The role of agricultural innovations for the re-greening of the Sahel

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Abstract

The Sahel region has over the past three decades experienced a greening trend, in terms of increased vegetation. After periods of droughts in the 1970s and early 1980s development agencies have invested considerably in agricultural projects in the Sahelian agro-ecosystems. Previous studies show that these projects’ promotion of the use of improved farming technologies such as za’i pits, stone lines and Farmer Managed Natural Regeneration have contributed to the greening trend. Using GIS mapping, this study explores the potential positive relations between these innovations and the re-greening of the landscape in the northern parts of Burkina Faso and south-western parts of Niger. By bridging research made on a micro-scale (local case studies) with macro-scale studies (remote sensing analysis) new perspectives are added to the discussion on the on-going greening trend in the Sahel.

The results do not indicate any coherent correlation between the spread of agricultural innovations and re-greening over the study area as a whole. However, some interesting differences were found between different sub-regions and the study has illustrated that despite the effectiveness of some types of agricultural intervention programs, any form of re-greening in the Sahel is indeed part of a complex process where other environmental factors as well as socio-economic dynamics do play a role in greening of the landscape and also to a potential enhanced long-term resilience in the region. Further comparative analysis with crop yields, land cover, precipitation patterns and demographic data is planned within the scope of this study to understand innovations’ possible manifestations and effects on current landscape changes. However, more in situ research is also necessary; to further build our knowledge around what the role of agricultural innovations may have for the resilience of the Sahel.

Potential session to be included in:

Harnessing the potential of innovations for food system resilience in the Global South: Research insights from South Asia and Sub-Saharan Africa

Keywords: Re-greening, agricultural innovations, agro, ecosystems, Sahel, Burkina Faso, Niger, resilience, desertification

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