ASSESSING LAND-USE/LAND-COVER CHANGES RESULTING FROM MINING ACTIVITES IN KATANGA, DEMOCRATIC REPUBLIC OF CONGO

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Decades of mining operations in Southeastern Republic Democratic of Congo (RDC) tends to make a notable impact on the environment. Open-pit and underground mining for cobalt, copper, limestone, coal and tin has been most extensively practiced in the Province of Katanga as a result, many sites have been converted to mining landscapes leading to ecosystem disturbance.

A detailed assessment of impact of mining on changes in LULC (Land use, land cover) pattern and fragmentation on time and space has been undertaken more specifically in the surrounding of Kolwezi and Tenke-Fungurume, copper and cobalt mining sites. By mean of multi-spectral and multi-date remote sensing data processing and classification, an evolution from extensive large to small scale denudation patches can be observed from 1970's to 2000's. Moreover, the comparison of LULC maps clearly shows that mining sites are increasingly overlapping layers of vegetation localised in protected areas. The observed changes in the surrounding vegetation are the results of the evolution in the type of mining extraction and of factors indirectly derived from the mining activities 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.