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"Can agroecological farming feed the world?
Farmers' and academia's views"

Systematic integration of crops, shrubs, trees and livestock in the West African Sahel for resilient livelihoods (SustainSahel)

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Abstract

In the West African Sahel land degradation and soil erosion severely affect more than 80 % of range- and farmlands. In addition to social, economic, political and cultural drivers—such as unsecure land/tree tenure—land is degraded by ecological, agronomic, and biological factors such as heavy soil weathering, short rainy seasons, low and erratic rainfall, low biomass productivity and overgrazing. SustainSAHEL is a recently initiated (September 2020) Horizon 2020 funded project conducting biophysical and socio-economic research that can be used by the people of the West African Sahel to build capacity and develop networks to help them create sustainable dryland farming systems and viable (rural) livelihoods. The overall objective is to enhance the resilience and intensification potential of smallholder agricultural farming systems to climate change through scalable innovations on crop-shrub/tree-livestock (CSL) integration. Systems approaches are a core concept of SustainSAHEL and reflect the linkage of biophysical, socio-economic, cultural and political realities. SustainSahel is assessing adoption and scaling potential of improved CSL integration, while simultaneously optimising proven technologies, tackling socio-economic constraints for adoption and contributing to local economic revival. Investigations on CSL, are being conducted through 15 on-station and 80 on-farm experiments and demonstration plots across Senegal, Mali and Burkina Faso. We are investigating drought resistant shrub teams that are in synchrony with livestock requirements, and reduced tillage options that enhances the soil water capture and holding capacity. At the regional level, landscape modelling scenarios are analysing the promoted systems' resilience to climate change in West Africa. The first-year results from the field and on-farm experiments are currently being collected/analysed and some will be presented at this conference.

Keywords: Agroforestry, crop-shrub-livestock integration, soil health

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