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“Can agroecological farming feed the world?
Farmers’ and academia’s views”

Adoption of technologies to increase the resilience of smallholder farmers in Zambia

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Abstract

The smallholder farmers are facing various challenges related to climate change. Low productivity, and food insecurities are on the rise due to crop failure, mainly caused by floods, drought, and pests. The soil and land are in a deplorable state. Climate Smart Agricultural Technologies (CSAT) such as conservation farming has been introduced to the farmers by both the public and private sectors. But to what extent have these technologies enhanced resilience, improved agricultural productivity, reduced food insecurities, increased household incomes, and the continued support for rural livelihoods, remains the question? I intend to investigate the CSAT promoted and practised by the farmers and how the knowledge transfer has been executed by the public sector, private sector and the civil society as actors involved. Further, will investigate soil and precipitation as factors of crop production. Investigations will help to create a compounded, grounded theoretical base which we shall use to investigate the food security, perception, and adoption rate of the technologies. Two econometric models will be developed, one will assess the effect of internal and external factors on farmers’ decisions on practices whilst the other model will be for the prediction of the short- and long-term benefits (and costs) of the adoption of CSAT, putting into consideration the food security at the household level. A questionnaire survey will be used to collect data from selected districts of Southern and Western provinces. These areas are purposely selected because they fall in the agroecological zones I and II that have rainfall below 1000 mm and are areas most hit by droughts and floods, with agriculture still the mainstay for the locals. Two kinds of qualitative interviews and focus group discussions will be conducted focusing on the local stakeholders at the community level and stakeholders promoting CSAT at the regional and national levels. This study will ultimately help the national government and other stakeholders have a clear picture of the status core and enhance the development of strategies to reduce climate risk and vulnerability with the promotion of regional tailored use of green, sustainable technologies whilst addressing the devastating hunger and food security situation.

Keywords: Climate change, climate smart agricultural technologies, crop productivity, food security, precipitation, soil