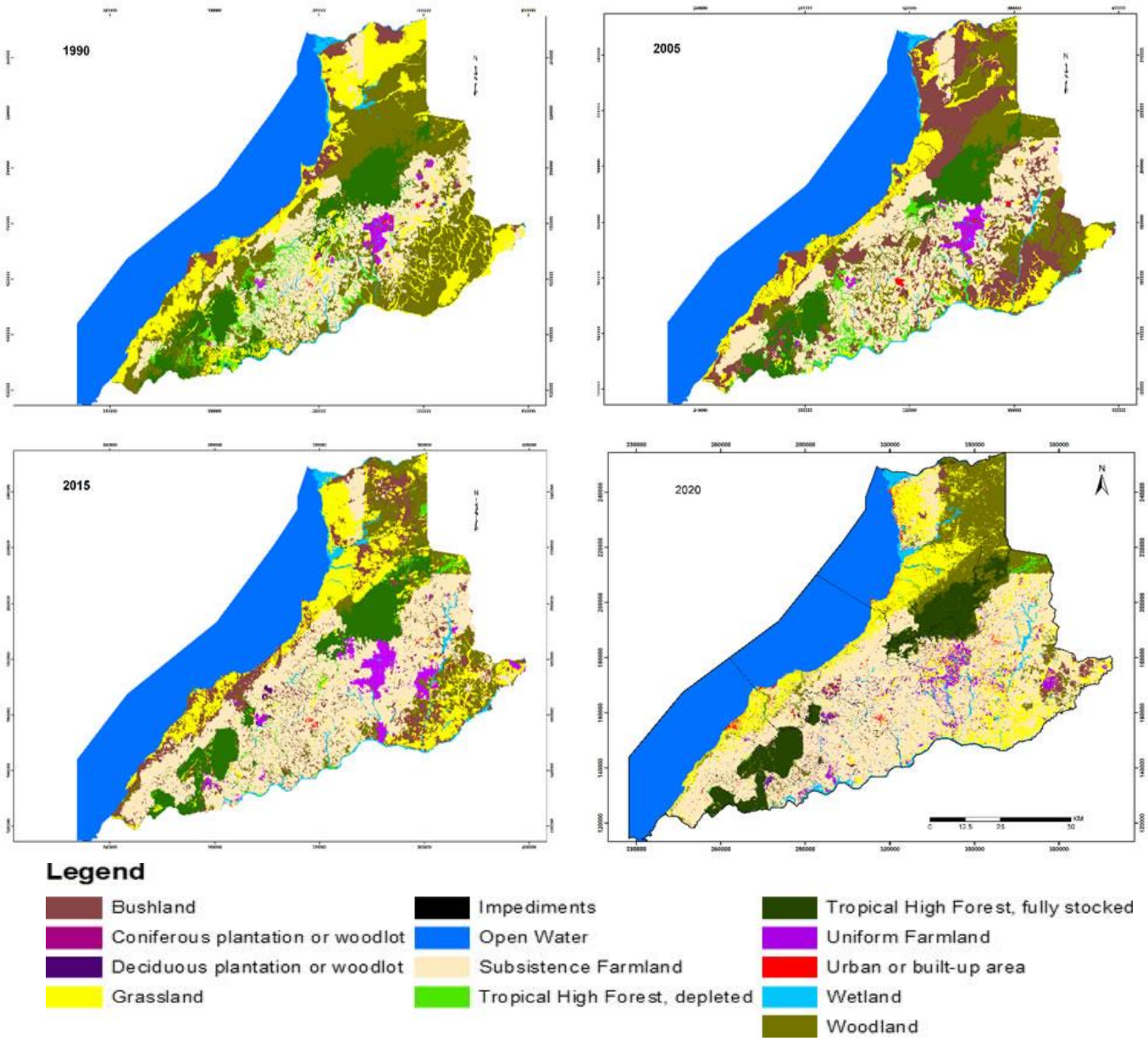
6. Sugarcane, a prominent crop in the landscape, was restricted to a nucleus around Kinyara sugar works until the 2000s when sugarcane growing was opened up to out-growers with as low as 2 hectares. The growth of the sugarcane industry attracted many migrant workers who settled around Budongo (Twongyirwe et al., 2018). These migrant workers acquired land to grow food crops thus contributing to forest clearing.

7. Drivers of land cover change have varied from subsistence and commercial agricultural expansion in the earlier period of this study to oil and gas indirect drivers in the recent years. Whereas agriculture expansion has greatly influenced natural land cover loss around Budongo forest, infrastructure developments associated with oil and gas and resettlement of refugees have been major drivers of natural vegetation loss around Bugoma forest. Whereas commercial agriculture/uniform farmland was more prominent in Masindi district due to sugarcane growing, subsistence farmland was a more prominent driver of land cover change in Hoima and Kikuube district.

Methodology

Land cover change over a period of 30 years (1990 to 2020) was assessed based on land cover snapshots of 1990, 2005, 2015 and 2020. Classified maps were obtained from the GIS and mapping Unit of the National Forestry Authority (NFA), Uganda. The land cover/use of the area of interest were from the districts of Masindi, Bulisa, Hoima and Kikuube. We present results as an overall change within the landscape of these four districts.

The area coverage of each land cover/use, within each area of interest, was first calculated. Thereafter, the overall percentage coverage of the different land cover/use classes, over the years was calculated, and the overall change then assessed. This involved assessing the land cover/use change between the 1990 and 2020. The area coverage changes (gained or lost) by each land cover/use was calculated. Through literature review and change map evaluation, the drivers of vegetation change were identified and outlined.



This policy brief has been produced under the framework of the Green Livelihoods Alliance funded through the 'Forest For A Just Future Program' implemented under the Netherlands Ministry of Foreign Affairs. The opinions and views expressed in this publication are the sole responsibility of the authors and do not necessarily reflect the opinions and views of Tropenbos International or its partners.

Suggested citation: Nangendo, G. 2023. Assessment of land cover: Land use changes from1990 – 2020 in the northern Albertine rift. Policy Brief. Tropenbos International, Ede, the Netherlands, and Ecological Trends Alliance, Kampala,Uganda.

For more information, contact:

Richard Ssemmanda - richard@ecotrendsalliance.org
Michael Opige - michael@ecotrendsalliance.org