



Tropentag, September 14-16, 2022, hybrid conference

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

Adoption of conservation farming practices for sustainable rice production among small-scale rice farmers in Barotse floodplains in western Zambia

MAKUMBA KASONDE¹, VRAJ URESHKUMAR THAKAR², WILLIAM NKOMOKI³, VLADIMIR VERNER⁴

¹*Czech University of Life Sciences Prague, Faculty of Tropical AgriSciences, Czech Republic*

²*Czech University of Life Sciences Prague, Faculty of Tropical AgriSciences,*

³*Czech University of Life Sciences Prague, Fac. of Tropical AgriSciences; Dept. of Economics and Development, Czech Republic*

⁴*Czech University of Life Sciences Prague, Fac. of Tropical AgriSciences, Czech Republic*

Abstract

Conservation farming practices (CFP) provide various economic, social, and cultural benefits to the welfare of small-scale farmers and contribute to the sustainable rice supplies for 3.5 billion people that depend on this crop at a global level. Additionally, the use of CFP also contributes to combating climate change. Rice represents a traditional crop for many African countries, including Zambia, where one of the most important production areas is the Barotse floodplains at the upper watershed of the Zambezi river. Local farmers plant traditional and improved rice varieties, taking advantage of their particular characteristics. Nevertheless, population pressure, structural changes and commercialisation tendencies endanger the sustainability of local rice farming systems. The most important aspect for the farmers is to have a positive attitude toward the environment in their daily farming practices to produce good quality and environmentally friendly rice. Thus, the study aims to provide an overview of policy papers and current development efforts in western Zambia towards sustainable rice production and document which local rice varieties farmers prefer and what conservation techniques are applied for particular rice varieties. Moreover, the main drivers and barriers to the adoption of sustainable practices will be identified as well. Data for the first aim were collected through the relevant internet sources and government institutions, and data on profitability, perceptions and sustainable practices through key-persons interviews, focus group discussions, and household surveys among rice farmers in six districts of Barotse floodplains. Results show that farmers are using a wide range of rice varieties, traditional and improved, to deal with weather conditions, meet food security and reach the market. Nevertheless, despite the promotion of conservation and sustainable practices, the adoption rate remains rather low.

Keywords: Adoption barriers, climate change, cooperatives, profitability, rice varieties