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Exploring the pathway to agroecological transition: Actors, practices and drivers and challenges

JOHN AWENVA¹, MICHELLE CHEVELEV-BONATTI¹, STEFAN SIEBER^{2,1}

¹*Leibniz Centre for Agric. Landscape Res. (ZALF), Sustainable Land Use Transformation in Developing Countries, Germany*

²*Humboldt-Universität zu Berlin, Thaeer-Institute of Agricultural and Horticultural Sci., Germany*

Abstract

The present global agricultural and food systems confront mounting challenges in addressing the escalating demand for food in the context of population growth and climate change. This has led to a resurgence of interest in agroecology as a potential solution for transforming the food system. This study aims to examine the diverse practices of agroecology, the key actors involved, and the driving factors or challenges of the agroecological transition in the northern region of Ghana.

The research used a mixed-methods approach that combined a survey of 95 farmers, a semi-structured interview with 9 stakeholders, a workshop with 23 participating stakeholders, and document analysis to collect data for this study.

The preliminary results revealed a multi-actor landscape, including government ministries, departments, and agencies; NGOs or civil society organisations; agricultural extension workers; farmers (smallholders and large-scale); academics/researchers; community leaders; and the local media are involved in the process of agroecology transition. Each actor plays a key role and brings unique knowledge, motivation, and resources in promoting agroecology in the northern region of Ghana.

Farmers in the northern region of Ghana have adopted several array of diverse agroecological practices. Common practices include crop rotation, intercropping, livestock integration into farms, the application of biopesticides, hand weeding (integrated pest management), the use of organic fertilisers, and local seed varieties. Uncommon agroecological practices include sustainable land management techniques such as mulching, composting, ridge creation, conservation tillage, cover cropping, and hedge planting. The findings indicate a reluctance among female participants to adopt conservation tillage, cover cropping, and hedge planting when compared to their male counterparts.

The transition to agroecology in northern Ghana is driven by the need for climate resilience, soil fertility, food security, and alignment with traditional agricultural knowledge. Support from government and civil society through subsidies and education has further encouraged adoption. However, challenges remain, including limited agroecological knowledge, erratic weather, and insufficient institutional backing. This study highlights the complexity of agroecological transition and the need for inclusive, context-specific governance. Future research should explore how actor networks influence the transition of agroecology in the region

Keywords: Agroecological practices, agroecological transition, northern Ghana, sustainable agriculture