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Dynamics and Heterogeneity in African Farming Systems: Strategic Niche Management? Or the (De)Fault of Poverty?

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Abstract

Systematic analysis of smallholder farming systems across a wide range of agroecologies in Africa (see http://www.AfricaNUANCES.nl) reveals some intriguing patterns. Strong heterogeneity in soil fertility exists within very small farms. The breadth of organic C and N contents found across a whole region on a given soil type can be seen within a single farm across a distance of only 100 m! Such variation in crop productivity and soil fertility has been attributed to the intentional creation of heterogeneous conditions by farmers as a strategy for managing niches under risky rainfall environments. But an alternative explanation exists: that the commonly observed gradients in crop productivity and soil fertility are the inevitable result of resource scarcity. Recent evidence from studies in East and southern Africa will be presented that demonstrates the simultaneous degradation and conservation of soil fertility by farmers in different fields. Those listening will be invited to decide whether the human-induced heterogeneity in land quality described is the result of strategic niche management or the default of poverty.

Keywords: NUANCES, soil fertility

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