**Abstract**

Tree cover is an important aspect of the rapidly growing urban environment. It plays such a vital role in ensuring the overall well-being of an area's residents. However, their importance is most often overlooked and unnoticed.

This work aims to provide an approach that can be used to quantify urban tree cover by mapping its canopy. Also investigated in the study is the quantification of other land cover types, apart from the trees, to get a view of the dominant land use. The various vegetation types within the study area are then computed by the use of the Normalized Difference Vegetation Index (NDVI) from which the tree vegetation is then extracted. NDVI is the predominant method used here as it is particularly good in the mapping of various vegetation types. The study is carried out in Lang'ata constituency which is the largest constituency within the county.

Trees in urban areas are under the constant threat of been cleared to create space for construction projects. Also, urban areas are characterized by poor-quality air that is mainly a result of the exhaust fumes from motor vehicles. Also, there's evidence of rising temperatures in most urban areas due to the increased burning of fossil fuels in motor vehicles.

Data used in the study mainly consists of Sentinel data because of its resolution, 10m, and its availability. Google Earth Imagery is used also to act as ground truth to further access the results from the Sentinel data. The analysis involves the creation of the NDVI for the study area, reclassifying it using NDVI threshold values for various land cover types, and finally the extraction of the Tree Canopy.

The results from the Study area a map showing the other Land Use Cover types that are within the study area and their area coverage and also a map showing the Urban Tree Canopy for Lang'ata constituency.

The area of study is found to have a reasonable Tree Canopy Cover. Recommendations are made on how to integrate infrastructural development with the maintenance of the trees and also in the creation of a tree inventory to enable management of the tree and monitor their exploitation.