

Shifting agro-ecological zone boundaries under climate change at country scale in Africa



Key details

Location

Africa

Duration

Start Apr 2024

End Dec 2024

Budget

AUD 400,000

Commissioned organisation

Commonwealth Scientific and Industrial
Research Organisation

Partners

Commonwealth Scientific and Industrial Research Organisation; South Australian Research and Development Institute; University of Twente

Project Leader

Dr Uday Nidumolu

Program

Crops

Project code

CLIM/2024/104



Overview

This small research activity aims to provide ACIAR and its partner countries in Africa with a finer-scale, sub-national understanding of where the boundaries between agropastoral and pastoral agroecological zones are likely to shift under climate change scenarios.

African agriculture is already significantly affected by anthropogenic climate change with a trajectory of worsening impacts, resulting in potential changes in cropping margins. In the dry marginal areas, large season-to-season rainfall variability already results in substantial agricultural production risks, and as rainfall variability is projected to increase into the future, these risks will likewise increase. Research has found that changes in the agropastoral-pastoral margin across Africa will reduce the area of land that is climatically suited for productive agropastoral practices. However, the continental-scale analysis performed to date is too coarse in terms of spatial resolution to provide relevant insights that help local and country governments to plan for action.

The project will use datasets to translate continental-scale analysis to a regional relevant scale. This improved spatial scale should be helpful to inform

policy in ACIAR partner countries. This project also provides an opportunity to use novel Australian research to better understand the impacts of climate change at finer scales and inform a place-based regional strategy in Africa.



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