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Farmers' and academia's views"

Status-quo of selected nationally determined contributions using spaceborne remote sensing – the case of West Africa

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Abstract

With the nationally determined contributions (NDCs), Parties of the Paris Agreement keep hold of the policy goals and measurements, which they consider essential for their nations' climate action plan toward reducing emissions and building climate resilience.

These NDCs must be communicated in a five-year cycle, which is an important step towards pushing ambitions and promoting transparent, evidence-based policy (EBP) making. Worldwide, governments use the EBP approach to shed light on policy impact, enhance policies' effectiveness and efficiency and promote policy coherence. Subsequently, EBP can be an important step toward tracking policy compliance, thus building trust and confidence among the parties involved in the Paris Agreement.

Monitoring the implementation and effectiveness of the NDCs is essential for successful EBP and tracking the progress towards meeting the internationally determined objectives of the Paris Agreement. However, a critical barrier to EBP is the lack of a comprehensive, spatially explicit, neutral policy monitoring and evaluation – a process that often involves financial and personal resources. The latter can constitute a non-negligible hurdle for developing countries, such as West African (WA) countries.

Space-borne remote sensing (RS) data provide valuable information about the physical earth's surface at different spatial and temporal scales and in an area-wide, systematic, and consistent manner. A further advantage lies in the availability of pre-processed RS products and information that can support decision-making, e.g., in land management. Further, products tailored explicitly to WA countries' needs (e.g., high-resolution vegetation structure and burnt area maps) are increasingly provided by regional research activities, such as led by the West African Science Service Centre on Climate Change and Adapted Land Use (WASCAL) and associated projects, such as the BMBF-funded WASCAL-DE-Coop. To this end, RS can be a valuable tool to complement monitoring systems in the realm of the Paris Agreement.

The present contribution aims at providing insights into the status-quo of WA countries regarding selected land-use related NDC goals in the agricultural and forest sector from an RS perspective. In this context, this study discusses potential conflicts between selected

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goals and provides insights into the capabilities and limitations of RS in the realm of the analysis.

Keywords: Earth observation, evidence-based policy, land-use , paris agreement