**Abstract**

The land degradation-neutrality (LDN) national baseline for Kenya in 2015 was established in terms of the three LDN indicators (land cover, land productivity, and carbon stocks), and using trends in GIMMS NDVI and land cover datasets over the 24-year period from 1992 to 2015. Human-induced land degradation was separated from degradation driven by climate factors using soil moisture data and the residual trend method. On the basis of Kendall’s tau of the NDVI residuals computed using annual mean data of the NDVI and soil moisture relationship, the country has experienced persistent negative trends (browning) over 21.6% of the country, and persistent positive trends (greening) in 8.9% of the country. The land cover change map for the period 1992–2015 showed that in 5.6% of the area there was a change from one land cover class to another. Pronounced changes in terms of land area were the increase in grasslands by 680,000 km², ranging from less than 250 mm in the northern part of the country, to about 200 mm in the western part of the country.

**Methods**

**Spatial datasets**
1. NDVI: GIMMS 1992-2015 (8km)
2. NPP: MODIS 2000-2015 (1km)
4. Land cover: ESA-CCI 1992-2015 (300m)
5. Soil organic carbon stock: SoilGrids (250m)
   - soil organic carbon content (% g kg⁻¹)
   - bulk density of fine earth (g m⁻³)
   - coarse fragments (cm cm⁻³)
   - horizon thickness or depth interval (0-30cm)

**Human induced land degradation**

Significant (95%) trends of the NDVI residuals computed from the NDVI-soil moisture relationship over the 24-year period, indicate persistent negative trends (browning) over 21.6% of the country, and persistent positive trends (greening) in 8.9% of the country. Strong browning has occurred in 11.8% of the country, with moderate browning occurring in 9.8% of the country. Strong greening has occurred in 5% of the country, with moderate greening occurring in 3.9% of the country.

**Conclusion**

As a first step, targeted field level assessments, alongside the collection of data for the computation of SOC stocks, should be undertaken in selected browning, greening and land cover change sites. These field studies will provide decision makers with key information on the processes and factors driving vegetation cover changes and dynamics, to inform policy development on land management broadly, and specifically on how to plan for the implementation and monitoring of LDN interventions.

**References:**

**Note:** The mean SOC stock is for the year 2000.