

## THE RISE OF SOYA IN ZAMBIA AND THE INTEGRATION OF SMALLHOLDER FARMERS

### INTRODUCTION

After six decades of policy experimentation, and efforts to promote economic diversification and reduce the country's over-reliance on copper mining, Zambia has failed to fully capitalise on the country's agricultural potential (Neubert et al 2011). Endowed with agricultural land which accounts for 32% of the 75 million hectares of total land area, the landlocked country also boasts abundant water resources and favourable agro-climatic conditions (Zambia Development Agency 2015). While the significance of smallholder agriculture for food production and rural livelihoods has been consistently emphasised in Zambia's agricultural policies since independence (Eidsvoll 2011, Davies et al 2015), the narrative of resource abundance in policy thinking has equally maintained an agricultural-growth outlook which gives priority to large-scale commercial farming. This policy approach, along with global concerns about dwindling resources in the face of population growth and a growing demand for food and energy, has established renewed investor interest in Zambia's food and agriculture sectors (Scoones et al 2016, Hall et al 2015).

Large-scale land acquisitions for commercial farming and corporate investments in agricultural value chains have led to rapid changes in land-use patterns, and the rise of 'flex crops', particularly soybean. These are crops and commodities with multiple uses (food, feed, fuel, industrial materials, etc.) that can be sold in multiple markets (Borras et al 2016).

The promotion of soybean production across Southern Africa in recent years can be linked to a broader international soya complex, consisting of soya beans, soybean oil (a key fat ingredient in industrial food manufacturing) and soybean meal (used for food and animal feeds). As one of the most heavily-

### KEY POINTS

- Increasing levels of private investment in Zambia's maize-dominated agricultural systems in the past decade have resulted in the rise of flex crops as shown by the rapid expansion of the cultivation of soybean (locally referred to as soya beans).
- The promotion of high-input, intensive agriculture is restructuring the agro-food systems on which rural households depend.
- The integration of smallholder farmers into expanding long and short soybean value chains has led to significant changes in access to and use of land, and decreased crop and food diversity.

traded commodities in the world, global soybean production has expanded at an average rate of 4.8% since 1990, with 71% of growth attributed to additional harvested hectares in land area while the other 29% has come from higher yields.<sup>1</sup> While production remains geographically concentrated, with four countries - Brazil, USA, Argentina and China - accounting for 90% of the global output, soybean production across Southern Africa is growing rapidly as a result of increased corporate investment in production technology and input supply, primary production, processing and market development (Gasparri et al 2015).

<sup>1</sup> Data was retrieved from the USDA's Foreign Agricultural Service Production, Supply, and Distribution database from 1990 to 2016. See: Widmar 2017

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In addition, growing demand from the livestock sector, propelled by the rapidly growing animal-feed-to-poultry value chain in particular, has been an important driver of expanding soybean production across the region. As the second-largest soya producer in Southern Africa<sup>2</sup>, Zambia registered a significant output increase as more and more smallholders started to engage in soybean production (Chapoto and Chisanga 2016). Growing corporate influence in Zambia's agricultural value chains has raised concerns, however, about rural people's access to and control over land and other natural resources, and the impact of new production practices on how rural households produce and access food. From a policy perspective, it is important to consider the implications of an agricultural commercialisation pathway that promotes capital-intensive, high-input, intensified agriculture for rural food systems and agrarian-change trajectories.

This policy brief aims to engage in broader debates around the rise of flex crops, particularly soya, in the context of increasing levels of agro-investment in Zambia and across the region. It provides a summary of findings from a study on the implications of the participation of smallholder farmers in the soybean value chain in the country.

## THE RISE OF SOYA

Initial investment in soybean production in Zambia has contributed to the increase of the number of large-scale commercial farms with the establishment of new grain plantations such as Amatheon Agri, which acquired 40,000 hectares in 2012, and the growth of existing estates such as Zambeef Products PLC in 2009. Both Amatheon Agri and Zambeef Products PLC produce maize and soybean primarily. Zambia's Farm Block Development Programme, which was relaunched in 2008<sup>3</sup>, has been an important vehicle for advancing government's two-pronged agricultural strategy that sets out to promote large-scale agriculture and upscale small-scale commercial farming. Through the farm block initiative, government has identified an area of no less than 100,000 hectares per block in the country's ten provinces to promote investment in large-scale, irrigated commercial farming which will operate alongside smallholder farmers who grow the same crops in order to facilitate the transfer of technology and skills to smallholders (Matenga and Hichaambwa 2017). Smallholder farmers have been integrated into the soybean value chain



*Processed soya pieces manufactured in Lusaka.  
Image credit: Refiloe Joala*

through outgrower schemes, which involve contracts with companies that buy their crops, including the grain plantations in the farm blocks, and traders.

Beyond large-scale land acquisitions and outgrower schemes for soya, however, corporate interests in Zambia's soya market can be traced across the soybean value chain from inputs and mechanisation to primary production, processing and transportation, and link into the soybean oil and soya meal markets that form part of the 'larger soya complex' (Mckay and Colque 2015), which is driven by domestic, regional and international corporate financial interests. The integration of smallholders in the soya value chains has been largely driven by international not-for-profit organisations and non-governmental organisations (NGOs) in partnership with financial institutions, agribusiness, national and local government departments and farmers' interest groups.

<sup>2</sup> According to the 2017 World Markets and Trade report on oilseed by the Foreign Agriculture Service of the United States Department of Agriculture, South Africa was the largest soybean producer in sub-Saharan Africa for 2016, followed by Nigeria, Zambia and Uganda. See: Sihlobo 2018

<sup>3</sup> Zambia's farm blocks can be traced to the colonial era during which large farming estates were set aside for European settlers. See: Matenga and Hichaambwa 2017



Grain trader in Mumbwa district. Image credit: Malikana Chewe



Omnia Fertilizers, Mumbwa district. Image credit: Refiloe Joala

## DO SMALLHOLDER FARMERS BENEFIT FROM SOYA?

Soybean production among smallholder farmers has been promoted using demonstration fields aimed at training farmers in the use of a range of chemical inputs and equipment to increase their yields. Conservation farming has been a key strategy in the development programmes being implemented by not-for-profit organisations and NGOs with support from local government departments to integrate smallholder farmers into the expanding soya bean value chain. In order to facilitate smallholder farmers' access to inputs for intensified agriculture, international NGOs such as World Vision and not-for-profit organisations such as TechnoServe<sup>4</sup> and NCBA CLUSA<sup>5</sup> work in collaboration with agribusiness to bring the supply of inputs closer to farmers in rural areas through locally-based agro-dealers and retail agents, and financial institutions to improve access to input credits.

Although government's adoption of its conservation agriculture policy in 2000 was premised on the promise of soil conservation, sustainable agriculture and improved farm productivity among smallholder farmers (Chompolola and Kaonga 2016), the practice of conservation agriculture in Zambia can be correlated with input-induced, agricultural intensification among smallholders. National statistics show a higher rate of herbicides, pesticides and synthetic fertiliser usage on fields under conservation agriculture tillage compared to other fields (Westengen et al 2018). Farmers' participation

in the soybean value chain presents them with new constraints in the form of increasing production costs and debt acquired through input credit facilities, with interest rates ranging between 20% and 30% for smallholder farmers to sustain higher yields and secure participation in markets over which they have no control (Taylor 2015).

## CONCLUSION

Analysis of the soybean value chain in Zambia reveals that the participation of smallholder farmers presents complex outcomes that often disadvantage farmers. The main benefit of soybean production among smallholder farmers is in the form of cash income.

The rise of soybean as the major cash crop for smallholder farmers and input-induced agricultural intensification has led to the restructuring of the agro-food systems on which rural people depend. High-input, intensified farming practices have made farming more capital-intensive as farmers attempt to improve their soybean yields in order to sustain higher household incomes. This exposes farmers to new constraints and pressures that leave them indebted and dependent on credit facilities in order to participate in the soybean value chain. The promotion of rotational cropping and the increased use of pre-emergence herbicides for soybean production has displaced traditional shrubs and crops that typically grow beside staple and cash crops. This has resulted in reduced crop and food diversity among smallholder farmers.

<sup>4</sup> TechnoServe is a nonprofit organisation operating in 29 countries that works to link people to information, capital, and markets. See: TechnoServe 2018

<sup>5</sup> Formally known as the Cooperative League of the USA (CLUSA), the National Cooperative Business Association, CLUSA International (NCBA CLUSA) is the oldest not-for-profit cooperative development and trade association in the United States. See: NCBA Coop 2018

## RECOMMENDATIONS

- 1 The national agricultural budget should be geared towards research and development for agro-ecological alternatives to chemical inputs and capital-intensive agrarian practices, such as crop-rotation diversity.
- 2 Public-private partnerships must place greater emphasis on developing appropriate technologies, including rainwater harvesting and renewable energy, in order to improve productivity levels and drive sustainable agriculture growth.
- 3 Government must play a lead role in facilitating the development of the market infrastructure in order to improve farmers' access to markets for a wider range of agro-commodities, and drive crop diversity among smallholder farmers.

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