

# Showcase on SDG 15.3.1

## Land degradation - DR Congo

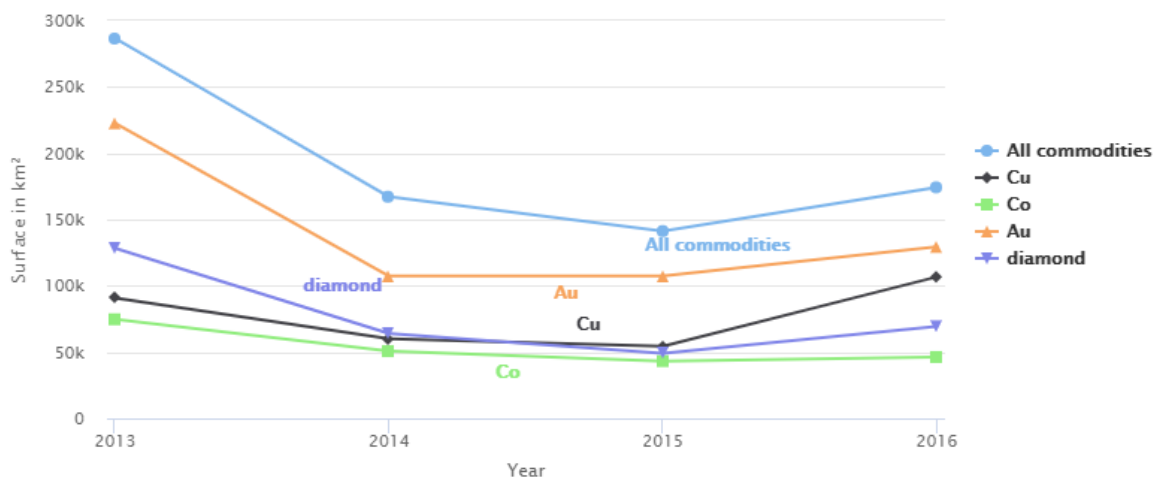
### Context

The tropical forest of the Congo basin is the second largest contiguous tropical forest and carbon storage after the Amazon rainforest. About 50% of this forest is located in DR Congo. It contains a great biodiversity with rare and endemic species such as bonobo, gorilla and the African forest elephant. Congolese forest represents 23% of the total African forest cover.

Mining industry in DRC is a major economic opportunity for the country and represents the principal export revenue. However, artisanal and illegal industrial logging, agriculture, roadbuilding and above all industrial mining are the principal causes of deforestation in DRC. Deforestation occurs mainly along roads and at forest margins and leads to a loss of habitat for many species. According to the Food and Agriculture Organization of the United Nations (FAO), 0.23% of forest is lost annually, representing an area of 7'000 km<sup>2</sup> per year. Mining exploitation also leads to water contamination and land degradation as well as habitat loss for many animal species. Furthermore, mining concessions sometimes overlap with protected areas.

In order to evaluate the impact of mining industry on the DRC forest, the surface of forest covered by mining concessions was calculated for the years 2013 to 2016.

Surface of forest covered by mining concessions  
(total and for each main commodity), 2013-2016



Surface of forest covered by mining concessions continuously listed from 2013 to 2016

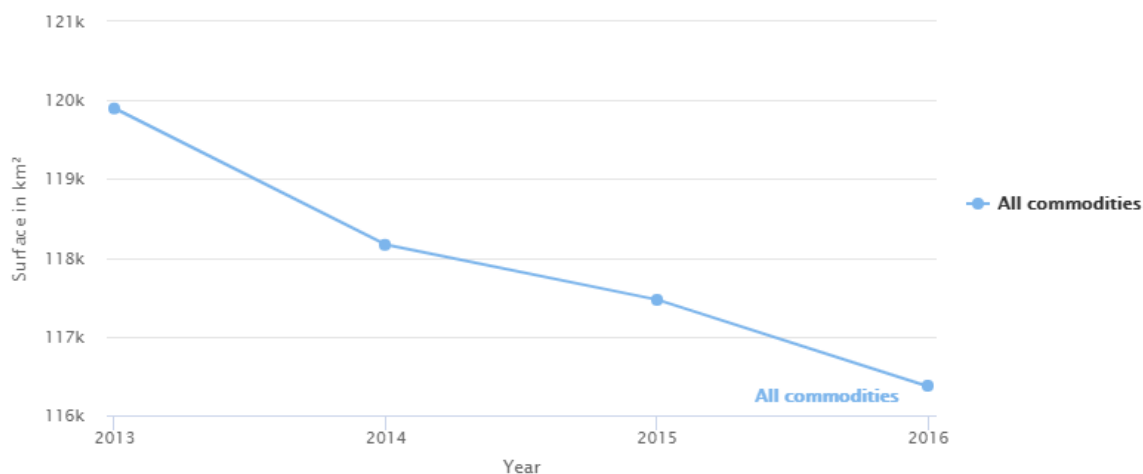


Figure 1: Surface of forest covered by mining concessions between 2013 and 2016, for each main commodity (copper, cobalt, gold, diamond) and for all commodities. In the second graph, the surface of forest was calculated only based on mining concessions that were exploited continuously during the years 2013-2016, reflecting a non-stop industrial activity

The two diagrams show a progressive loss of forest in the mining concessions with time. More than 3'500 km<sup>2</sup> of forest were lost during the last three years, due to industrial mining activity.

| GEOessential: Land degradation – DR Congo |   |
|---|---|
| Spatial Extent                            | DR Congo, Africa  |
| Dashboard link                            | <a href="https://geoessential.unepgrid.ch/mapstore/#/dashboard/9">https://geoessential.unepgrid.ch/mapstore/#/dashboard/9</a>   |
| Temporal Extent                           | 2013 - 2016   |
| EVs used                                  | Land cover  |
| Inputs                                    | Landsat scenes and mining cadaster  |
| Outputs                                   | Surface of forest covered by mines  |
| Targeted Policy                           | 15.3 By 2030, combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation-neutral world                            |
| Targeted indicators                       | 15.3.1 Proportion of land that is degraded over total land area   |
| Main Process                              | Overlap between satellite images representing forest cover and mining concessions<br>Calculation of the surface of overlap<br>Monitoring of this surface over time  |
| Level of development                      | 75%   |
| GitHub code                               | <a href="https://github.com/ambroso0/MinesWorkflowfinal">https://github.com/ambroso0/MinesWorkflowfinal</a>   |
| Outputs endpoint                          | <a href="https://geoessential.unepgrid.ch/geoserver/web/">https://geoessential.unepgrid.ch/geoserver/web/</a> and <a href="https://geoessential.unepgrid.ch/geonetwork">https://geoessential.unepgrid.ch/geonetwork</a> |
| Partner(s)                                | UNIGE   |
| Contact person                            | Pierre Lacroix (UNIGE)  |