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"Reconcile land system changes with planetary health"

## Embedding circular economy principles in agricultural policy: case studies from southern Africa

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## Abstract

Rapid land use change in Southern Africa is intensifying pressure on ecosystems and rural livelihoods, requiring innovative strategies to ensure sustainable agriculture. Circular economy principles – such as recycling organic waste and nutrient cycling – offer a promising approach to reconcile agricultural productivity with environmental sustainability. This study investigates how these circular approaches can be operationalized in agricultural policy, focusing on case studies in Tanzania, Mozambique, and Zimbabwe. A multicountry qualitative case study design was employed, combining policy document analysis, key informant interviews, and evaluation of three circular agriculture pilot sites. A policy coherence diagnostic tool was used to benchmark national policies against regional and global sustainability frameworks, including the Comprehensive Africa Agriculture Development Programme (CAADP) and the African Continental Free Trade Area (AfCFTA). Results reveal that current agricultural policies in the three countries only marginally integrate circular economy principles, particularly in areas like organic waste management and nutrient cycling. However, pilot initiatives demonstrated tangible benefits: they improved soil fertility, contributed to food security by reducing post-harvest losses, and increased smallholder incomes, thereby advancing economic inclusion. Drawing on these insights, the study proposes a coherent policy framework to mainstream circularity in agriculture, aligning national strategies with continental commitments for agroecological resilience and economic transformation. These findings underscore the potential of embedding circular economy practices into agricultural policy to foster sustainable land management and livelihood security. By highlighting both policy gaps and on-the-ground successes, the research provides actionable guidance for policymakers. The proposed framework directly supports Tropentag 2025's theme of "Reconciling land system changes with planetary health" by illustrating how circular practices can promote ecological resilience, conserve resources, and build inclusive climate-smart food systems.

**Keywords:** Agricultural policy, agroecology, circular economy, policy coherence, soil health, southern Africa

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