Assessments of land degradation have been conducted using Landsat and MODIS data for Alto Hama commune in Huambo province of Angola following the good practice guidance v2 of the UNCCD. The SEPAL SDG 15.3.1 module was used for land degradation assessment for baseline period of 2001 to 2015. The MODIS based vegetation indices are temporally consistent whereas Landsat provides high spatial resolution. The total degraded area and the percentage change of degradation between sensors were obtained using QGIS.
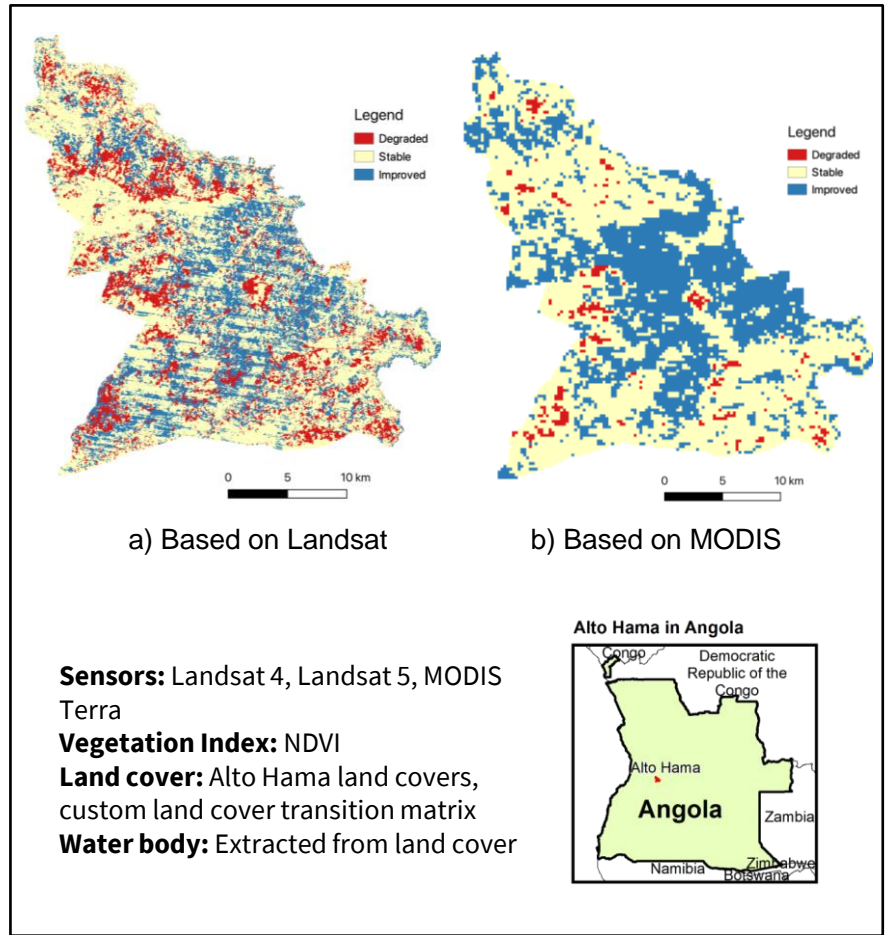

a) Based on Landsat   b) Based on MODIS

Sensors: Landsat 4, Landsat 5, MODIS Terra
Vegetation Index: NDVI
Land cover: Alto Hama land covers, custom land cover transition matrix
Water body: Extracted from land cover

Figure 1: Land degradation assessment maps of Alto Hama, Angola using Landsat and MODIS data [1]

Table 1: Comparisons of degradation statistics by satellite sensors

Sensor	Degraded (km², %)	Stable (km², %)	Improved (km², %)	Total (km²)
Landsat	109, 17	365, 57	166, 26	640
MODIS	26, 4	377, 59	237, 37	640

Key findings
- Landsat based analysis revealed more degraded areas than MODIS based analysis.
- Spatial distribution of improved areas from Landsat and MODIS are similar, though the more improved areas are detected from MODIS based analysis.
- Both analyses revealed similar stable land areas.

[1] GAUL 2015. The boundaries and names shown, and the designations used on these map(s) do not express any opinion whatsoever on the part of FAO concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers and boundaries. Dashed lines on maps represent approximate border lines for which there may not yet be full agreement.