



Case study

# Democratic Republic of the Congo

## The Democratic Republic of the Congo establishes a national forest monitoring system to promote sustainable forest management.

Improving proactive monitoring of deforestation and forest degradation with a robust national forest monitoring system

### Context

In the Democratic Republic of the Congo, a Central African country, the reduction of emissions from deforestation and forest degradation is a major national strategic priority.

Previously, the Democratic Republic of the Congo has had limited technical capacity to produce the tools necessary for monitoring forest cover and changes and for taking informed policy decisions on reducing emissions from deforestation/forest degradation and the sustainable management of forest resources.

### Success factors

- » **Multipurpose approach:** The country's REDD+ National Fund (FONAREDD), which serves as a financial vehicle for the implementation of the national REDD+ strategy and is funded by CAFI, utilizes the NFMS not only for international reporting to the UNFCCC but also as a tool that provides useful information to stakeholders outside the forestry sector, such as economic actors (working mainly in agriculture and mining) and investors, and for land use planning.
- » **Participatory discussion process:** The design and implementation of the NFMS have been supported by a range of participants including: the University of Lubumbashi, University of Kisangani, Wildlife Conservation Society, World Resources Institute, Japan International Cooperation Agency, Satellite Observatory for the Forests of Central Africa, US Forest Service, the French Institute of Research and Development and non-governmental organizations such as SOS-Nature, Les Aiglons and Laboratoire d'Ecologie du Paysage et Foresterie Tropicale. Collaboration and coordination between relevant stakeholders has been strengthened through the use of Plateforme Technique de Concertation (PTC), a platform for technical exchange on NFMS issues.



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### Actors and stakeholders

The country's national forest monitoring system (NFMS) is implemented by the Sustainable Development Directorate (DDD: Direction du Développement Durable) and the Directorate of Forest Inventories and Management (DIAF: Direction des Inventaires et Aménagement Forestier) under the Ministry of the Environment and Sustainable Development (MEDD: Ministère de l'Environnement et du Développement Durable). The NFMS was initiated by the UN-REDD national programme and is currently supported by the Central African Forest Initiative (CAFI) with technical support from the Food and Agriculture Organization of the United Nations (FAO).

### Objectives

- » Produce high-quality, reliable data to monitor changes in land use, land cover and forest cover.
- » Foster analysis and track progress made by REDD+ activities in forests at national scale.
- » Strengthen national capacities on forest monitoring and disseminate information to all relevant stakeholders, including scientists, national political and development leaders, local communities, international policy-makers and donors, conservationists, and the private sector.
- » Provide information essential for the country to meet national and international reporting requirements under the United Nations Framework Convention on Climate Change (UNFCCC).
- » Support the Government of the Democratic Republic of the Congo to make ecologically sustainable decisions and policy on land use, land cover and natural resources.

## Challenges

The challenges to be faced are mainly associated with ensuring the sustainability and operational maintenance of the NFMS as well as the availability of funding. The coordination of the NFMS also presents challenges including the harmonization of methodologies and results.

## Replicability and upscaling

The experience of the Democratic Republic of the Congo has been widely used as a basis for replicating the satellite land monitoring system (SLMS) in other countries by developing the software according to specific needs. The same capacity-building materials and training practices were used, adapted to the local context (data, infrastructure, capacity). In order to effectively replicate the [SLMS practice](#) in other countries, a team of remote sensing and IT experts needs to be set up to ensure sustainability in terms of skills, data and maintenance. Examples of such SLMS platforms can be found in Africa, Asia and Mesoamerica, where FAO facilitated the creation of twenty web portals to disseminate forest-related geospatial data.

## Testimony

Benjamin Toirambe, General Secretary of the Ministry of the Environment and Sustainable Development, has stated:

*“The NFMS tools contribute to improving the management of our forests so that we could reduce the greenhouse emissions from deforestation and forest degradation. FAO plays a pivotal role in the capacity-building of our staff.”*

## Related resources

FAO, 2019. Programme de Finalisation et de Mise en Œuvre du Système National de Surveillance des Forêts de la République démocratique du Congo. Accessible at: [www.fao.org/3/ca4533fr/ca4533fr.pdf](http://www.fao.org/3/ca4533fr/ca4533fr.pdf)

## Results

- » The collaboration between DDD and DIAF and other relevant partners has been strengthened and a technical consultation platform ensures better coordination between partners. An inter-ministerial dialogue framework has been established to facilitate collaboration among relevant ministries.
- » Technical capacity of fifty-five DIAF officials (twenty for satellite monitoring, thirty for the national forest inventory (NFI) and five from the sustainable development unit) has been strengthened to detect and monitor land cover change, to acquire and process satellite images, to plan, design and manage NFIs, and to analyse data and construct a forest reference emission level.
- » Twelve training sessions have been held on the use of SEPAL, interpretation of reference points in Collect Earth, change detection and estimation of forest degradation with Google Earth Engine, the utilization of BFAST in SEPAL for time series analyses, use of high-resolution satellite images (Planet Labs data), NFI field data collection including soil analysis, and data management, and construction of the greenhouse gas inventory. FAO and the United States Forest Service collaborated in organizing a number of trainings.
- » Improved access to high-resolution satellite images has enabled more accurate estimates of GHG emissions. In 2018, a satellite monitoring system for the spatial development of commercial plantations was integrated into the country's NFMS, and in 2019 the country accessed high resolution satellite images of the its land area, fruit of collaboration between Planet Labs, Norway, FAO and the Democratic Republic of the Congo, along with seven other tropical forested countries.
- » A South-South Cooperation event between the Democratic Republic of the Congo and other African countries (Burkina Faso, Cameroon, the Republic of the Congo, Côte d'Ivoire and Madagascar) has strengthened the NFMS knowledge exchange network across the countries.
- » The NFMS data will enable the country to review its Nationally Determined Contribution articulating the country's climate action plan as part of the Paris Agreement. Estimates of GHG emissions and removals will be improved to enhance understanding of the impact of various projects.

The Democratic Republic of the Congo is a good example of the consolidation of NFMS geospatial data within FAO's Hand-in-Hand (HiH) Initiative, which aims to enhance transparency and focus on the eradication of poverty (SDG 1) and malnutrition (SDG 2). HiH is country-led and will utilize commercial, private, national, and subnational data sets and continue to integrate national and subnational data. The platform will be able to include cross-sectoral data (climate, soil, carbon, forests, fisheries, production) and other specific data collected on agriculture in the preparation of the fourth national communication to the UNFCCC.