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Update on REDD+ Program Activities in Sudan

This is an update on the ongoing activities related to the REDD+ program in Sudan, covering the period from 2023 until the present:

1. **Forest Reference Level Upgrade**
   With funding from the Green Climate Fund (GCF) through the Food and Agriculture Organization (FAO) in Sudan, the forest reference level was successfully upgraded from a *sub-national* to a *national* level. The new national FRL is disaggregated by states (subnational admin units), it includes additionally the REDD activity of forest degradation, dead wood pool and updated approaches/methods on activity data and estimation of emissions/removal as compared to the previous subnational FRL (2020).
2. **Capacity Building for the Taskforce**
   Sudan built capacities for future update of FREL/FRL. FRL taskforces composed of national experts from forest-related institutions has been established and well trained on forest reference emission level (FREL) approaches, methodologies and technical assessment. This included training on how to design the FREL/FRL (scale, scope and construction approaches), develop activities data using remote sensing approach such as stratified area estimate approach, to calculate emissions/removals associated with REDD+ activities such as deforestation, forest degradation and enhancement of forest carbon stock, as well as updating data on emission factors and other parameters.

3. Collaboration with the University of Maryland

As part of the FRL project, there was a plan to improve the NFI data and hence the EFs for estimating the FRL. The plan was based on the fact that there are gaps in Sudan NFI (2021) data, as about 20% of the planned Sample Units (SUs) could not be visited by the field survey team because due inaccessibility reasons

(security terrain). This situation results in a violation of the proposed sampling design of the NFI, thereby challenging strata-wise, state-level or any area- wide assessments in the country. The original plan of the project was to undertake field measurements from the unvisited SUs. However, because of the current war situation this was also not possible. Therefore, Sudan requested support from the University of Maryland through FAO to explore using the Global Ecosystem Dynamics Investigation (GEDI), to fill in gaps in the NFI data due to the un-visited sample units. Sudan FRL (2025) report contains information on this collaboration including description of the methodology used and estimates of aboveground biomass density (AGBD) by state. The methodology uses two sources of Earth Observation (EO) data – i.e. the GEDI data and the Forest Probability Map as auxiliary data to support the NFI. The EO datasets are calibrated to the visited NFI plots, in a geostatistical model. The EO datasets serve as layers that augment the NFI estimates of AGBD. The results thereby allow predictions of forest AGBD with negligible systematic error. Based on the EO-supported model-based predictions of AGBD revised EFs have been developed. The collaboration also included knowledge transfer and training of Sudanese experts on the geostatistical model and methods used.

4.Additional Context

- **REDD+ (Reducing Emissions from Deforestation and Forest Degradation)** is a global initiative under the UNFCCC aiming to combat climate change through forest conservation.
- The upgrade to a *national forest reference level* strengthens Sudan's ability to participate in results-based finance and increases transparency in its climate reporting.
- Collaboration with international institutions (like FAO and the University of Maryland) enhances technical capacity and data credibility.