

Project Summary

Title	Assessment of spatio-temporal redistribution of major crops and livestock mobility due to climate change and variability in Uganda
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Purpose	The main objective is to enhance the resilience of agro-pastoral based communities in mitigating present and future climate change impacts.
Project Summary	Climate change is the major challenge to world human development and ecological well-being. Recent climate change studies point Uganda as one of vulnerable country. However, vulnerability is a spatio-temporal variable and its severity is driven by environmental factors and limited range of adaptation options. The objective of this action are therefore to (i) downscale the best General Circulation Models (GCMs) predictors of Uganda climate, (ii) determine possible climate change and variability forced spatio-temporal redistribution of important crops in the hot spot areas, (iii) determine the potential livestock mobility scenarios due climate change, and (iv) determine the adaptive capacities of the agro-based communities to climate change. Qualitative, quantitative and modeling approaches will be used in this study. Two GCMs will be tested and the best will be downscaled using Empirical Refining Model generated from existing meteorological data. The effect of climate change on the suitability rating of the

	major crops, and best re-distribution, and the livestock mobility scenarios will be investigated. The change in suitability rating will be done using multi-criteria analysis function in ILWIS 3.4 software, and the livestock mobility will be simulated using the Pastoral Livestock Movement Model. Adaptation responses to climatic stress will be assessed through household and key informant interviews of the different livelihood groups. Among the outputs of this project include the map of hotspots areas, ex-ante factor rating of important crops, and livestock mobility scenarios, ex-ante contingency plan to enhance the resilience of agro-based communities, one MSc trained in climate change modeling, and 3 peer review papers.
Country and Specific Location(s)	Uganda
Participating Institutions	Kawanda Agricultural Research Institute
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