

Abstract QDR2

Assessing mining impact in land use change using remote sensing in southern Katanga, Democratic Republic of Congo

Dupin, L.^{1,*}, Muhashi H., F.^{2,*},

1- Geological Survey of Belgium, Royal Belgian Institute for Natural Sciences, Rue Jenner 13, BE-1000 Brussels, Belgium

2- Point focal Biodiversité, Royal Belgian Institute for Natural Sciences, Rue Vautier 29, BE-1000 Brussels, Belgium

(*) Corresponding authors: laetitia.dupin@naturalsciences.be and francois.muhashy@naturalsciences.be

Mining operations, which involve ore extraction from earth's surface and underground, tends to make a notable impact on the environment, landscape and biological domains. Mining for cobalt, copper, limestone and tin has been most extensively practiced in southern Katanga as a result, many sites have been converted to mining landscapes.

A detailed understanding of the impact of mining on changes in LULC (Land use, land cover) pattern and fragmentation on time and space has been undertaken in the surrounding of Kolwezi. By mean of satellite image processing and classification, extensive large and small scale denudation patches can be observed over the years, which cause fragmentation of the surrounding vegetation. The observed pattern is not only due directly to the mining activity itself, several other factors are involved in this land use changes such as demographic influx, economic growth, agriculture development, etc.

The gradual increase to mining and non-forest areas revealed the pressure of this activity on vegetation cover. It is evident that mining operation is detrimental to the vegetation and it would be advisable to better regulate this activity to avoid further damage. Scientific mining advices should provide alternative operational methods for a better use of natural mineral resources by minimizing the damage to the vegetation.