

# Blog “Sustainable Land Management in Sub-Saharan Africa: Improving livelihoods through local research”



## INTRODUCTION



Our blog is intended for project staff as well as interested stakeholders from science, policy and practice, to share experiences and mutually learn. It is an opportunity to showcase the multi-faceted nature in which we improve livelihoods and support sustainable land management through local research.

This blog, prepared by Charles Lamoussa Sanou, Leonard Akoba, and Kwame Oppong Hackman, shares insights from a recent COINS Project field mission conducted from January 20–25, 2025, in the Tolon District of Northern Ghana. The aim is to shed light on biodiversity monitoring efforts in the region and to share key findings with stakeholders involved in Sustainable Land Management (SLM). The blog summarises the biodiversity monitoring methods applied by the WASCAL team, highlighting their relevance and contribution to sustainable land use practices in smallholder farming systems.

## PROGRESS IN BIODIVERSITY MONITORING IN NORTHERN GHANA

### METHODOLOGY

Above and below ground biodiversity was monitored across three land use types: ISFM, conventional, and less disturbed landscape as a proxy of pristine area. Arthropods are central to the monitoring due to their role as indicators of ecological health across different landscapes, including the pristine and agricultural landscapes.



*WASCAL team in discussion with the field assistant on a burnt ISFM site*

## WASCAL TEAM FIELD VISIT

The team visited nine sites comprising three (3) less disturbed areas (proxy to pristine area), three (3) ISFM and three (3) conventional land-use areas to observe the conditions under which the biodiversity monitoring data was collected. Recommendations were made to the PhD fellow to thoroughly describe each site's characteristics, including climate, vegetation, and soil composition. Notably, the pristine (i.e., less disturbed) areas were found to be rocky, which makes them unsuitable for farming. However, they undergo anthropogenic activities such as livestock grazing, bushfires, and fuelwood extraction, which may impact biodiversity.



*WASCAL team and the PhD fellow in the middle in a less disturbed (i.e., pristine) land use*

*Photo of the WASCAL team and the two local supervisors.*



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## PHD FELLOW SUPERVISION TEAM MEETING

A productive exchange was held with local supervisors regarding the PhD fellow's current achievements. The research objectives and comprehensive methodology are discussed. In the perspective of enhancing the ongoing research, emphasis was made on underground biodiversity monitoring, with recommendations to extend the analysis to include soil micro-organisms beyond those visible to the naked eye. Additionally, the discussion focused on extrapolating ISFM results across larger areas where sampling had not been conducted, utilising satellite imagery. Finally, the team went to inspect the collected biodiversity data, discussed the sorting and counting process, and provided feedback to the student.

## LESSONS LEARNED

Fire burning was observed during the fallow period in both ISFM and conventional fields, indicating ongoing disturbance regardless of management practice. Additionally, the selected less disturbed area, used as a proxy for a pristine area, continues to experience disturbances from fire burning, livestock grazing, and fuel wood extraction.

## PHOTOS

Courtesy of WASCAL

## FOR FURTHER INFORMATION

Funded by the German Federal Ministry of Education and Research (BMBF), within the strategy of its platform [Research for Sustainability](#) (Forschung für Nachhaltigkeit, FONA), the **INTERFACES** project works with four regional projects – **COINS**, **DecLaRe**, **InfoRange** and **Minodu** – to strengthen the integration, coherence and reach in the area of sustainable land management.

## MEDIA

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