




Changing agro-food systems

The impact of big
agro-investors on
food rights

CASE STUDIES IN MOZAMBIQUE AND ZAMBIA

Refiloe Joala | Phillan Zamchiya | Clemente Ntauazi | Patrick Musole | Ceasar Katebe



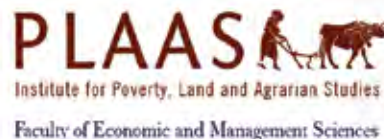
PLAAS 
Institute for Poverty, Land and Agrarian Studies
Faculty of Economic and Management Sciences

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Preface

This book presents case studies on changing agro-food systems in Southern Africa within the context of large-scale land-based and agri-business investments. By capturing the testimonies of local people in rural settings, with a particular focus on small-scale farmers, it aims to provide vivid accounts of the micro-level changes underway in agro-food systems in Southern Africa, and to reflect the experiences and perspectives of local people.

The book is an outcome of action research undertaken by the the Institute for Poverty, Land and Agrarian Studies (PLAAS) of the University of the Western Cape, South Africa, in partnership with civil society organisations (CSOs) in Mozambique and Zambia, namely Acção Académica para o Desenvolvimento das Comunidades Rurais (ADECURU) and Zambia Land Alliance (ZLA) respectively.

In addition to documenting the processes of change underway on the ground, our joint project – Agri-business in Africa and the Right to Food – entailed action research. This meant engaging critically with small-scale farmers to strengthen their understanding of the wider impacts of land-based and agri-business investments and, in this sense, drawing links between small-scale farmers’ struggles over the control and access to productive resources and the right to food, and promoting a more robust public debate about agro-food system changes.

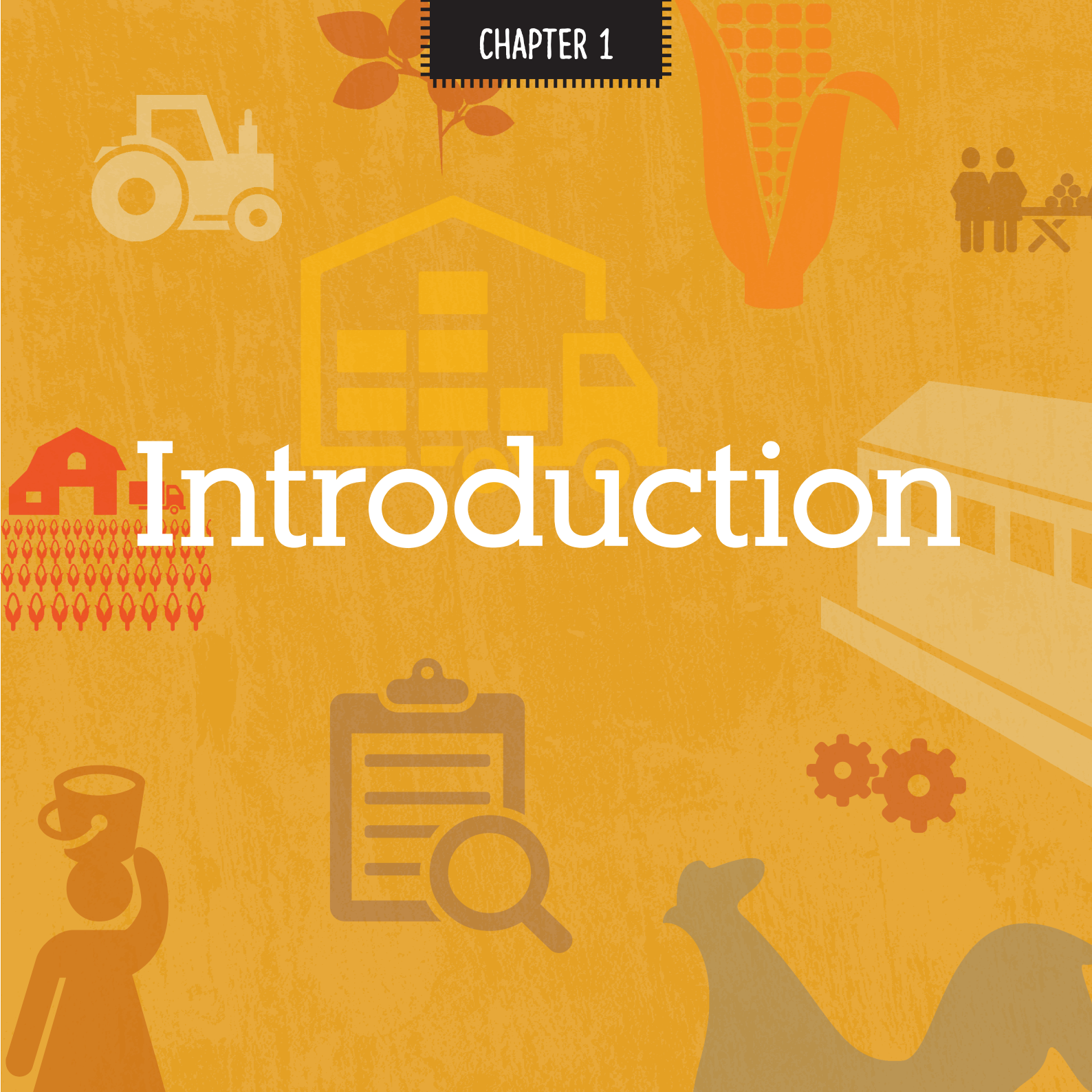
This project is a response to the need to understand, and generate knowledge and effective partnerships to respond to the rapid changes underway in African agro-food systems. Therefore, we hope that the case studies and the experiences and responses recorded in this book will be useful to CSOs, social movements, farmers’ organisations and policymakers, and begin an important discussion about agro-food system change in rural and agrarian communities in the region. Packed with accessible information, we hope that this book can be used in training and workshops about changing agro-food systems in the region and strengthen advocacy for the promotion of the right to food.

Refiloe Joala, Phillan Zamchiya, Clemente Ntauzi, Patrick Musole and Ceasar Katebe
Cape Town, Harare, Maputo and Lusaka
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List of Abbreviations

AGRA	Alliance for a Green Revolution in Africa	NAFSN	New Alliance for Food Security and Nutrition
AU	African Union	NAIP	National Agriculture Investment Plan
ADECRU	Acção Académica para o Desenvolvimento das Comunidades Rurais	NGO	Non-governmental organisation
CAADP	Comprehensive African Agriculture Development Programme	PEDSA	Plano Estratégico para o Desenvolvimento do Sector Agrário
CESCR	Committee on Economic, Social and Cultural Rights	PLAAS	Institute for Poverty, Land and Agrarian Studies
CLUSA	Cooperative League of the United States	PNISA	National Investment Plan for the Agrarian Sector
DUAT	Direito do Uso e Aproveitamento da Terra	SNDP	Sixth National Development Plan
EIA	Environmental Impact Assessment	SUN	Scale Up Nutrition project
FISP	Farming Input Support Programme	USAID	United States Agency for International Development
FQM	First Quantum Minerals	WFP	World Food Programme
FAO	Food and Agriculture Organisation of the United Nations	ZDA	Zambia Development Agency
FRA	Food Reserve Agency	ZEMA	Zambia Environmental Management Authority
FDI	Foreign direct investment	ZLA	Zambia Land Alliance
FtF	Feed the Future	ZNFU	Zambia National Farmers Union
IFC	International Financial Corporation		
KML	Kalumbila Minerals Limited		

Introduction



MAP OF SOUTHERN AFRICA



This book presents case studies that offer some insights into the rapid process of change underway in African agro-food systems, and in Southern Africa in particular, within the context of land-based and agricultural investments. These testimonials were gathered as part of exploratory research aimed at investigating how increasing levels of investment are restructuring agro-food systems and the implications of these changes on how people produce and access food.

Therefore, we do not claim to present conclusive evidence of the impact of agri-business on local agro-food systems in the region, but rather, we argue that increasing levels of land-based and agricultural investments in Mozambique and Zambia have led to the reconfiguring of the input supply framework, the reshaping of local farming systems and the restructuring of market infrastructure – what we characterise as agro-food systems. The increasing levels of investment are affecting different people in different ways. The case studies presented in this book show the wider impact of these investments on rural livelihoods, household food security and local food environments.

Some of the key questions that emerged in this research relate to the positioning of small-scale farmers in these new and expanding agro-food commodity value chains, the relationships between small-scale farmers and other actors in these agro-food value chains, and how changing ‘food environments’ at the local level affect people as both producers and consumers.

KEY CONCEPTS

Agro-food systems:

The FAO describes agro-food systems as ‘the set of activities which combine to make and distribute agri-food products, and consequently act to meet human nutrition needs in a particular society.’ (FAO 2009:16)

Similarly, **agro-food systems** can be understood as ‘the set of institutions, activities and enterprises that collectively develop and supply material inputs into the farming sector’s production of primary commodities, as well as handle, process, transport, market and distribute food and other non-food agro-products to consumers.’ (Caiazza 2012)

Furthermore, Pareira (2014: 3) aptly asserts that the provision of food through food systems should not be viewed as linear processes, but rather as the contested outcomes of a complex system.

Food security and the right to food

The three main elements of the right to food and food security central to our research are availability, adequacy and accessibility (De Schutter 2014).

Food security approaches and gaps

There are several different working definitions of food security, however almost all the definitions outline four key factors: availability of food, access to food, stability of food supply and food uses. Currently, the Food and Agriculture Organization (FAO) of the United Nations uses the following description:

“ FOOD SECURITY EXISTS WHEN ALL PEOPLE, AT ALL TIMES, HAVE PHYSICAL, SOCIAL AND ECONOMIC ACCESS TO SUFFICIENT, SAFE AND NUTRITIOUS FOOD WHICH MEETS THEIR DIETARY NEEDS AND FOOD PREFERENCES FOR AN ACTIVE AND HEALTHY LIFE. ”

The opposite, food insecurity, occurs when there is a lack of reliable access to adequate, affordable and nutritious food. However, food security approaches that are reflected in agricultural development policies tend to place emphasis on the supply of food and calories consumed per capita (Burchi and De Muro 2016) and are silent on the nature of the power relations in food

regimes and systems at the international and national level, which are shaped largely by private sector actors. At the local level, food environments in markets are central determinants of what makes the average food basket and, ultimately, what ends up on people's plates. Food security approaches tend to emphasise the crucial role of the private sector in the fight against hunger without particularly defining the responsibility of the state in ensuring the accessibility, adequacy and availability of food (Windfuhr and Jonsen 2005). The right to food squarely places the responsibility for the realisation of the right to food on states as duty bearers.

What is the right to food?

In 1999, the right to food was interpreted by the Committee on Economic, Social and Cultural Rights (CESCR) in General Comment 12, which establishes that:

“ THE RIGHT TO ADEQUATE FOOD IS REALIZED WHEN EVERY MAN, WOMAN AND CHILD, ALONE OR IN COMMUNITY WITH OTHERS, HAS THE PHYSICAL AND ECONOMIC ACCESS AT ALL TIMES TO ADEQUATE FOOD OR MEANS FOR ITS PROCUREMENT. ”

The right to food therefore obliges states to facilitate access to productive resources, including land, water and seeds, with special emphasis given to the rights of the most vulnerable persons and groups, including women and indigenous populations (Golay 2009).

The realisation of the right to food relies on two important components: (i) control over means of food production and the sale of agricultural output, and (ii) capacity to purchase food (Twomey et al 2015). The former relates to access and control over productive resources, inputs, as well as access to markets and ability to influence prices. The latter refers to the availability and accessibility of food, and access to income in order to purchase food.

Right to Food



Food availability: Focuses on the 'supply side' and broadly refers to having enough food stocks, whether obtained through one's own production or by the purchase of food from markets.



Food adequacy: Relates to the nutritiousness and cultural appropriateness of food that one can obtain either through one's own production or market purchases.



Food accessibility: Addresses the physical and economic capacity to obtain food.

Realising the Right to Food



Access to and control over means of production of food and the sale of harvested crops.



Access to and control over the process of purchasing food.

The tables above draw on the work of Twomey et al 2015.

Small-scale agriculture remains an important source of employment, income and food in the region. Control over resources for agricultural production and the sale of agricultural output means that farmers can determine what to grow and, more importantly, how much to reserve for household consumption and how much to sell to earn income



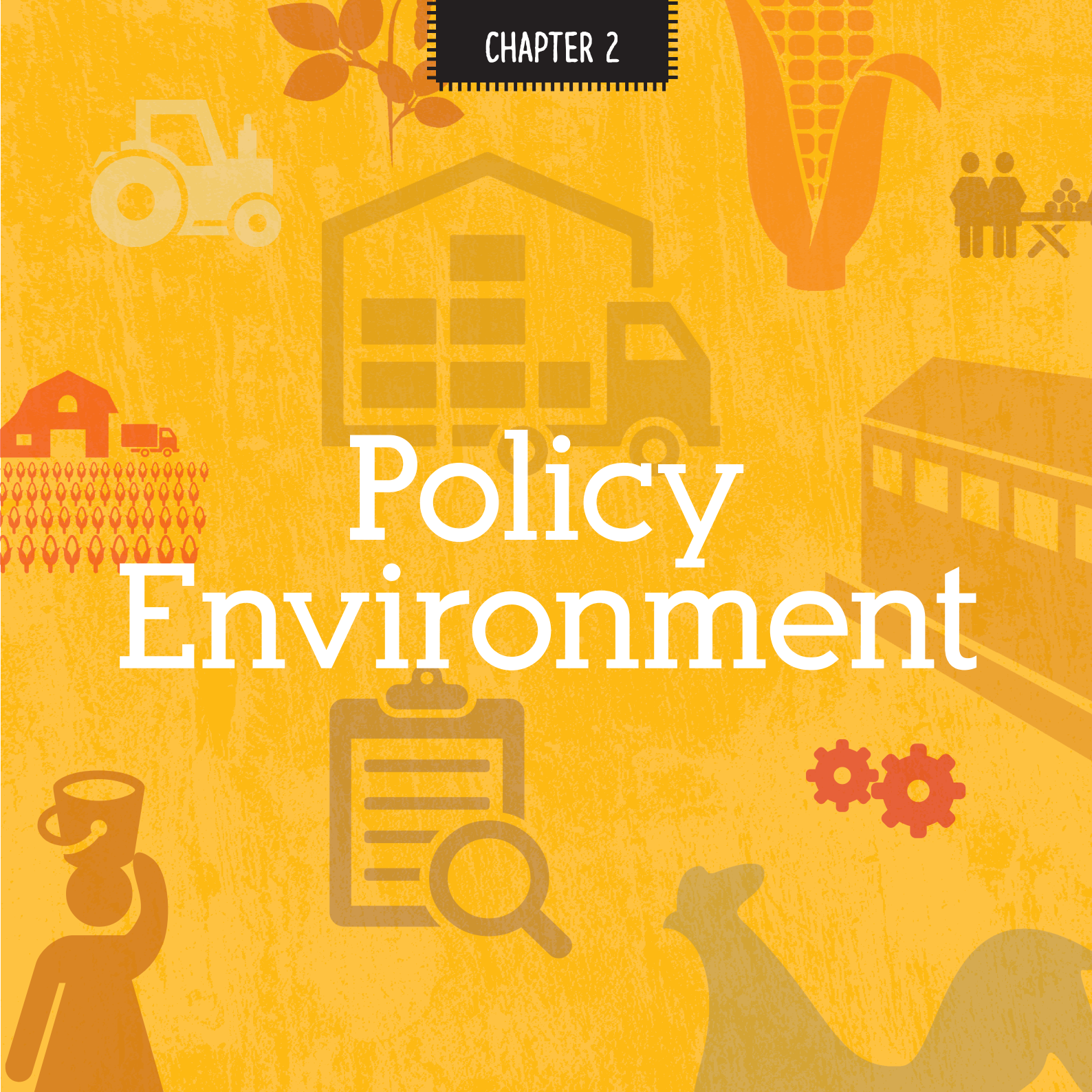
Small-scale farmer harvesting pumpkins in her field, Big concession, Mumbwa district

for meeting household needs and supplementing their diets. Access to and control over the purchasing process is becoming more important in rural areas across the region with the growing availability of cheaper food and changing agrarian livelihoods (Bernstein 2010). The nature of food environments is important in the purchasing process. As such, we find that both channels for ensuring food availability, accessibility and adequacy are bound to be affected when transformations occur in local agro-food systems as a result of land-based and agricultural investments in the region.

Food security and poverty reduction policy priorities are touted as the central motivation for large-scale land and agricultural investments. In such investments, the transfer of land and other natural resources are facilitated

by governments in land-rich countries promoting and supporting land-based investments for the development of 'surplus' (unused or underused) land, and governments in finance-rich countries responding to a growing domestic demand for food (Headey et al 2010). The process of change in agriculture, and more specifically in agro-food systems, is therefore taking place within a policy environment that is promoting a food security strategy that rests on large-scale domestic and foreign investment in agriculture. It neglects the role and agency of small-scale farming through initiatives that tend to only privilege farmers who are already producing higher yields and farmers who have better access to resources and inputs.

Policy Environment



Dubbed as the 'last frontier' in global food and agricultural markets by the World Bank, African countries are now seen as an investment destination for resources and new markets. While extractive industries have traditionally been a major attraction for foreign investors in Africa, the recent wave of land acquisitions has distinctly targeted agricultural ventures, which account for 70% in terms of land size acquired by investors and 65% of the number of officially recognised land deals in Southern Africa (Anseeuw et al 2009). The mainstream approach for investment in the agriculture sector tends to focus on modernising Africa's agrarian structure to facilitate public and private investment in increasing agricultural production and productivity.

The recent wave of large-scale land-based investments across the developing world, with the largest transactions in terms of scale witnessed in Africa (Anseeuw et al 2012), has been widely attributed to the recent food and financial crisis (Hall 2011). In such instances, whereby the brokering of land deals takes place under the ambit of government-to-government development agreements and partnerships, this also demonstrates that land deals fundamentally differ from traditional foreign direct investment (FDI) in that they are resource-seeking (Hallam 2010). With the entry of new actors in the sector, African agriculture is undergoing deep transformations in which the interests and influence of corporations involved in land deals is not limited to the transfer of land but includes the acquisition of actual production as opposed to looser forms of joint venture (Hallam 2010).

Furthermore, government-to-government agreements

have played a particularly significant role in the establishment of a range of new initiatives involving both private and public actors, including, among others, the G8's New Alliance for Food Security and Nutrition (NAFSN), the US government's Feed the Future (FtF) initiative building on USAID programmes in the past, and the Alliance for a Green Revolution in Africa (AGRA). These programmes seek to address food insecurity primarily through increasing agricultural production and agri-business investment in food value chains. These initiatives are being aligned with the Comprehensive African Agriculture Development Programme (CAADP) of the African Union (AU). Upon adoption in 2003, the CAADP set out two goals for African agriculture: (i) the pursuit of 6% average annual growth in agriculture at national level, and (ii) the allocation of 10% of national budgets to agriculture.

Global, regional and national agri-businesses have responded strongly to this new orientation to African agriculture. Reardon et al (2015) claim that African food markets have expanded six- to eight-fold in the past 40 years, with most of that growth occurring in the past two decades.

Agricultural policy and food security in Mozambique

The agriculture sector in Mozambique accounts for a quarter of GDP and 20% of exports, and has been a key driver of economic growth in recent years (Kalaba et al 2011). Agricultural policy has been influenced and



Man transporting wood on a bicycle outside the town of Gurúè

driven by a number of strategies and plans that have provided the structure and direction for development in this sector. To improve productivity levels and aggregate output in the agriculture sector, the government adopted the Green Revolution Strategy in 2007. In short, the Green Revolution Strategy is a model for agricultural development that hinges on a package of technologies including 'improved' or hybrid seeds, use of synthetic fertiliser, irrigation and consolidation of land credit, as well as access to markets (Greenberg 2015). The agricultural policy framework is based on the Strategic Plan for the Development of the Agricultural Sector (Plano Estratégico para o Desenvolvimento do Sector Agrário) (PEDSA). PEDSA lays out the vision for the sector by identifying strategic areas of focus in line with the CAADP. Mozambique signed the CAADP Compact in December 2011. PEDSA is a ten-year plan from 2010 to 2019 set to be implemented in five-year programmes, with the first five-year plan for the 2010–2014 period aimed at harmonising sectoral activities in land, water and forest use. The second five-year programme from 2015 to 2019 is aimed at ensuring food security and improving farmers' access to markets. Alongside this, the government developed the National Investment Plan for the Agrarian Sector (PNISA) in 2012. The PNISA lays out the visions for the agriculture sector based on two key policies and strategy documents, namely the Government Five-Year Programme (PQG, 2011–2014), and the Action Plan for the Reduction of Poverty (2011–2014).

In 2009, the government of Mozambique established the District Development Fund, through which government

allocated 7 million meticals (which roughly amounted to \$300 000 at the time) to each of the country's 128 districts. The fund was created to foster economic development at the local level by providing citizens with access to credit (Hanlon 2015). In 2013, Mozambique joined the G8 New Alliance for Food Security and Nutrition (NAFSN), a public-private partnership commitment launched at the G8 summit in 2012. The Alliance aims to increase investments to develop African agriculture to achieve sustained, inclusive, agriculture-led growth in Africa, and currently has a membership of ten countries. Mozambique's development partner lead countries are the United States of America and Japan (NAFSUN). As a member of the New Alliance, Mozambique has committed to policy actions in the areas of business-enabling environment, inputs, land, nutrition, resilience and risk management, and trade and market (Greenberg 2015).

In Mozambique, land belongs to the state. The Land Law of 1997 in the 2004 Constitution of the Republic of Mozambique provides for land use and associated resources, and benefit rights through the DUAT (Direito do Uso e Aproveitamento da Terra 2004), which is legal title for the use of land (Norfolk and Hanlon 2012). This means that the land itself cannot be sold, mortgaged or alienated in any way, but buildings, infrastructure and constructed improvements on land may be mortgaged, sold or leased out. Through an inclusive process between government, technical experts and CSOs (Tanner 2010), the Land Law of 1997 protects the rights of vulnerable groups by recognising the following:

- The land rights of communities and individuals as

acquired by customary or long-term occupation.

- The rights of women over land.
- A collective DUAT held by local community on a co-title basis.

According to the 1997 Land Law, the right to use and appropriate land can be obtained in three distinct ways namely: (i) authorisation of application; (ii) good faith occupation for more than a decade; and (iii) customary norms and practices (Cabral and Norfolk, 2016).

Agricultural policy and food security in Zambia

With 67% of the population dependent on agriculture for their income, livelihood and food access, agriculture remains an important sector in Zambia (IAPRI 2015). Currently, agriculture accounts for nearly 11% of GDP, making it the second largest sector after copper mining, which makes up 80% of foreign earnings (AFDB, UNDP and OECD 2016). The Government of Zambia has identified the agriculture sector as one of the key priority sectors for economic development and poverty reduction, as highlighted in the Sixth National Development Plan (SNDP) and the National Agriculture Investment Plan (NAIP). The NAIP, which is aligned to the CAADP, and sets out to facilitate agriculture development for the 2014 and 2018 period. Zambia signed the CAADP in December 2011 and has targeted to achieve a minimum of 6% annual agricultural growth by making 10% of the national budget available to the sector.

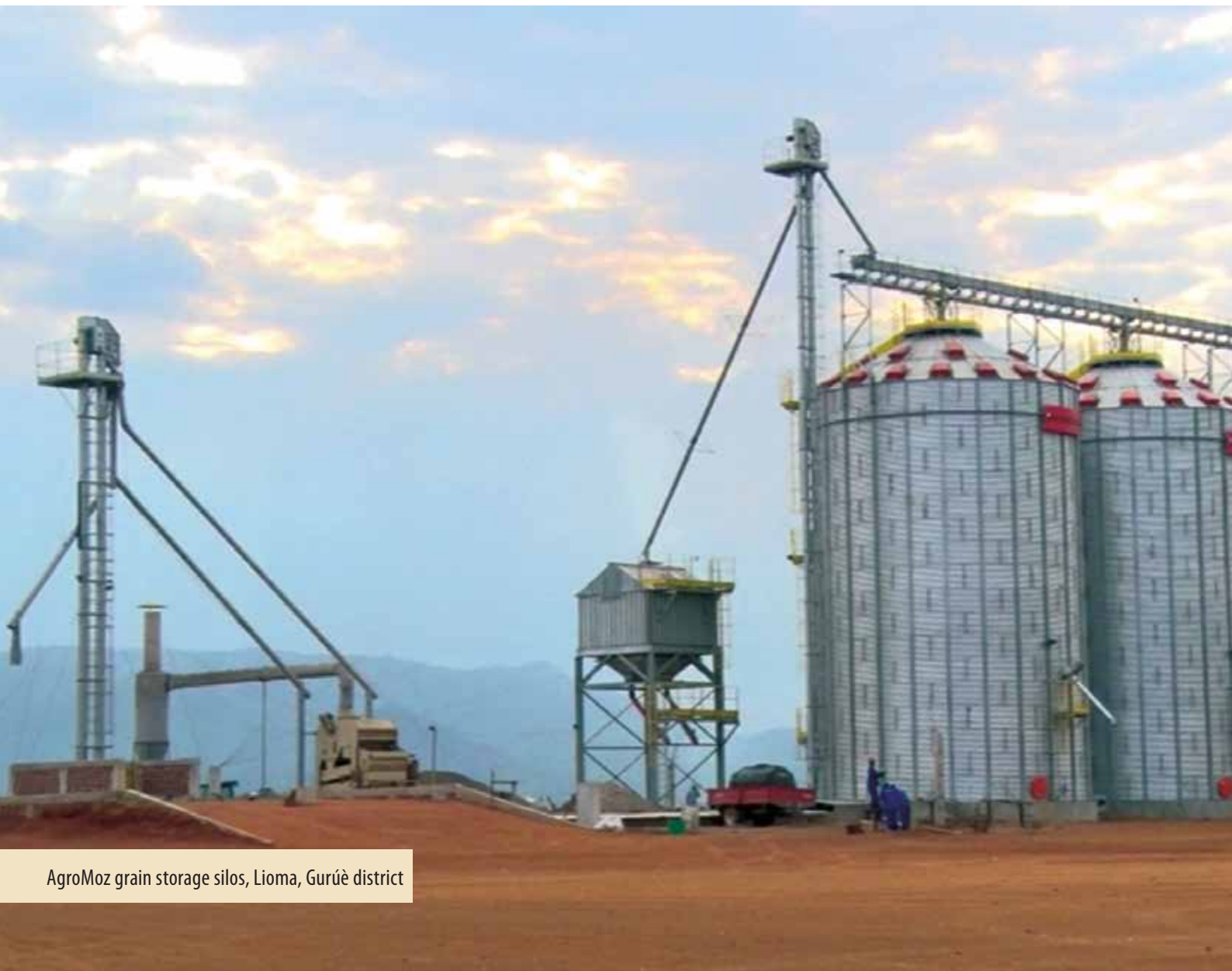
By placing emphasis on pro-poor, agricultural-led economic development, the NAIP places focuses on small-scale farmers as key actors in the development of agriculture and poverty reduction. The four critical areas that the NAIP targets are the following:

- (i) sustainable use of the natural resource base;
- (ii) infrastructure and market access;
- (iii) food security and disaster management; and
- (iv) research and technology.

At independence, 6% of land was state land, which is held under leasehold, while 94% was classified as customary land (Herre 2013). Zambia's 1995 Land Law allows for customary land to be transformed into state land (for leasehold) and leased by private entities for 99 years. However, recent studies on the status of customary land show that the percentage of customary land has declined substantially, and currently only accounts for an estimated 50-60% of land in Zambia (Honig and Mulenga 2015, Sitko Chamberlin 2016).

In an interview in May 2016, the Director of the Ministry of Agriculture listed key initiatives and activities that his department is currently implementing to promote agricultural development in Zambia. These include:

- Government has alienated land for farming blocks on state-owned 'virgin land' in all ten provinces to attract local and international investors. The Farm Block Development was introduced through a Presidential decree in 2002. The farming blocks are designed to have at least one large-scale commercial farm and a



AgroMoz grain storage silos, Lioma, Gurúè district

number of medium-scale and small-scale farms. The farming block initiative is a strategy for government to acquire more land.

- The Ministry of Agriculture has also initiated an irrigation programme to improve productivity levels and boost crop yields. In view of climate change effects, the ministry wants to reduce rain-fed agriculture.

“ AS THE MINISTRY WE HAVE A NUMBER OF DONOR-FUNDED PROGRAMMES, SUCH AS THE SMALL-SCALE IRRIGATION PROGRAMME SUPPORTED BY THE FINNISH GOVERNMENT. THE IRRIGATION SUPPORT PROGRAMME IS VERY IMPORTANT FOR NOT ONLY INCREASING YIELDS, BUT ALSO FOR DIVERSIFYING CROP PRODUCTION IN ZAMBIA. THE COUNTRY IS VERY BIG AND DIVERSE AND SO WE CANNOT APPLY BLANKET SOLUTIONS. ”

- Government is promoting mechanisation through the use of new farming technologies and equipment by facilitating the procurement of equipment and helping commercial farmers to procure equipment through government financial institutions.

“ WE ARE IMPLEMENTING THE CASSAVA MECHANISATION AND AGRO-PROCESSING PROJECT, WHICH WILL HELP WITH FOOD SECURITY. CASSAVA IS A VERY IMPORTANT AND STRATEGIC CROP FOR US, IT DOES NOT NEED A LOT OF RAIN AND NO INPUTS LIKE FERTILIZER, YOU JUST NEED TO PROTECT IT FROM FIRE. HOWEVER, DESPITE ITS MANY ADVANTAGES, CASSAVA DOES PRESENT SOME CHALLENGES BECAUSE, CULTURALLY, IT IS NOT CONSUMED IN SOME OF THE PARTS OF THE COUNTRY AND PEOPLE DON'T LIKE THE TASTE. ”

- In partnership with private sector actors and international organisations, government is encouraging and training small-scale farmers to adopt conservation farming technology at farm and regional levels.
- Through the Farming Input Support Programme (FISP), government is supporting and protecting small-scale farmers. Ideally, FISP is meant to help farmers boost productivity so that, after two farming seasons, farmers become more successful and graduate and become more independent.

“ BUT DUE TO EXTERNAL FACTORS, FARMERS REMAIN ON THE FISP FOR MUCH LONGER. IN THE PAST TWO-YEAR [PERIOD], EVEN IF WE ACHIEVED SURPLUS, THERE WERE LOCALISED DROUGHTS SO WE COULD NOT ABANDON FARMERS. NONETHELESS, GOVERNMENT WORKS WITH LIMITED RESOURCES SO NOW ARE SPREADING RESOURCES VERY THIN TO SERVE MORE PEOPLE IN THE PROGRAMME. ”

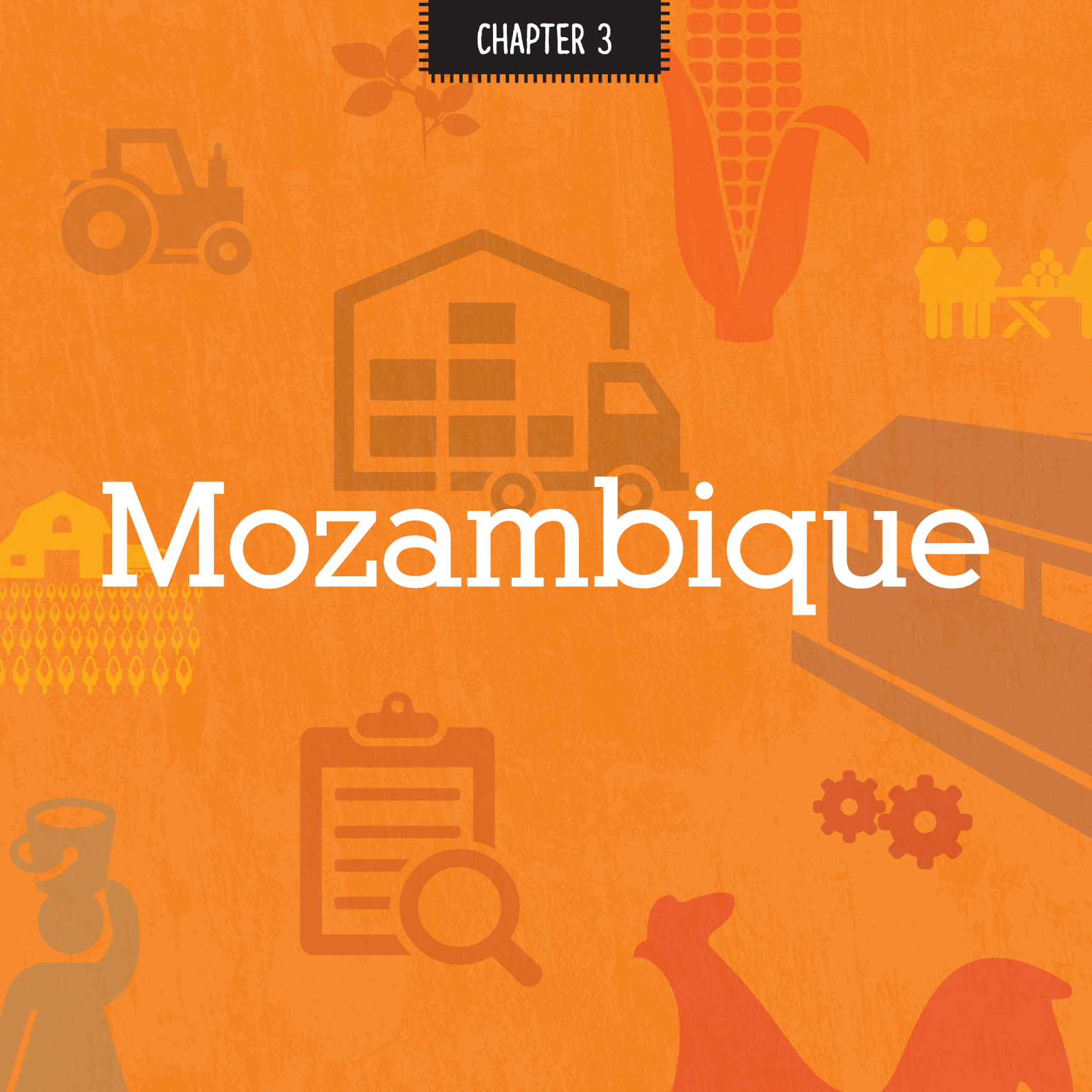
- Government is also facilitating agro-processing projects. With the opening of the farming blocks, productivity levels are rising.

“ CURRENTLY, MOST OF OUR AGRO-PROCESSORS ARE LOCAL. WE HAVE A LOT OF MILLING COMPANIES, BUT WE STILL IMPORT A LOT OF OTHER PROCESSED FOOD. WE MUST DO SOMETHING WITH THE CROP YIELDS, FOR A LONG TIME WE HAVE BEEN IMPORTING FROM SOUTH AFRICA AND OTHER COUNTRIES, NOW WE WANT TO DO OUR PROCESSING FOR LOCAL CONSUMPTION AND SUPPLY OUR NEIGHBOURS. ”

- After losing livestock to disease countrywide, government is restocking livestock to increase the population of livestock in all ten provinces. Even though Zambia is largely a crop farming country, FISP also supports livestock farms with agro-health products, and government has constructed dip tanks in different areas.

“ WE DON'T SUPPORT FARMERS WITH FEED, AS WE HAVE NOT HEARD OF ANY MAJOR CHALLENGES RELATED TO ACCESSING ANIMAL FEED AMONG SMALL-SCALE FARMERS. WE HAVE RESTOCKING CENTRES WHERE WE RAISE DIFFERENT BREEDS OF LIVESTOCK, AND WHEN THE LIVESTOCK REACHES A CERTAIN NUMBER, THEY ARE SOLD TO COOPERATIVES AND INDIVIDUALS. ALTHOUGH THE COOPERATIVES BUYING STOCK ARE STILL FEW, THE COOPERATIVE MOVEMENT IN ZAMBIA IS STILL GROWING. WE HAVE ASSOCIATIONS OF FARMERS THAT ALSO BUY FROM THE LIVESTOCK CENTRES. WE BELIEVE THESE RESTOCKING CENTRES ARE MAKING IT EASIER FOR PEOPLE TO RESTOCK AND RAISE LIVESTOCK. ”

Mozambique





- KEY**
- Country border
 - Province border
 - Country capital
 - Province capital
 - Province of interest



0 75 150 km



case study 1

Gurúè District

Located in the north of Zambézia province, in northern Mozambique, Gurúè district is home to about 400 000 people and the largest tea plantation in the country. As a high potential agro-ecological zone, Gurúè district covers 5 554 km² in area and is often referred to as the granary of the province (Instituto Nacional de Estatística 2012). Gurúè district boasts the second highest mountain in Mozambique, Mount Namuli, which divides the district into the higher and lower veld. The town is located in the high part of the district, surrounded by tea plantations on the slopes of the hills. Wedged between the mountain slopes and the natural streams from the mountains, the local villages are spread across the district, with some areas covered with dense forests and swamps. Gurúè has a temperate climate and enjoys higher rainfall than other parts of the province.

Gurúè's economy depends primarily on agriculture, with most dependent on small-scale agriculture at household level. The main crops include maize, cassava, beans, pigeon peas, millet, sorghum, groundnuts, and now soya beans.¹

¹ Interview with Gurúè district Director for Development and Economic Activities, Vilnhó Abek, 17 June 2016

Map of Gurúè District indicating study sites



Who are the agro-investors and what are they saying?

Gurúè district has attracted different types of agro-investors since 2003 and thirteen private agri-business investors since 2008. In this study, however, we focus on land-based agri-business investors who are restructuring the agro-food system in Gurúè district.

Our research shows that there are currently three types of agro-investments in Gurúè district. The first group is large-scale land acquisitions for commercial agricultural production, namely Hoyo Hoyo Agri-business, AgroMoz and Murrimo Macadamia LDA, and a second group is made up of agri-business companies, including Cargill and Phoenix Seeds, and informal agri-dealers. A third group is made up of international non-governmental organisations (NGOs), mainly from the United States of America, who are investing heavily in agriculture, sometimes in partnership with the private sector and government. These are the United States Agency for International Development (USAID), TechnoServe, Cooperative League of the United States (CLUSA) and World Food Programme (WFP). In some instances, the NGOs, public and private sectors are engaged in agro-investment partnerships where finance, risks and management responsibilities are shared.

This research focuses particularly on large-scale land-based investments for commercial agricultural production and considers the role of other investors in the transformation of various components of agro-food systems and value chains.



HOYO HOYO AGRI-BUSINESS

Hoyo Hoyo Agri-business is a large-scale agricultural concession, under BXR Group, the sole shareholder (BXR Agro 2016). Hoyo Hoyo was originally established by Quifel Natural Resources S.A., a renewable energy and agri-business arm of Quifel International Holdings, owned by Portuguese businessman Miguel Pais do Amaral. The company has acquired land in Zambézia and Tete provinces and holds two DUATs (a DUAT is a legal document obtained for the use of land). Quifel Natural Resources Mozambique Limited, which is a subsidiary of Quifel Natural Resources S.A. of Portugal, acquired a land concession of 10 000ha in Gurúè district in December 2009 (UNAC and Grain 2015; Norfolk and Hanlon 2012).

According to Hoyo Hoyo, the original investor failed to attract financial investments and by 2010 they had failed to map the land and come up with a business plan as needed by Mozambican law. In 2012, Quifel Natural Resources sold its share in Hoyo Hoyo to Hoyo One Ltd, a company registered in Mauritius but owned by the Dutch private investment company BXR Group. According to the Hoyo Hoyo representative, Hoyo One Limited currently holds a DUAT for 3 000ha of farmland in Ruace village. In the 2015/2016 season, Hoyo Hoyo managed to use 2 500ha for the production of maize and soya beans. However, the company intends to acquire more land and expand production of maize,

soya beans and potentially groundnuts and sunflower, to optimise their profits through economies of scale. The regional manager categorically stated that:

“ WE ARE LOOKING FOR MORE LAND TO IMPROVE THE ECONOMIES OF SCALE. WE WILL NEED ABOUT 2 000HA. THE PROBLEM IS THAT IN MOZAMBIQUE THERE ARE NO AREAS DEMARCATED AS FARMLAND. YOU NEED TO NEGOTIATE WITH COMMUNITIES THEN MOVE ON TO REGULARIZE.”²

According to a representative of UNAC, about 2800 people have been affected by being displaced from their farmland and resettled in a swampy area in Umoja village.³ However, a 2012 GPS survey by the Environmental Justice Atlas GPS survey indicates that 836 farmers with 1945 ha were displaced and the project had the potential to affect up to 15 000 people in Lioma and Ruace village (Environmental Justice Atlas 2014).⁴



Resettlement area in Umoja village allocated by Hoyo Hoyo to displaced farmers, Gurúè district

2 Interview, Regional Manager of Hoyo Hoyo Agribusiness, 20 June 2016

3 UNAC representative in Gurúè, 20 June 2016

4 The Environmental Justice Atlas documents and catalogues social conflict around environmental issues at the Institute of Environmental Science and Technology (ICTA) of the Universitat Autònoma de Barcelona.



Hoyo Hoyo Agribusiness in Ruace, Gurúè district

Hoyo Hoyo grows two types of crops: soya and maize. In 2015, the company produced 2 tons per hectare of soya and 4 tons per hectare of maize. This is a major improvement from the 1.5 tons per hectare of maize they produced in 2012. The company's expected yield for maize was 5–6 tons per hectare.

According to the general manager, Hoyo Hoyo employs about 400 people during peak season and 150 people off-season. Production of maize is entirely mechanised, while soya production operations employ manual labour. Like the small-scale farmers, they rely on natural rainfall. Hoyo Hoyo has no plan or intention to invest in irrigation due to the high costs in irrigation investment.

“ WE HAVE NO PLANS TO EXPAND INTO AGRO-PROCESSING. WE HAVE RECEIVED MANY PROPOSALS FROM EUROPEAN ORGANISATIONS AND NGOS TO SET UP AGRO-PROCESSING FACILITIES,

BUT THESE PEOPLE COME, PRESENT TO US THE OPTIONS AND OPPORTUNITIES FOR AGRO-PROCESSING, MAKE PROMISES AND THEN WE NEVER SEE THEM AGAIN.⁵ ”

Hoyo Hoyo sells primary commodities mainly to Cargill and other traders. Like the local small-scale farmers, the company does not have any formal contracts with any actors that are involved in the middle and upper segments of the agro-food value chains for maize and soya beans, nor institutional buyers. For storage, Hoyo Hoyo makes use of silo bags – a \$500 silo bag stores 180 tons of grain per season.



MURRIMO MACADAMIA LDA

Murrimo Macadamia LDA is a subsidiary of South African company Crookes Brothers Limited, which set up its investment in a macadamia plantation in Gurúè in 2012 (Crooke Brothers Limited 2016). This is large-scale land-based investment that involved the acquisition of land and displacement of small-scale farmers who lived on the land. The company acquired 3 200ha of land. However, as of 2015, Murrimo is using only 646ha of land. According to Murrimo Macadamia,⁶ the land acquisition by Murrimo along the hills and slopes of the Namuli mountain range led to the displacement of about 150 households, which lost their homes and farmland and had to be resettled.

⁵ Interview, Regional Manager of Hoyo Hoyo, 20 June 2016

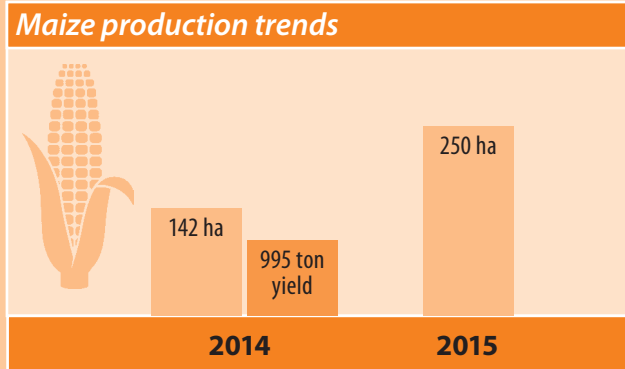
⁶ Interview with Anssumane Anli, ESG Manager at Murrimo Macadamia, 21 June 2016

Although Murrimo has invested in a monocrop plantation to produce macadamia nuts, macadamia trees take about five years to start giving returns, hence the company is currently expanding its crop production to include maize.

“OUR BUSINESS IS TO GROW MACADAMIA, BUT BECAUSE THE MACADAMIA IS A CROP THAT TAKES LONG TO GROW – ABOUT FIVE YEARS FOR THE FIRST HARVEST – WE HAVE IN THE MEANTIME DECIDED TO GROW MAIZE. AT THE MOMENT WE ONLY FOCUS ON MACADAMIA AND MAIZE. WE ARE GROWING MAIZE ON 250HA. WE ARE APPLYING FERTILISER AND WE HAVE ENOUGH LABOUR, WE ARE JUST TRYING TO FIND THE RIGHT VARIETY OF SEEDS. WE ARE EVEN TAKING THE SOIL FOR TESTING TO SEE IF THERE IS ANYTHING WRONG. WE ARE CONFRONTED WITH THEFT AND IT IS DIFFICULT TO SAY HOW MUCH CROPS WE’RE LOSING TO THEFT. WE ARE CURRENTLY UPGRADING OUR SECURITY SYSTEM.”⁷

Previously, in 2014/2015, the company had ventured into growing vegetables, but the project failed.

“WE USED TO GROW ONION AND POTATOES, BUT THE MARKET WAS NOT GOOD IN 2015. THE VEGETABLE PROJECT ALSO INCLUDED GROWING CABBAGE AND TOMATO, SO NOW JUST FOCUS ON MAIZE.”⁸



Murrimo has an irrigation system with seven pivots for the macadamia trees and relies on five natural streams that flow across the mountains and pass through their farm. The company is building a local factory to process maize into mealie meal. The aim is to package and sell the mealie meal locally under Murrimo’s own brand from 2017.



AGROMOZ

AgroMoz is a large-scale commercial farm, which is a joint venture between the Américo Amorim Group and Intelec. Intelec is reportedly owned by former Mozambican president Armando Guebuza (eNCA 2015). According to the company’s website, Américo Amorim Group are the largest wine cork producers in the world, with interests in several other sectors, including the forestry, energy, luxury and financial sectors. AgroMoz invested in a large-scale commercial farm in Gurúè district after attaining a DUAT in 2012 for 9 000ha⁹ in Lioma village

⁷ Interview with Anssumane Anli, ESG Manager at Murrimo Macadamia, 21 June 2016

⁸ Interview with Anssumane Anli, ESG Manager at Murrimo

Macadamia, 21 June 2016

⁹ Interview, Andrea Luft, General Manager at AgroMoz, Gurúè, 21 June 2016

(UNAC and Grain 2015). In 2015, the company cultivated only 1 029ha of land, and intends to expand its cultivation by up to 500ha each year until it reaches production on 4 000ha of land.

“ WHEN WE ACQUIRED THE LAND, WE PAID AFFECTED HOUSEHOLDS A COMPENSATION AMOUNT THAT WAS CALCULATED BY AN OFFICE FROM THE AGRICULTURAL MINISTRY – WE HAD CONSULTATIONS IN 2012 AND WE OFFERED THE COMMUNITY INFRASTRUCTURE IN THE FORM OF ROADS, SCHOOL AND A HOSPITAL FOR EXAMPLE...¹⁰ ”

“ THERE ARE A LOT OF CHALLENGES. EDUCATION AND SKILLS LEVELS ARE VERY LOW. MODERN TRACTORS USE SOPHISTICATED TECHNOLOGY LIKE GPS. A PERSON WHO CAN BARELY OPERATE A MOBILE PHONE CANNOT OPERATE A TRACTOR. WE ARE PLANNING TO BUILD A SCHOOL IN 2017, THE TEACHERS ARE NOT QUALIFIED AND VERY FEW CHILDREN ARE IN SCHOOL.¹¹ ”

The acquisition of land by AgroMoz resulted in the displacement of about 96¹² households.

10 Interview, Andrea Luft, General Manager at AgroMoz, Gurùè, 21 June 2016

11 Interview, Mara Luft, HR and Social Responsibility Director, and Andrea Luft, General Manager at AgroMoz, Gurùè, 21 June 2016

12 Interview, Andrea Luft, General Manager at AgroMoz, Gurùè, 21 June 2016

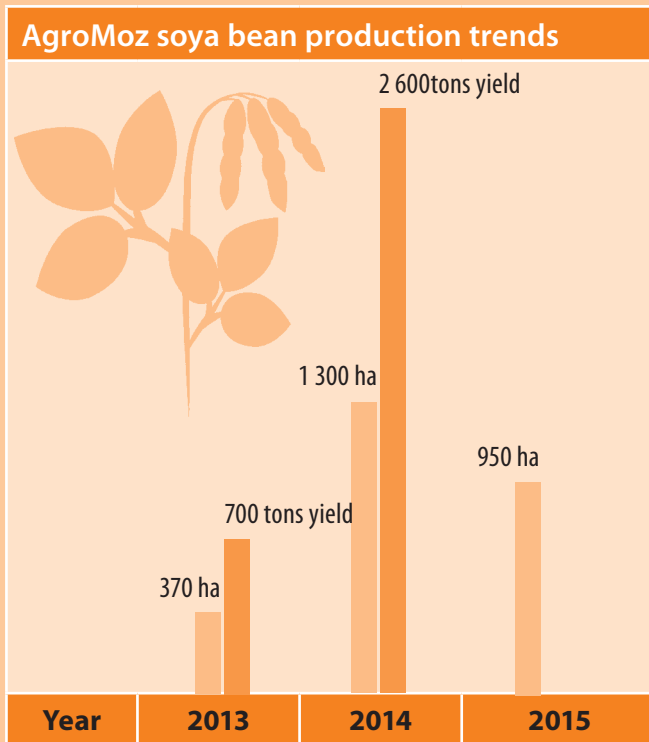
“ ANOTHER PROBLEM IS THE COMMUNITIES ARE NOMADIC. WHEN WE ARRIVED THERE WAS NOTHING BUT FEW SMALL-SCALE FARMERS. NOW WE EMPLOY 150 PEOPLE, SO THE MONEY IS CIRCULATING. MORE PEOPLE ARE STARTING TO MOVE CLOSE TO THE FARM AND AS WE EXPAND THIS PLACES A LOT OF PRESSURE ON THE FARM. WE ARE NOT EVICTING PEOPLE – THEY WANT THE INVESTMENT. BUT THE COMPANY CANNOT EMPLOY 100% OF THE PEOPLE.¹³ ”



Soya bean pods after harvest

The main crop is soya beans; other major crops are maize and beans. According to data provided by AgroMoz during an interview, soya bean production yields are improving steadily, albeit at a very slow rate. The table on the next page shows AgroMoz soya bean production trends since 2013, using data obtained from AgroMoz.

13 Interview, Andrea Luft, General Manager at AgroMoz, Gurùè, 21 June 2016



The company sells 100% of its products to poultry producers Abilio Antunes, one of the largest chicken producers in Mozambique, located in Chimoio. In 2013, AgroMoz ventured into rice production for the 2013/2014 season, but quickly abandoned it after disappointing yields, indicating that commercial farmers in a new terrain can face challenges and that commercial farming is not a seamless path to high productivity and efficiency. The company is currently finalising plans for the construction of a dam that will capture the overflow of natural streams. AgroMoz is also building a local soya seed production facility that should be operational by 2017 for the

company's own production as well as to supply local farmers with soya seed. It has no plan to venture further into agro-processing.

“ LAST YEAR, IN 2015, WE SUPPLIED SOYA SEED TO 100 FARMERS. WE CALLED A MEETING AND INFORMED THE FARMERS THAT WE ONLY HAVE SEEDS WITH 50% GERMINATION RATE, WHICH WE WILL BE PLANTING AS WELL. WE PROVIDED A CONTRACT THAT IF SEED GERMINATES, FOR ONE BAG OF SEED RECEIVED THEN THEY PAY US BACK WITH TWO BAGS OF GRAIN. WE SAID IF THE SEED DOES NOT GERMINATE, THEN THEY DON'T PAY ANYTHING. BUT WE GOT NOTHING THE 100 FARMERS WERE SELECTED BY TRADITIONAL LEADERS; WE ALWAYS DEAL WITH TRADITIONAL LEADERS. THE LEADERS AND THE COMMUNITY ASK US TO PREPARE THE LAND, TO PLANT AND HARVEST FOR THEM. BECAUSE THERE IS A PROBLEM HERE IN MOZAMBIQUE, SMALL-SCALE FARMERS ARE USED TO GETTING HANDOUTS. FOR YEARS AND YEARS NGOS HAVE BEEN SUPPLYING AND HELPING SMALL-SCALE FARMERS. THIS CREATES A PROBLEM BECAUSE WE ARE A BUSINESS, NOT NGO.¹⁴ ”

¹⁴ Interview, Andrea Luft, General Manager at AgroMoz, Gurúê, 21 June 2016



Input supply and markets for large-scale commercial agro-investors

For large-scale farmers, seeds, fertiliser and machinery are procured mainly from Brazil and South Africa. The major suppliers of chemicals are Agri-Focus, a Mozambican company based in Maputo. There is no certified seed company in Mozambique.

At a national level, Hoyo Hoyo and AgroMoz supply three big poultry companies, namely Abilio Antunes, Frango King and Novos Horizontes, with soya beans and maize for stock feed. The soya beans are processed for stock feed and oil, while the maize is processed mainly for stock feed. Soy-cake demand by the poultry companies is currently the biggest driver of soya production in Mozambique. According to the FAO (2013: 11), the poultry sector accounts for 0.3% of GDP. Local procurement of stock feed in the poultry sector has not only resulted in an increase in production, but chicken consumption, particularly across the country's urban centres, has risen significantly. Furthermore, commercial chicken production has become an important source of income and employment in rural and urban Mozambique.



Implications for local agro-food systems: What are the people saying?

The new agri-business investments have reconfigured land rights and agro-food systems in Gurúè district.

Agro-investors have introduced new crops and new crop varieties, which are reconfiguring local food production patterns. With the promotion of new crop varieties and new cash crops, new markets have emerged and new actors have entered this space. The loss of land and growing specialisation in cash crops by small-scale farmers has increased market dependency for food. These multiple processes of change in local agro-food systems, from farming inputs to the production, processing and retail of food crops, are influencing food consumption patterns and local diets significantly.

In this section we will look at the changes in local agro-food systems by analysing the impact of the agro-investment on the supply of farming inputs to small-scale farmers in Gurúè district, access and control over land, water and other natural resources for agricultural production, local farming systems, changes in processing, small-scale farmers' access to markets, and changes in food consumption patterns, local diets and household food security.



Changes in the access to means of production

The most common type of tenure is customary in Gurúè. Most of the small-scale farmers subsist on customary land without a DUAT. However, the increase in agro-investments is changing the locals' perceptions on customary tenure system. A number of small-scale farmers we interviewed indicated that they feel land insecure due to the rampant displacements by new agro-investors in the area and have therefore applied for a DUAT.

Land-based investments have resulted in reduction of crop production by a significant group of emerging small-scale farmers. The emerging farmers, who are also recycling seeds, have production yields that are comparable to those of highly mechanised and capital-intensive production output of the large-scale commercial farms. This presents a missed opportunity by agro-investors, who are essentially competing with local farmers and indigenous knowledge and practices. A small-scale emerging farmer, the President of the local Farmers' Forum, stated:

“ I HAVE LOST MANY THINGS. I USED TO PRODUCE ON 8HA OF LAND, AND IN A SEASON I WOULD PRODUCE 340 BAGS OF SOYA BEAN. AFTER THE DISPLACEMENT BY THE COMPANY I NOW HAVE ONLY 2HA OF POOR LAND WHERE I PRODUCE 60 BAGS OF SOYA BEANS ONLY.¹⁵ ”



Elias Ernesto, displaced small-scale farmer, and Phillan Zamchiya, PLAAS researcher, Ruace, Gurúè district

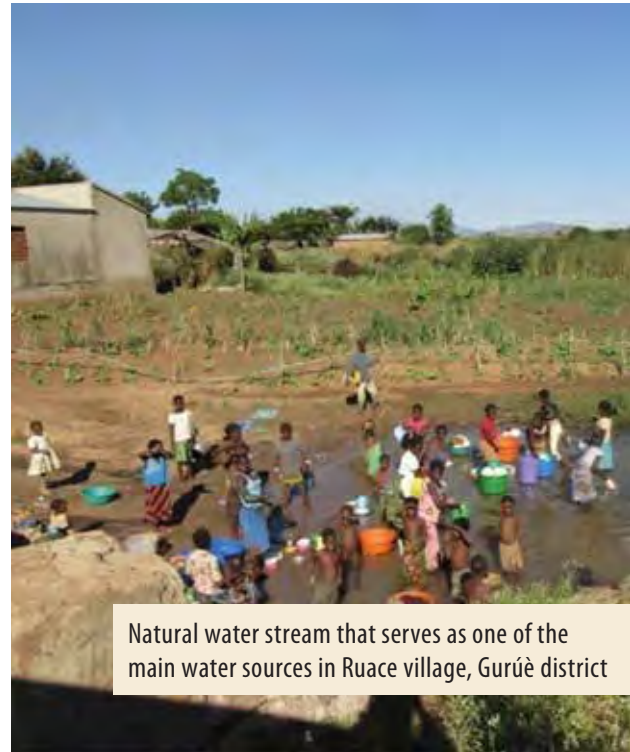
¹⁵ Interview with Elias Ernesto, Ruace village, Gurúè district, 17 June 2016

Many small-scale farmers, particularly those who belong to farmers' associations and groups in Ruace and other parts in Gurúè, are growing cash crops such as soya beans, maize and beans, which they have been selling in formal markets long before the arrival of the large-scale commercial farmers in the district.¹⁶ While the production of maize and beans has a long history in Gurúè district, like in many other parts of the region, the production of soya is recent, yet it dates back to before the arrival of large-scale commercial farmers in the district.

Therefore, in addition to the loss of land for production, the displacement of farmers has led to the reduction in membership and in some instances the collapse of farmers' groups and associations, as some farmers have been forced to seek land elsewhere, making it difficult to continue their activities in the farmers' groups and associations. Small-scale farmers form associations and cooperative groups to access credit and markets (Bachke 2009).



Teresa Salada, displaced small-scale farmer, Umoja village, Gurúè district



Natural water stream that serves as one of the main water sources in Ruace village, Gurúè district

16 Interview, Regional Manager, CLUSA, Gurúè, Mozambique, 16 June 2016

The small-scale farmers who used to subsist on the lower slopes of Mount Namuli of Gurúè district, where the macadamia farm is now located, were not only dispossessed of their land, but also of their access to the natural water streams and other natural resources that are now fenced off as part of the farm. Before displacement, the small-scale farmers had access to varieties of fruits, medicinal plants and water in which to grow their sugar cane along the stream banks and for year-round food gardens.

Due to the rampant displacements by new agro-investors in the area they now felt insecure. A displaced small-scale farmer elaborated:

“ I DID NOT FEEL INSECURE ON MY LAND BEFORE THE HOYO HOYO COMPANY CAME. HOWEVER, AFTER I WAS FORCED OFF MY LAND, I HAVE COME TO REALISE THE IMPORTANCE OF THE DUAT. I AM NOW LIVING IN FEAR THAT ANYONE CAN TAKE MY LAND.¹⁷ ”

The government and CLUSA have scaled up advocacy efforts to encourage people to apply for a DUAT in the context of new displacement threats by investors.

In 2009 and 2010 CLUSA implemented a project that facilitates the process for formalising occupancy rights to land ‘on-demand’ through the individual demarcation and titling of plots for smallholder beneficiaries of its soya programme in Gurúè district (CARE-Mozambique 2013).

Although, having a DUAT means that a small-scale farmer has to pay 15.00 MT per hectare annually to the government, the demarcation and titling for land parcels is a slow process that involves various fees and imposes high costs (Associação de Comércio e Indústria 2012). For instance, a 2013 CARE-Mozambique report, prepared by Terra Firma Rural Development Consultants shows that despite the lack of conclusive data on the real costs of individual land titling by CLUSA in Gurúè, calculations made by CLUSA total MT 9,800 (US\$ 280) for an average plot of a few hectares. This value mainly refers to the preparatory work of the titling procedure, including the costs of the local consultation process. This cash fee is a major deterrent to some income-poor households, hence the delimitation process in Mozambique are generally facilitated by NGOs with a trained technical teams (Nielsen et al 2011).

The 1997 Mozambican Land Law made it easier for some women who had benefited from exposure and information to apply for the DUAT in their own name, despite lack of awareness and technical support for obtaining a DUAT. However, due to cultural norms that challenge and inhibit the transfer of assets to widows, women suffer the most from tenure insecurity. The secretary of the provincial association of peasants said that:

“ THE LARGEST PERCENTAGES OF PEOPLE WORKING ON THE LAND IN THE DISTRICT ARE WOMEN. WOMEN WORK THE LAND BUT MOST OF

17 Interview with Felishmina Faria, Ruace, Gurúè district, 17 June 2016

THE TIME THE TITLE IS REGISTERED IN THEIR HUSBAND'S NAME. THEY HAVE CHALLENGES IN ACCESSING LAND AND GAINING THE TITLE. WOMEN HAVE BEEN PUT ASIDE. MOST OF THEM DO NOT HAVE IDENTITY DOCUMENTS (IDS), WHICH MAKES IT DIFFICULT FOR THEM TO GET THE TITLE, SO THE HUSBAND HAS THE TITLE. ALSO CULTURALLY THE MAN IS SEEN AS THE LEGITIMATE HOLDER OF TITLE. WHEN THE HUSBAND DIES, THE RELATIVES OF THE HUSBAND COME AND CLAIM THE LAND. IT IS NOT LEGAL BUT CULTURAL. OFTEN TIMES, A WOMAN GOES BACK TO [HER] PARENTS' HOUSE AFTER LOSING HER HUSBAND. [ACCORDING TO THE] LAW, CATTLE, LAND AND PROPERTY SHOULD GO TO THE WIDOW, BUT CULTURE TAKES PRECEDENCE MOST OF THE TIME.¹⁸ ””

Murrimo Macadamia has resettled people in areas where there is little to no farmland available. Although these households were not self-sufficient, the loss of farmland has forced resettled farmers to rely more on the market for food than on farming. Gladiaona, a resettled farmer, can no longer produce enough grain to feed her family and, like many other resettled farmers, has had to depend

18 Interview, small-scale farmer, Provincial Secretary of União Nacional de Camponeses (UNAC), the Peasants Union, Quilemane, Mozambique, 15 June 2016

entirely on non-land-based livelihood activities to source food from the market. Gladiaona stated that:

“ BECAUSE THE LAND I WAS GIVEN IS NOT ENOUGH AND THE SOILS ARE POOR, I PRODUCED 0.5 TONS OF MAIZE THIS SEASON. I AM GOING TO RUN OUT OF FOOD FROM MY GRANARY BEFORE THE YEAR ENDS. THIS IS WORSENERD BY THE FACT THAT I HAVE TO SELL SOME OF THE GRAIN TO MEET MY IMMEDIATE DEMANDS, THAT IS TO PAY SCHOOL FEES FOR MY CHILDREN. IN THE YEAR, I WILL NEED TO BUY FOOD, INCLUDING MAIZE, WHICH WAS NEVER THE NORM.¹⁹ ””



The restructuring of input supply

The agro-investors are reshaping the institutional framework of input supply in Gurùè district. The international public sector, private and public entities are promoting the expansion of soya production. This is being done through the provision of seed by supporting outgrower seed banks, subsidising seed shops, and decentralising marketing agents on commission.

19 Focus group discussion with community resettled by Murrimo Macadamia, Gurùè district, 21 June 2016

The promotion of soya seed and new seed varieties

There has been concerted advocacy networking to promote the production of soya beans in the district by small-scale farmers. The acceptance of soya has been relatively high among the well-to-do farmers. About 600 small-scale farmers in 2012–2013 produced soya seed on a programme supported by CLUSA and TechnoServe. The farmers confirmed in various interviews that they are part of the seed bank project.

Although the level of interest and acceptance for soya beans and new seed varieties for staple food crops like maize and beans in Gurúè has been growing steadily, because the rural agrarian elites were quick to adopt the packages of agricultural modernisation and more willing to take a risk and expand their production and grow new cash crops like soya beans, they are now seeing higher returns in terms of productivity and production output. This is evidenced by the early acceptance of soya seeds in 2003, when CLUSA first started promoting soya bean production, and for some farmers even earlier. In addition to promoting the production of soya beans, agro-investors have also been promoting a variety of certified seeds for maize and beans. However, acceptance of certified seeds for the production of staple food crops like maize and beans has been low among most rural farmers, particularly those farmers in the remotest parts of the district. According to the investors, there seems to be a lack of understanding of the value of the certified seeds among small-scale farmers, and the

farmers seem to have sentimental attachment to local seed that is linked to the generational passing down of knowledge and indigenous systems. The Phoenix seed representative elaborated this thinking:

“A LARGE NUMBER OF THE PEASANTS ARE NOT USED TO CERTIFIED SEEDS. THEY DO NOT KNOW THE DIFFERENCES IN PRODUCTIVITY. IT IS DIFFICULT TO REACH OUT TO THE REMOTEST. THEY SAY WE HAVE BEEN USING OUR LOCAL SEEDS, SINCE OUR ANCESTORS. THE PRICE FOR CERTIFIED SEEDS IS EXPENSIVE BUT WE OFFER THEM AT LESS THAN THE MARKET PRICE. IT IS LACK OF KNOWLEDGE OF WHAT IS CERTIFIED SEED. THEY HAVE NO KNOWLEDGE OF CERTIFIED SEED PRODUCTIVITY. THEY CONSIDER BASIC PRICES AND NOT THE BENEFITS IN YIELD. CERTIFIED MAIZE SEED COSTS MT90 PER KILOGRAM AND LOCAL SEED IN THE LOCAL MARKETS IS MT40 PER KILOGRAM. SO THEY JUST COUNT THAT WITH MT90 THEY WOULD RATHER BUY 2KG AND REMAIN WITH SOME CHANGE.”²⁰

Nonetheless, while there are farmers who continue to resist the use of certified seeds, attitudes are changing and a few farmers have adopted certified seeds. For example, a local dealer, Phoenix Seeds, reported that about 60% of their seed sales were to small-scale farmers between October 2015 and February 2016. In an interview,

²⁰ Interview with Abdul, manager of Phoenix Seeds in Gurúè district, 17 June 2016

the Phoenix manager noted that the acceptance levels were low but at least there were some shifts. He stated:

“ I OPENED THE SHOP IN OCTOBER 2015. I NOW HAVE 75 AGRO-DEALERS, PEOPLE WHO COME AND BUY SEED AND SELL IT TO SMALL-SCALE FARMERS IN THE VILLAGE. IN THE PAST SEASON WE SOLD 33.5 TONS OF CERTIFIED SEED FOR MAIZE, SOYA AND BEANS. WE SOLD 15 TONS OF MAIZE SEED, 12.5 TONS OF SOYA SEED, 2 TONS OF TIGER BEANS AND 4 TONS OF PIGEON WHOLE

BEANS FROM OCTOBER 2015 TO FEBRUARY 2016. EVEN THE PACKAGING OF SEED WAS NO LONGER JUST DESIGNED FOR LARGE-SCALE COMMERCIAL FARMERS IN LARGE QUANTITIES. ONE COULD EASILY OBSERVE DIFFERENT SMALL PACKS OF 1 KG, 2 KG FOR BEANS, 2 AND 3KGS FOR SOYA SEED AND 2 KG, 5KG AND 25 KG OF MAIZE SEED. THE PACKAGING WAS DESIGNED TO MEET THE NEEDS OF A SMALL-SCALE FARMER IN GURUË.²¹ ”



Tractor belonging to Raimundo Saraiva Maoquela, emerging farmer in Tetete, Gurúè district

²¹ Interview with Abdul, manager of Phoenix Seeds in Gurúè district, 17 June 2016

CLUSA first introduced soya production in Gurúè district in 2003 and despite slow uptake in the beginning, more and more farmers are now growing soya. About 600 small-scale farmers in 2012–2013 produced soya seed on a programme supported by CLUSA and TechnoServe. The peasants' resistance to certified seeds that are being promoted for the main cash crops – soya beans, maize and beans – is not that simple. Rather, it is steeped in local knowledge and other logical reasons. They argue that the certified seeds are not drought- and pest-resistant, are expensive, and their supply is not guaranteed in case the external investors decide to pull out.

This general sentiment is well captured by a representative of the small-scale farmers in the province, who argued:

“ WE NEED TO PRESERVE OUR INDIGENOUS SEED BECAUSE IT IS GENETICALLY PURE. THE LOCAL SEED IS MORE RESISTANT TO CERTAIN KINDS OF DISEASES IN THE AREA AND TO DROUGHT AND CLIMATE CHANGE. THE HYBRID SEEDS ARE MORE PRONE TO DISEASES AND DROUGHT. WE CAN ALSO NOT RECYCLE THE HYBRID SEED AND ONCE THE EXTERNAL INVESTORS LEAVE, WHERE WE SHALL GET THE SEED? THE ONLY WAY YOU CAN GET THE SEED IS IN THE MARKET. WE KNOW THAT ONE CAN GET HIGHER YIELDS FROM THE HYBRID SEED, BUT THAT IS IF ALL CONDITIONS ARE FINE. FOR EXAMPLE, THIS YEAR BECAUSE OF DROUGHT, THOSE

FARMERS WHO USED HYBRID SEEDS HARVESTED LITTLE AND NOW FACE FOOD SHORTAGES.²² ”

Furthermore, production is slowly changing from manual to semi-mechanised among the small-scale emerging farmers – there are 27 emerging farmers who are beneficiaries of tractors from TechnoServe.



Changes in the production system

The promotion of soya bean production by international NGOs and aid agencies in Gurúè district and other parts of northern Mozambique through loose contract farming arrangements has led to dramatic changes in local production systems (Matteo et al 2016). CLUSA promotes soya beans because

“ IT IS A CROP THAT IS RICH IN PROTEINS AND OTHER NUTRIENTS, IT PROVIDES CHICKEN FEED AND POSSIBILITIES OF EXTRACTING OIL. IT IS ALSO A CROP WITH DEMAND IN THE MARKET.²³ ”

In addition to the ready market and higher cash income compared to other crops, including maize, small-scale farmers readily accept soya production because it is massively promoted and supported by international NGOs like TechnoServe and CLUSA.

22 Interview, small-scale farmer, Provincial Secretary of União Nacional de Camponeses (UNAC), the Peasants Union, Quilemane, Mozambique, 15 May 2016

23 Interview with CLUSA Regional Manager, Carlos Sanchez, 17 June 2016

An emerging farmer explained:

“THERE WAS A LOT OF SUPPORT FROM THE NGOS AT EVERY STAGE OF PRODUCTION. THEY GIVE YOU THE SEED VARIETY, NOW THE TRACTOR AND FARM EQUIPMENT, ONCE YOU HARVEST THEY PROVIDE A READY MARKET.”²⁴

In this regard, the international NGOs support the crop across the value chain.





Soya beans and maize have become important flex crops in Mozambique, which means that these crops have multiple uses (food, feed, fuel, industrial material) (Borras et al 2015). While demand for maize has always been high, as maize is a staple food crop, the demand for both soya and maize in Mozambique has increased rapidly in recent years, as the two crops are used for chicken feed. For the small-scale farmers in Gurúè, particularly those who were early adopters of the crop when it was first introduced by agro-investors on a larger scale than ever before in 2003, the production of soya allows them to be integrated into a new cash-based production system (Matteo et al 2016).

Production of soya beans is accepted by a number of small-scale farmers. The well-to-do farmers – the agrarian rural elites – produce soya on up to 10ha of land and the less well off produce on less than a hectare at times. The number of small-scale farmers working with international NGOs, like CLUSA, to produce soya among other crops in a more ‘modern way’ is increasing steadily.

“[IN] 2003 WE HAD 3000 SMALL-SCALE FARMERS WE WORKED WITH. FROM 2008 TO 2013 WE HAD 8000 SMALL-SCALE FARMERS, AND FROM 2013 TO 2016 WE JUMPED TO 16 141 SMALL-SCALE FARMERS. OUT OF THESE, 63% ARE MEN AND 37% ARE WOMEN. THEY ARE BEING HELPED BY AGRONOMISTS FROM CLUSA.”²⁵

Soya beans are by far the leading crop in terms of quantity produced among the four major cash crops grown by small-scale farmers in Gurúè district. The following table provides the evidence for the 2014–2015 seasons.

Cash crop production in Gurúè, 2014–2015 by small-scale farmers

Crop	Hectares	Yield (Tons)
Soya 	11.232	21.490
Sunflower 	690	690
Tobacco 	775	530
Sesame 	245	123

²⁴ Interview with Raymondo Saraio Maaquele, Gurúè district, 16 June 2016

²⁵ Interview with CLUSA Regional Manager, Carlos Sanchez, 17 June 2016

On average, the small-scale farmer produces 2.1 tons of soya compared to 2 tons per hectare that the commercial farmers, Hoyo Hoyo Agri-business, manage to produce, indicating similar levels of productivity between the small-scale farmers and commercial farmer. In Mozambique and across the region, large land-based investments are purported to be key drivers of agricultural development. Neoliberal approaches to agricultural development promote capital-intensive large-scale commercial agriculture and assume that production on large tracts of land allows farmers to achieve economies of scale and maximise profits. This is not always the case. Some emerging small-scale farmers, particularly those producing in associations, were able to produce higher yields. However, as a result of the displacement of farmland by Hoyo Hoyo, these farmers are now dispersed and therefore unable to coordinate their activities and resources. Within the association, farmers were able to recycle seeds and share other inputs and knowledge to improve productivity levels, and access markets. It can thus be argued that the model being implemented by these agro-investors has in some ways re-peasantised emerging farmers.

“ I USED TO PRODUCE MAIZE, SOYA BEANS AND PIGEON PEAS. IN A SEASON I WOULD HARVEST ON AVERAGE 6 TONS OF SOYA, 3 TONS OF MAIZE AND 1 TON OF PIGEON PEAS. AFTER THE DISPLACEMENT, I NOW HARVEST 1 TON OF MAIZE, 3 TONS OF SOYA AND 0.5 TONS OF PIGEON PEAS.²⁶ ”

With the promotion of soya production and access to new markets, farmers are exercising agency and optimising their benefits in the growing soya value chain. This highlights the importance of understanding the role of different actors in the emerging soya bean value chain to better understand the restructuring of the production system in Gurúè (Matteo et al 2016).



Growing formal markets and evolving local markets

The market infrastructure in Gurúè district has evolved significantly as a result of growing agro-investment and the expansion of soya production by small-scale farmers alongside large-scale production by commercial farmers. The international public investors provide markets for soya seed, soya beans, maize and beans. TechnoServe and WFP are the leading buyers from this sector. Cargill, which is the main buyer for the large-scale commercial farmers, also buys maize and soya beans from small-scale farmers. The picture on the next page is of a warehouse Cargill was renting from a farmers' association that failed to secure funds to buy the grain from local farmers. The farmer's association sought to provide farmers with markets by aggregating the output.

Indigenous markets are also evolving and adapting to the changing agro-food system. There are new entrepreneurs emerging, mainly Bangladeshi and Somalian traders, who are taking advantage of the soya boom in Gurúè district by buying soya beans from farmers early in the

26 Interview with Elias Ernesto, Ruace, Gurúè district, 20 June 2016



Cargill warehouse, Gurùè district



Roadside trader, Tetete, Gurùè district

season, right after harvest, when prices are low, to resell later in the season when the crops fetch more in the markets. Growing financial pressure in households as rural life becomes more monetised pushes farmers to make early sales of their crop output even when they know that their crops are likely to fetch higher prices in the market if they hold onto their output to sell at a later stage after harvest. The emerging traders are also buying maize and beans from small-scale farmers.

The new informal markets operate alongside the traditional informal markets, with mostly women selling vegetables, grains and other household food stuffs such as cooking oil, sugar, salt, rice and pasta, and detergents.

Small-scale farmers are also coming together and organising into forums and associations to sell their products in bulk. Transport remains a major challenge despite road infrastructure development that is being facilitated by government. Distances between buyers and farmers across the different districts are vast.

Agro-processing: old and new methods

There are no large-scale agro-processing soya projects in Gurùè. Most small-scale farmers sell the soya beans without processing. However, some women are processing and producing various soy-based products, such as soya milk and bread rolls, after receiving training facilitated by the Institute for Tropical Agriculture (ITA) in 2006, to promote the diversification of local diets. A female small-scale farmer and secretary of Gurùè



Woman pounding maize, Tetete, Gurúè district

District Union of Farmers, Teresa Salada, described the process:

“I SOAK THE SOYA GRAIN IN WATER OVERNIGHT, AND THEN POUND IT IN THE MORNING. I THEN PUT IT IN WATER FOR 45 MINUTES AND SIEVE THE GRANULES. I THEN PUT THE MASHED SOYA ON [THE] FIRE TO BOIL FOR 30 MINUTES AND AFTER [THAT] I CAN START DRINKING MY MILK.”²⁷

The soya milk is sold locally. Soya flour is also used to make bread rolls, which are sold mainly by female vendors.



Teresa Salada, small-scale farmer preparing soya milk, Ruace, Gurùè district

27 Interview with Teresa Salada, 17 June 2016



Changing diets and food security

The displacement of farmers by the large-scale commercial farms has had a significant impact on how people produce and access food. The loss of access to and control over productive resources affects people's rights to food both in terms of production and also people's ability to access food through market purchases, as a large part of the population in Gurùè relies on agricultural production for their livelihoods.

The households that were displaced by Murrìmo Macadamia explained that before the displacement the small-scale farmers had access to varieties of fruits, medicinal plants and water to grow their sugar cane in the stream banks and for all year round food gardens. They were displaced far from the water sources and natural resources were destroyed. In a focus group discussion with the displaced community, one of the respondents captured their plight and others agreed:

“WE LOST ACCESS TO BANANA, MANGO AND AVOCADO TREES THAT GREW IN THE STREAM BANKS. WE ALSO USED TO GO TO THE BUSH TO SEEK MEDICINAL PLANTS FOR FEVER AND STOMACH AILMENTS. NAVATA IS THE PLANT WE USED FOR STOMACH ACHES AND HUPE-HUPE FOR FEVER. NOW THE BUSH [HAS BEEN] CLEARED BY THE COMPANY AND OUR CHILDREN HAVE FEVER PROBLEMS. WE ALSO

LOST OUR FOOD GARDENS. WE USED TO HAVE ALL-YEAR-ROUND FOOD GARDENS ALONG THE NIVAKWE RIVER, WHERE WE GREW VEGETABLES AND ALSO SUGAR CANE. THE COMPANY ORDERED US TO REMOVE OUR GARDENS, CUT DOWN OUR FRUIT TREES AND TO LEAVE TO THE RESETTLEMENT AREA. THEY GAVE US A TANK OF WATER BUT IT IS NOT ENOUGH WATER FOR GARDENING. WE NOW RELY ON A WILD VEGETABLE CALLED THULI THULI AND MTIKWA, WHICH WE GROW.²⁸ ”

More and more households are relying on purchased food for meeting household food needs, which has led to changing diets on basis of the availability of affordable food in local markets. The soya boom in the district is also slowly affecting what is served on the plate.

The main meals remain starch-based – mainly maize meal eaten at least once a day for lunch or supper – with rice and vegetables such as pumpkin leaves, rape and sweet potatoes, and beans for lunch and supper. For a majority of the households, meat protein is only consumed between two to four times per week, and even less in poorer households. As more and more farmers and households learn about the nutritional value



Displaced woman holding thuli thuli and mtikwa vegetables, Gurúè district

28 Focus Group Discussion with households displaced by Murrimo Macadamia, Gurúè district

of soya, which is also the cheapest source of protein, soya is being incorporated into people's diets. There is a vibrant market for soya-based bread rolls, which has become a source of income for women in the district. The soya is processed locally to produce flour for the bread. Catherina Alberto narrated:

“ I STARTED SELLING SOYA-BASED BREAD ROLLS IN 2009. I MAKE 1000 BREAD ROLLS A DAY, AND I SELL EACH ROLL FOR MT1. I SELL ABOUT 500 ROLLS A DAY, AND I SELL ABOUT 1000 WHEN I SELL AT THE OPEN MARKET.²⁹ ”

Even though the soya milk is more expensive than the condensed milk in the shops, a consumer explained his choice: 'It is the nutritional value of soya milk that I want and price is not the core determinant.' One of the soya milk producers sold on average three litres of milk a day to neighbours. With the growth of soya production, more and more farmers are seeking ways to benefit and earn income from soya production locally. The processing of soya means that more soya-based products are being consumed locally. Knowledge about the nutritional value of soya as promoted by agro-investors has also led to the growing consumption of soya-based food products. Furthermore, the public sector and international public sector are running projects to



Magige market, Gurùè District

29 Interview with Catherina Alberto, food vendor, Ruace, Gurùè

promote vegetable production and consumption, as well as poultry production.

In terms of purchased food, well-to-do farmers are supplementing their own production with purchased food from the markets, including spaghetti, rice, cooking oil, tea, sugar, salt, margarine and bread rolls. In terms of vegetables, both the well-to-do farmers and those small-scale farmers who have been negatively affected by the investments indicated that they generally buy cabbage, tomatoes, rapeseed, onions, beans and, at times, sweet potatoes from the markets. In terms of fruit, most households indicated that they do not buy fruit very often. However, in the local markets one can find bananas, sugar cane and other seasonal fruit, such as mangos, avocados and pawpaw to name a few.



Implications of changing agro-food systems: the case of rural northern Mozambique

Land-based investments have resulted in reduction of crop production by affected small-scale farmers, increased market dependency for food, increased pressures on rural land, and displacement not only from land, but from natural food sources, medicinal plants and perennial water sources. Beyond land, water and natural resources, agro-investors, especially international public investors, have promoted the expansion of soya production and this was well received by local small-scale farmers. Soya has become the major cash crop

in the district ahead of tobacco, tea and sunflower production. The use of certified maize, beans and soya seeds is also gradually penetrating the rural hinterland. The market infrastructure has changed as entrepreneurs and the key actors in the growing poultry sector take advantage of the new soya crop. There are no large-scale agro-processing projects of soya in Gurùè, however there is a group of women who are taking the lead and locally processing soya beans and making soya-based flour, which is being used to make bread rolls and soya-based milk, and with support they can do more. It will take time to start seeing changes in the formal diets in Gurùè, but soya is slowly affecting what is served on the plate. Whereas the soya value chain is growing beyond Gurùè with new input suppliers, traders, wholesalers, processors and consumers potentially enhancing food security, the large-scale land-based agro-investors are facing challenges in their operations.



Soya based bread rolls



Women picking chillies in food garden, Tetete, Gurùè district



Zambia





KEY

- Country border
- Province border
- River
- Lake or dam
- Country capital
- Province capital
- Province of interest



DEMOCRATIC
REPUBLIC OF
THE CONGO





case study 1

Mumbwa District

Located in the central ecological region of Zambia and the most agriculturally productive ecological region with high rainfall, Mumbwa district has been described as the breadbasket of the Central Province (Mumbwa and Machina 2015). According to the District Commissioner, under the office of the Presidency, the population of Mumbwa district is now over 300 000, up from 218 328 people recorded in the 2010 census.

There are three main economic activities in Mumbwa district, namely mining, tourism and agriculture. Agriculture remains the leading economic activity in the district, with a vast majority of farmers classified as small-scale farmers, whose livelihoods depend on the land. The main cash crops are cotton, maize, soya beans, groundnuts and sunflower.

Who are the agro-investors and what are they saying?

Large-scale land-based and agri-business investments are transforming local agro-food systems and restructuring agrarian relations in the farming district of Mumbwa. In particular,

Mumbwa district, Zambia



NWK Agri-Services and Amatheon Agri are reconfiguring the institutional framework of input supply, agro-extension services, production systems and local markets for the small-scale farmers. Alongside government-driven maize production, which is supported through the Farming Input Support Programme (FISP), agri-business investors are driving the expansion of soya production and cotton by small-scale farmers in Mumbwa district.



AMATHEON AGRI ZAMBIA LIMITED

Amatheon Agri is a European agri-business and food company with headquarters in Berlin, Germany and operations in several countries across sub-Saharan Africa. The operations of Amatheon Agri Zambia Limited (hereafter referred to as simply Amatheon Agri or, in short, Amatheon) include large-scale high-tech commercial farming, smallholder outgrower schemes, storage, and supply of crops and livestock to domestic and regional markets. In Mumbwa district, Amatheon Agri invested in a large-scale irrigated and rain-fed commercial farm located in Big Concession in 2012, (Amatheon Agri 2012). The Big Concession farm block is a government-gazetted area for agricultural development that covers 200 000ha. The investment entailed the acquisition of 40 000ha of land under statutory leasehold for commercial irrigated agricultural production of food crops, including maize, soya beans, wheat and groundnuts primarily for domestic markets, and now cattle production.

The company representative asserted that:

“ THERE WERE NO LAND DEALS OR LAND GRABBING; WE PURCHASED THE LAND FROM INDIVIDUALS WITH LEASEHOLD. WE FOLLOWED THE ZAMBIA ENVIRONMENTAL MANAGEMENT AUTHORITY (ZEMA) GUIDELINES.¹ ”

A senior planner in the Ministry of Lands cited that:

“ WHAT AMATHEON IS DOING TO BUY LAND FROM WILLING SELLERS IS LEGAL. THERE IS NO LAW IN ZAMBIA THAT STOPS YOU FROM ACQUIRING LAND IN ZAMBIA. SO WHAT THEY ARE DOING IS LEGAL.² ”

The acquisition of land is often linked to access and control and involves the acquisition of water resources (Woodhouse and Ganho 2011). About 86% of human use of fresh water resources is used to sustain agriculture, and all food production directly needs water. Agri-business land-based investments tend to involve the acquisition of fresh water.

1 Interview, Tobias Muyaba, Sustainable Development Manager, Amatheon Agri, Mumbwa district, Zambia, 19 May 2016

2 Discussion, Senior Planner, Ministry of Lands, Lusaka, 13 July 2016

The Amatheon Agri Sustainable Development Manager elaborated:

“WHEN WE SEEK TO DO LARGE-SCALE AGRICULTURAL INVESTMENTS, AS INVESTORS WE STRATEGICALLY PURCHASE A PLACE WITH WATER OR WITH POTENTIAL SOURCES OF WATER. WE CANNOT JUST RELY ON RAINFALL. WE HAVE MARKED FOUR POTENTIAL AREAS TO BUILD DAMS. SO FAR WE HAVE FINISHED THE CONSTRUCTION OF TWO DAMS. WE ALSO RELY ON THE RIVER FURTHER UP. THERE IS A FARM THAT WAS CLOSE TO OUR DAM, ABBA DAM. THIS FARM BELONGS TO Ulimi COMMUNITY MADE UP OF 100 HOUSEHOLDS.”³

In line with ZEMA guidelines, the irrigated agriculture scheme by Amatheon indicates a proposal for the following (as stated in the Environmental Impact Assessment final report by Amatheon Agri, 2014):

- Kapwashe I Dam site, which is located on land acquired by Amatheon. The expected reservoir will extend about 3.4 km in length in a north-south direction. The tail end of the reservoir extends for about 1.5 km onto an adjacent title, not owned by Amatheon. This title, No. 4762, is owned by a co-operative of small-scale farmers known as 'Ulimi Cooperative' comprising about 85 households.

- The Kapwashe III Dam site and reservoir are located on land entirely owned by Amatheon, on the Kapwashe River, to the south of Dam I, but is subject to a separate EIA.

In 2015, Amatheon Agri announced a \$25 million project for the development and construction of two dams – Katonga (Kapwashe III) and Abba (Kapwashe I) – with one of the dams being funded through a strategic partnership between Amatheon Agri and Toyota Tsusho Corporation, the trading arm of the Toyota Group (Amatheon Agri 2015). The construction of Katonga is scheduled to be completed in 2017. The construction of Abba Dam forms part of the company's expansion of Amatheon Agri's commercial farming operations in Mumbwa district.

Amatheon Agri has also invested in developing local facilities. In 2013, Amatheon Agri partnered with World Vision, an international Evangelical Christian humanitarian aid, development, and advocacy organisation that has been working in Zambia since 1981, to support the Kafwikamo community effort to upgrade the Kafwikamo Community School which is located a few kilometres away from our farming operations. Amatheon and World Vision have also teamed up to establish a food garden in the school.

In partnership with Musika, a Zambian non-profit company that is aimed at facilitating private sector investment in the smallholder markets, Amatheon Agri opened a Community Livestock Centre (CLC) to support livestock farmers in the Big Concession area in 2015.

³ Interview, Tobias Muyaba, Sustainable Development Manager, Amatheon Agri, Mumbwa district, Zambia, 19 May 2016

“ WE OPENED A COMMUNITY DIP TANK SO THEY CAN IMPROVE SO WE CAN PURCHASE QUALITY. WE NEED TO IMPROVE THE CATTLE BREED AND ENCOURAGE A BREED THAT IS GOOD FOR BEEF. SO WE ARE HELPING THE FARMERS IN CROSS BREEDING. THEY MUST MIRROR US.”⁴



NWK AGRI-SERVICES

NWK Agri-Services is a Zambian-based agri-business that runs the largest cotton outgrower scheme with small-scale farmers in Mumbwa district. It was originally established in 1977 by the state under the name LINTCO (Lint Company of Zambia), and operated until 1994. Following market liberalisation, the company was acquired by Mumbwa Cotton Ginnery Limited in 1996 and later by Dunavant Incorporated in 2000. In December 2012, Dunavant Zambia was acquired by a major South African-based agri-business, NWK Limited. NWK Limited holds a majority, 60% interest in the company and the remaining 40% shares are held by Louis Dreyfus Commodities (Middle East and Africa) Trading (LDC) based in Dubai.

Since its name change to NWK Agri-Services in 2013, the company has diversified its services. In addition to the outgrower scheme, it now offers a range of services through its four departments, namely retail, agriculture, commodity and ginnery. The retail department has two

trading centres in Mumbwa. The ginnery department processes cotton into seed and lint and the products are exported to South Africa and Europe. The agricultural department essentially oversees the contract farming and provides training and support, pre-finance (provides loans to give farmers access inputs), facilitates sales and supports farmers to access markets. Under its commodity department NWK Agri-Services processes a proportion of its raw seed cotton into lint and a number of by-products, including cotton seed, planting seed and cotton hulls.

“ WE DIVERSIFIED FROM PROCURING AND SELLING COTTON ONLY TO INCLUDING FOOD CROPS ABOUT 4-5 YEARS AGO, TO SURVIVE IN VIEW OF COTTON PRICE VOLATILITY. BY DIVERSIFYING WE HAVE EVADED THE RISK THAT COMES WITH RELYING ON ONE CASH CROP BY REALISING PROFITS FROM OTHER CROPS. CURRENTLY, FOR COTTON SUPPLY, WE ONLY WORK THROUGH CONTRACT FARMING, UNLIKE WITH OTHER CROPS WHERE WE BUY DIRECTLY FROM FARMERS WITHOUT THERE BEING IN CONTRACT WITH THEM.”⁵

Through its outgrower scheme, NWK Agri-Services has been able to amass an estimated 13 000ha of land in Mumbwa for crop production without acquiring a large tract of land, as the production is being carried out by small-scale farmers. The investment does not need acquisition of large tracts of land.

4 Interview, Tobias Muyaba, Sustainable Development Manager, Amatheon Agri, Mumbwa district, Zambia, 19 May 2016

5 Interview with Anthony Willombe, Regional General Manager at NWK Agri-Services, 18 May 2016

The company representative explained in an interview:

“OUR FARMERS HAVE PLANTED 13 000HA AND THERE WILL BE CHALLENGES IN ACQUIRING THAT LAND. IN TERMS OF ACCESS, IT WILL BE EASIER TO ACCESS LAND THROUGH SMALL-SCALE FARMERS. THE MOST FERTILE LAND IS TRADITIONAL LAND, AND THERE ARE VILLAGES AND PEOPLE - IT WILL BE COMPLICATED.”⁶

NWK Agri-Services has also invested in the local community and infrastructure development in Mumbwa. The NWK manager noted:

“WE HAVE PROVIDED FARMERS WITH A RANGE OF BENEFITS THROUGH OUR CSR INITIATIVE, WHICH INCLUDE THE BUILDING A SCHOOL (A 1 BY 3) IN 2014. WE ALSO BUILT TOILETS AT MOYO SECONDARY. WE REHABILITATED A NUMBER OF SCHOOLS AND PROVIDED BOOKS. IN MUMBWA DISTRICT WE HAVE PROVIDED 40 BOREHOLES AS A RESPONSE TO CHALLENGES OF ACCESS TO CLEAN WATER.”⁷



Women drawing water from borehole

⁶ Interview with Anthony Willombe, Regional General Manager at NWK Agri-Services

⁷ Interview with Anthony Willombe, Regional General Manager at NWK Agri-Services, 18 May 2016



Changes in access and control over means of production

The acquisition of large tracts of land by Amatheon Agri has exacerbated prevailing tensions related to land tenure in the Big Concession farm block in Mumbwa district. Part of the state land in Big Concession that was acquired by Amatheon Agri was already occupied and there is lack of clarity on the boundaries of state land among land users.

“THERE HAS NOT BEEN A PROPER LAND SURVEY AND LAND DEMARICATION IN THE BIG CONCESSION. PEOPLE WHO THINK THEY ARE ON CUSTOMARY LAND MIGHT HAVE ACTUALLY INVADED STATE LAND.”⁸

Although the Big Concession farm block represents land that has been alienated and surveyed by government, the lack of effective demarcation of boundaries leaves small-scale farmers vulnerable to being displaced, regardless of whether they are knowingly or unknowingly and 'wrongfully' occupying state land or occupying customary land. Like in other parts of the region, demand for land and water resources in Zambia is on the rise. For large-scale domestic and international investors, often those seeking to expand their acreage after acquiring large

tracts of state land, and domestic entrepreneurs or urban elites seeking to invest in land for commercial activities, it is difficult to find large tracts of state land available for sale as a larger part of the land remains customary tenure system (Honig and Mulenga 2015).

While Amatheon Agri consolidated its landholding by acquiring land from farmers with leasehold in the Big Concession on a willing buyer, willing seller basis in accordance with ZEMA standards, following the sale those households that sold their land to Amatheon Agri sought land in nearby villages.⁹

Due to growing land pressure in Mumbwa district, farmers end up having to rent farmland. Rural households with leaseholds willingly selling their land are rational agents making a transaction, often motivated by income. In this view, although individualised titling allows for clearer delineation and demarcation of land boundaries and arguably ensures better land tenure security, lessons from Kenya notably and Latin America show that individualised statutory land titling can lead to increasing landlessness and household food insecurity in the long run (Chileshe 2005 and Kay 2008).

“CLOSER TO WHERE AMATHEON IS LOCATED, IN A NEARBY VILLAGE CALLED KANEMA VILLAGE, SEVERAL COMMUNITY MEMBERS HAVE LOST THEIR

⁸ Interview, Tobias Muyaba, Sustainable Development Manager, Amatheon Agri, Mumbwa district, Zambia, 19 May 2016

⁹ Focus group discussion with female small-scale farmers in Chinguma Village, Big Concession, Mumbwa District, 19 May 2016 and Interview with headman Moses Mulamfu, Chinguma village, Big Concession, Mumbwa district, 19 May 2016



Focus group discussion with small-scale farmers in Chinguma village, Big Concession, Mumbwa district

LAND BY SELLING OFF THEIR LAND THROUGH A 'WILLING BUYER, WILLING SELLER' ARRANGEMENT. COMMUNITY MEMBERS WHO LOST THEIR LAND IN THESE TRANSACTIONS, INCLUDING THE HEADMAN FROM THIS VILLAGE, HAVE SUBSEQUENTLY APPROACHED ME TO ASK FOR LAND, BUT THE LAND I WAS ABLE TO GIVE THEM DOES NOT COMPARE TO THE LAND THEY HELD BEFORE AMATHEON AGRI TOOK THEIR LAND. EVEN THE HEADMAN IS SUFFERING NOW BECAUSE HE DOESN'T HAVE ENOUGH LAND FOR SMALL-SCALE FARMING LIKE ME AND THE OTHER VILLAGERS IN THIS AREA.¹⁰ ”

During a focus group discussion with small-scale farmers in Chinguma village, under headman Mulamfu, farmers indicated that although they are benefiting from the support programmes by Amatheon Agri and World Vision, there is growing land pressure due to the massive land acquisition for commercial farming.

The farmers explained:

“ IN KAFWIKAMO AREA, THE COMMUNITY DOESN'T HAVE GOOD AND SECURE ACCESS TO LAND FOR FARMING SINCE AMATHEON AGRI ARRIVED. WHEN THE ANNOUNCEMENT WAS MADE BY GOVERNMENT THAT THE LAND WAS EARMARKED FOR INVESTMENT

AS PART OF THE LAND ALIENATED IN THE BIG CONCESSION, THERE WAS RESISTANCE FROM THAT COMMUNITY. THE COMMUNITY IN THAT VILLAGE HAS BEEN STRUGGLING EVEN THOUGH THE ARRANGEMENT BETWEEN AMATHOEN AND THE COMMUNITY WAS ON A 'WILLING BUYER, WILLING SELLER' BASIS IN CONSULTATION WITH HEADMAN OF KAFWIKAMO VILLAGE BECAUSE THOSE FARMERS DON'T HAVE ENOUGH LAND AND THEY HAVE COME TO OUR HEADMAN TO ASK FOR LAND TO BE ALLOCATED. COMMUNITY MEMBERS DID INDEED RECEIVE COMPENSATION. WE BELIEVE THE COMPENSATION WAS BASED ON THE TYPE OF STRUCTURE, HOUSEHOLDS THAT LIVED IN BRICK HOUSES RECEIVED MORE MONEY THAN THOSE HOUSEHOLDS THAT LIVED IN THE TRADITIONAL THATCHED MUD-HOUSE. FOR US, SINCE AMATHEON AGRI ARRIVED, WE'VE HAD IMPROVEMENTS IN TERMS OF CROP VARIETY AND FARMING INPUTS ARE CLOSER. ALSO, WE HAVE BEEN RECEIVING TRAINING IN CONSERVATION FARMING AND INTER-CROPPING FROM WORLD VISION. AND THIS HAS ALSO IMPROVED OUR FOOD SECURITY.¹¹ ”

10 Interview with headman Moses Mulamfu, Chinguma village, Big Concession, Mumbwa district, 19 May 2016

11 Focus group discussion with small-scale farmers in Chinguma village, Big Concession, Mumbwa District, 19 May 2016

There were land seekers on the land that has now been acquired by Amatheon, who have since been resettled. The term 'land seekers' is used to refer to households that were 'wrongfully' occupying state land under the assumption that it was customary land, as a result of the uncertainty regarding the land demarcation in the Big Concession. With ZEMA approval, Amatheon has resettled a total of six households to



Interview with Headman, Moses Mulamfu, Chinguma Village in Big Concession, Mumbwa district

date and 'carved out' fourteen households. For the fourteen households that have been 'carved out', no resettlement of households or relocation of fields has been carried out, as the areas they are occupying have been subdivided ('carved out') from the Amatheon farm. The 14 households are being assisted by Amatheon to obtain title for the subdivided land.

A community representative, who attended a feedback meeting that was held by PLAAS and ZLA in Lusaka in July 2016, in which the team presented preliminary findings of this study, stated that:

“ AMATHEON AGRI COMPANY ENCROACHED ONTO 50HA OF CUSTOMARY LAND. THE COMMUNITY APPROACHED THE MAGISTRATE BUT THE MAGISTRATE WANTED THE LAND TO BE SURVEYED FIRST BEFORE RULING ON THE MATTER. SURVEYING LAND AND DETERMINING THE BOUNDARIES IS RELATIVELY EXPENSIVE.¹² ”

¹² Focus group discussion with small-scale farmers in Chinguma village, Big Concession, Mumbwa District, 19 May 2016

This claim further points to evidence of the lack of certainty regarding land boundaries in the Big Concession between customary land and state land.

During the same session, a senior planner in the Ministry of Lands asserted that, according to government policy for disputes on land boundaries, a land survey is needed.

“ THE COMMUNITY MUST GO THE SURVEYOR GENERAL'S OFFICE. THE SURVEYOR GENERAL WILL ISSUE A QUOTATION AND UPON PAYMENT WILL MOVE TO SURVEY THE BOUNDARIES. AT LAW, THE SURVEYORS MUST BE PAID BEFORE THEY SURVEY THE BOUNDARIES. IT BECOMES AN AUDIT ISSUE IF THEY [SURVEYOR GENERAL'S OFFICE] PROCEED WITHOUT PAYMENT. SOME CIVIL SOCIETY ORGANISATIONS LIKE ZAMBIA LAND ALLIANCE (ZLA) CAN BE ABLE TO HELP THE COMMUNITIES WITH THE MONEY TO DO THE SURVEY.¹³ ”

Our research currently reveals no indication of Amatheon Agri acquiring or attempting to acquire customary land.

As the company is expanding its production there is an ongoing baseline survey to determine the number of households that will be affected by the expansion. The construction of Abba Dam will affect fourteen

households/plots that are (partly) located within the anticipated maximum flood level line (MFL) in the area occupied by the Ulimi Cooperative. Amatheon Agri has entered into agreement with Ulimi Cooperative to ensure continued cooperation between Amatheon and the famers of Ulimi Cooperative, and shared benefits from the infrastructure development for the Cooperative.

Nonetheless, there are major concerns among community members and local officials about the vulnerability and exposure to risk of small-scale farmers due to growing conversion of land from customary to leasehold at household level. As more and more land is converted to leasehold, the benefits of a customary land tenure system are lost.

What separates the customary land tenure system from the leasehold system is that customary land cannot be sold. Under the customary tenure system communities can allocate land efficiently, allowing for mixed use of communal land areas. For most of the small-scale farmers we interviewed at the Big Concession, land is an important source of livelihoods, food and social security. While the majority of farmers indicate that Amatheon Agri has created opportunities for farmers, there is concern regarding the length of time for the lease given to investors for large tracts of land with respect to land access and rights of future generations.

¹³ Discussion, Senior Planner from Ministry of Lands, Lusaka, 13 July 2016

A small-scale farmer at Big Concession clarified:

“ THE MASSIVE LAND ALLOCATION TO A FOREIGNER - I DO NOT LIKE IT. WHAT WILL OUR CHILDREN FIND WHEN YOU GIVE FOREIGNERS LAND TENURE FOR 99 YEARS? WHEN OUR CHILDREN RETIRE FROM LUSAKA, WHERE WILL THEY GO? POPULATION IS GROWING RAPIDLY. OUR CHILDREN WILL THINK WE DID NOT THINK! LAND ALLOCATION MUST BE STRICTLY REGULATED. PUT A CEILING TO HOW MUCH THESE FOREIGN INVESTORS CAN GET. AT MOST THEY CAN GET 5 000HA OF LAND. WE MUST RESERVE THE LAND FOR THE FUTURE. THE LAND TENURE IS TOO LONG. HOW CAN YOU GIVE THEM TENURE EQUIVALENT TO LOCALS? TEN YEARS MUST BE THE MAXIMUM; THEY WOULD HAVE MADE THEIR PROFITS. THEY DO NOT NEED TO OVER INVEST, BECAUSE OUR FUTURE GENERATION WILL FIND OUR LAND DEGRADED.¹⁴ ”

Therefore, while for the vast majority of small-scale farmers who rely on rain-fed agriculture for their livelihoods and a big part of their household food basket, equal access to local water sources is a major concern.

A small-scale farmer practicing mixed farming, which

¹⁴ Interview, Trensio Phiri, Big Concession, Ulimi Community, Mumbwa district, Zambia, 20 May 2016

involves the use of traditional farming techniques and new technologies, indicated that:

“ ANOTHER PROBLEM IS THAT AMATHEON IS NOT INVESTING IN WATER FOR THE VILLAGERS. WE CANNOT HAVE FOOD SECURITY WITHOUT WATER. YET AMATHEON ARE USING A LOT OF WATER AND LEVELS OF UNDERGROUND WATER ARE LIKELY TO GO DOWN. DURING THE RAINY SEASON, AMATHEON HARVESTS ALL THE WATER IN THEIR DAMS, AFFECTING THE NATURAL FLOW IN SOME PERENNIAL STREAMS THAT FEED INTO KAFUE RIVER. ONCE THE RAIN SEASON IS OVER AND EVERYONE HAS HARVESTED CROPS, INCLUDING THEM, AMATHEON STARTS TAPPING INTO UNDERGROUND WATER THROUGH BOREHOLES FOR THE SECOND CROP WITHIN THE SAME SEASON. THE WATER THEY DRAW IS FOR THEIR OWN USE AND THEY DO NOT ALLOW TO SHARE. THEY HAVE EXCLUSIVE POWER AS THEY SAY THEY GOT WATER RIGHTS FROM GOVERNMENT.¹⁵ ”

In contrast, there are farmers with leasehold in Big Concession, like Trensio Phiri, who is part of Ulimi Cooperative and whose land was not affected by Amatheon's investments. This small-scale farmer represents a different category of farmers who are yet to expand their production to grow new cash crops like soya beans, and are using a combination of new

¹⁵ Interview, Eunice Mulamfu, Amatheon agent, Mumbwa district, Kamilambo, Zambia, 19 May 2016



Trensio Phiri of Ulimi Community, Big Concession, Mumbwa district

seed varieties (specifically for cash crops like maize and beans) and indigenous seeds for other food crops (mainly vegetables). Currently Trensio produces enough to feed his family and sells the surplus in the formal markets, including the new Amatheon depots.

Trensio Phiri elaborated:

“ PER SEASON I USUALLY KEEP TWENTY BAGS OF MAIZE FOR CONSUMPTION, AND I SEND 20-30 BAGS OF MAIZE TO OUR CHILDREN IN LUSAKA FOR THEIR CONSUMPTION. I SELL ABOUT 150 BAGS TO LOCAL PEOPLE, AMATHEON AND FOOD RESERVE AGENCY. WE HAVE THREE SQUARE MEALS A DAY. WE HAVE SWEET POTATOES, PUMPKINS AND PLAIN TEA WITH SUGAR BUT NO MILK FOR BREAKFAST. FOR LUNCH WE HAVE NSHIMA WITH CHIWAWA, LUMANDA, BEANS, MUNDAMBI OR NYEMBA. FOR SUPPER IT IS THE SAME. MAYBE ONCE A WEEK WE SLAUGHTER A CHICKEN. I HAVE ABOUT 40 VILLAGE CHICKENS AND IN SOME SEASONS I HAVE UP TO 60. WE ALSO BUY SOME PORK OR BEEF FROM THE SHOPS, BUT VERY RARELY. THE FOOD I EAT IS OBVIOUSLY VERY NUTRITIOUS AND HEALTHY FOOD. LOOK AT ME, I AM 69 YEARS OLD BUT STILL FIT. SINCE I CAME HERE IN 2007, WE HAVE NEVER GONE TO A CLINIC, ME AND MY WIFE WE OFTEN BUY COOKING OIL, BREAD AND SALT.¹⁶ ”



The reconfiguration of input supply

The institutional framework of farming input supply is heavily influenced by new corporate investors and government in partnership with the private sector.

¹⁶ Interview, Trensio Phiri, Big Concession, Ulimi Community, Mumbwa district, Zambia, 20 May 2016

NWK Agri-Services restructured as a company and has expanded its business from only running a large outgrower scheme to setting new departments, including a retail department that supplies farming inputs, as explained below.

“ WE HAVE RETAIL OUTLETS THAT ARE SELLING SEED, FERTILISERS, CHEMICALS, DEWORMERS, SPRAYING AEROSOLS FOR ANIMALS. WE HAVE TWO RETAIL CENTRES IN MUMBWA DISTRICT. ANYONE CAN BUY CASH, BUT FARMERS ON COTTON CONTRACT FARMING WITH US HAVE ACCOUNTS.¹⁷ ”

Amatheon Agri set up retail shops to supply farmers with farming inputs.

“ WE NOW HAVE A FARM SHOP AT THE HEAD OFFICE, ON THE AMATHEON FARM, AND ANOTHER FARM SHOP IN THE VILLAGE THAT SELLS INPUTS. WE GET A CONSIGNMENT FROM FARM INPUT COMPANIES. IF NOT BOUGHT, WE TAKE IT BACK TO THE SUPPLIERS. IT IS NOT FOR PROFIT, BUT TO ENSURE FARMERS GET A VARIETY OF INPUTS NEARBY, AS A SOCIAL RESPONSIBILITY.¹⁸ ”

Amatheon Agri formalised and expanded its trading activities with smallholder farmers in nearby villages.

¹⁷ Interview with Anthony Willombe, Regional General Manager at NWK Agri-Services, 18 May 2016

¹⁸ Interview, Tobias Muyaba, Sustainable Development Manager, Amatheon Agri, Mumbwa district, Zambia, 19 May 2016



Small-scale farmers purchasing inputs at Agri-packs in Mumbwa town using her FISP card.

Around 4500 metric tons of grain were purchased through ten of the company's rural depots, and Amatheon buys cattle from the community and fattens them through its feedlot through its newly established livestock component (Amatheon Agri 2015).

The companies also facilitate credit access for farmers by providing links with commercial banks for farming inputs loans. The Amatheon Agri Sustainable Development Manager elaborated:

“EVEN FOR THE FARMING INPUTS, WE ONLY FACILITATE A RELATIONSHIP BETWEEN ZANACO BANK

AND THE FARMERS; THE LOAN COMES FROM THE BANK. ON THE SURETY, WE LOOK AT THE FARMER'S PROFILE, WE LOOK AT THE PREVIOUS SEASON'S HARVEST. A GOOD HARVEST PROVIDES SECURITY, HEDGING FARMERS. A POOR HARVEST WOULD ALSO MEAN A FARMER CANNOT GAIN ACCESS TO THE INPUTS. THE FARMERS SELL TO AMATHEON THE AMOUNT OF MAIZE EQUIVALENT TO THE LOAN. THE SURPLUS THEY SELL WHEREVER THEY WANT.”¹⁹

¹⁹ Interview, Tobias Muyaba, Sustainable Development Manager, Amatheon Agri, Mumbwa district, Zambia, 19 May 2016



Agri-dealers, Mumbwa Square, Mumbwa district

In addition to selling farming inputs and making them more accessible to farmers in remote areas, the agri-business companies also supplied farming inputs to contract farmers and those in outgrower schemes. According to an Amatheon agent, they selected small-scale farmers who attended their training courses on commercial farming.

“ SELECTED SMALL-SCALE FARMERS ARE GIVEN FARMING INPUTS WORTH K3200 A SEASON. THE SELECTED FARMERS HAVE TO PAY 50% IN ADVANCE AND THE REMAINING 50% THEY WILL HAVE TO PAY BACK AFTER THE HARVEST WITH EITHER MAIZE OR SOYA BEANS. IF THERE ARE NO FLUCTUATIONS IN PRICES AFTER THE HARVEST,

FARMERS HAVE TO PAY BACK K1900, WHICH MEANS THE COMPANY GAINS SOMETHING. THE - PROBLEM IS THAT THE PRICES THEY PAY TO FARMERS FLUCTUATE. THEY ARE DEPENDENT ON THE RATE OF THE UNITED STATES DOLLAR (USD). IF YOU TAKE AN INPUT LOAN AND AT THE TIME OF HARVESTING THE USD FIRMS UP AGAINST THE KWACHA, YOU ARE SUPPOSED TO PAY BACK MORE THAN THE EXPECTED K1900. SO THE USD IS A BIG PROBLEM FOR US FARMERS IF IT STRENGTHENS. THIS PRACTICE MAKES US SUSPECT THEY IMPORT MOST OF THE FARMING INPUTS THEY GIVE US ON LOAN.²⁰ ”

²⁰ Interview, Eunice Mulamfu, Amatheon agent, Mumbwa district, Zambia, 19 May 2016

Government still provides inputs through FISP, which are supplied through the private sector to ensure efficiency, diversification of inputs and fairer distribution. In Mumbwa, the government partners with multiple agri-dealers such as Omnia Nutriology, Zambia Seed Company and Agri-Packs. FISP is 'aimed at improving access of small-scale farmers to inputs and enhancing the participation and competitiveness of the private sector in the supply and distribution of agricultural inputs at the right time and in adequate amounts.'²¹ The FISP E Voucher 'involves delivery of the FISP input subsidy through VISA bank cards rather than via centrally procured and directly delivered inputs.'²² The E Voucher is set to target '602521 farmers in 39 participating districts across Zambia in the 2016–2017 agricultural season.' The selected farmers will receive VISA cards loaded with the government subsidy and the prescribed farmer contribution. The VISA cards were 'redeemable through point of sale terminals/devices with selected agro-dealers'.²³ Inputs supplied included fertiliser, seed, insecticides, herbicides, fungicides, agricultural lime, day-old chicks, livestock feed, veterinary drugs, dip chemicals, fingerlings, and sprayers. An agricultural officer said FISP was meant to enhance food security in Zambia.

Despite government and new agro-investors' provision of farming inputs, it seems most households still source their inputs from private agro-dealers. Some farmers still recycle the traditional maize seed known as *gankada* in local parlance.

“ UP UNTIL RECENTLY, WE RELIED PRIMARILY ON RECYCLED SEEDS AND FROM INPUTS THAT WE PURCHASE FROM AGRI-DEALERS IN MUMBWA, BUT WE DON'T HAVE MONEY. BUT WE ALSO EXCHANGE SEEDS AND CROPS AMONG OURSELVES, DEPENDING ON NEEDS. WHEREBY ONE CAN EXCHANGE SEEDS FOR CROP YIELDS. THE PRACTICE OF EXCHANGING LOCAL VARIETY OF SEEDS IS CALLED GANKADA. WE OFTEN EXCHANGE LOCAL VARIETY SEEDS FOR HYBRID SEEDS. HYBRID SEEDS GENERALLY RESULT IN HIGHER PRODUCTION. NOW WE ALSO HAVE AN AGRI-DEALERS NEARBY THAT WAS OPENED BY AMATHEON AGRI, IT OFFERS FARMING INPUTS AT MORE OR LESS THE SAME PRICE AS THE AGRI-TRADERS IN MUMBWA TOWN. SO WE BUY HERE, BUT WHEN WE GO SHOPPING OR SELLING OUR PRODUCE IN THE OPEN MARKET IN MUMBWA TOWN, WE WOULD GENERALLY BUY ALL OUR FARMING INPUTS THERE AS WELL.”²⁴

21 Republic of Zambia, Ministry of Agriculture, Registration of Input Suppliers and Agro-Dealers for the Farmer Input Support Programme electronic voucher

22 Republic of Zambia, Ministry of Agriculture, Registration of Input Suppliers and Agro-Dealers for the Farmer Input Support Programme electronic voucher

23 Republic of Zambia, Ministry of Agriculture, Registration of Input Suppliers and Agro-Dealers for the Farmer Input Support Programme

24 Focus group discussion with small-scale farmers in Chinguma village, Big Concession, Mumbwa District, 19 May 2016



Production system changes

Extension services

Agri-business is also trying to promote the orthodox commercial production model through advice and training. More and more farmers in Mumbwa district are adopting conservation farming along with the use of chemical fertilisers, herbicides and pesticides in an effort to improve their productivity and production output.

Amatheon Agri is promoting commercial farmers in Big Concession and encouraging farmers to approach their farming as a business enterprise. The outgrower department is aimed at reaching and recruiting more farmers to be part of its outgrower programme in Big Concession.

“ WE HAVE AN OUTGROWER PROGRAMME TO REACH MORE FARMERS. WE TRY TO MIRROR OUR AGRICULTURAL TECHNOLOGIES AND EXPERTISE IN COMMUNITIES. WE TRY TO MIRROR OURSELVES IN COMMUNITIES. WE HAVE NGOS WE PARTNER WITH, LIKE MUSIKA.²⁵ WE SEEK TO TRANSFER KNOWLEDGE THROUGH TRAINING. WE TRAIN COMMUNITIES TO IMPROVE AGRICULTURAL PRODUCTION. IN ZAMBIA WE CANNOT PRODUCE ENOUGH FOOD... WE TEACH THEM

25 Musika is a Zambian non-profit company that works to stimulate private sector investment in the smallholder markets.

ABOUT FARMING AS A BUSINESS. IF A PERSON IS BUSINESS-MINDED IT IS EASIER TO TRANACT WITH THEM. IF YOU ARE BUSINESS-MINDED, FOR EXAMPLE, YOU ARE NOT GOING TO LISTEN TO SOMEONE WHO WILL PAY YOU AFTER SIX MONTHS. WE NEED TO HELP COMMUNITIES TO ADOPT A MODEL THAT MIRRORS US. LOOK HERE, WE HAVE THE ED OFFICE, ACCOUNTANT - WE ARE A PROPER BUSINESS.²⁶ ”

Similarly, through its agriculture department, NWK Agri-Services provides farmers in the outgrower programme with extensive training for growing cotton, basic business principles and best practices for sustainable farming.

During an interview with NWK Agri-Services, the operations manager explained:

“ WE TRAIN FARMERS HOW TO MAXIMISE PRODUCTION PER HECTARE. GOVERNMENT EXTENSION INFRASTRUCTURE IS NOT SUFFICIENT. AS PRIVATE SECTOR WE USE OUR OWN. WE INTRODUCE FARMING BUSINESS COURSES. WE ALSO TEACH THE BASIC LAWS OF SUPPLY AND DEMAND - THAT IF THEY MAXIMISE PRODUCTION THEN PRICES CAN GO DOWN.²⁷ ”

26 Interview, Tobias Muyaba, Sustainable Development Manager, Amatheon Agri, Mumbwa district, Zambia, 19 May 2016

27 Interview, NWK Manager, Mumbwa district, Zambia, 18 May 2016



Small-scale farmers of Ulimi Cooperative,
Big Concession, Mumbwa district

Nonetheless, not every farmer has benefited. Some have been left in debt and this has worsened their livelihoods as they are forced to sell their livestock which is an important source of income, status and protein for their diets. The Amatheon Agri agent we interviewed explained:

“ IN THE LAST SEASON, WE HAD FOUR FARMERS WHO FAILED TO PRODUCE ENOUGH TO PAY BACK THEIR LOANS. THESE WERE THREE MEN AND ONE WOMAN. THE WOMAN AND TWO OTHER MEN HAD TO SELL THEIR GOATS, CHICKEN AND OTHER THINGS SO THAT THEY COULD REPAY THE LOAN IN CASH. THE PRICE OF ONE GOAT RANGED FROM K200 TO K300,

DEPENDING ON SIZE OF THE GOAT AND CHICKEN COST K30-K40. SOME OF THEM EVEN BORROWED. ONE MAN STILL FAILED TO PAY BACK [WAS LATER BAILED OUT BY A GOOD SAMARITAN].²⁸ ”

The major agri-businesses in Mumbwa district both seem to share in the belief in the promotion of a technical business approach as a means to transform production. However, the ideology that informs investors fails to take into account the experiences or what Scott (1998) calls *métis* (local knowledge), as it is moulded on a transfer-of-technology basis, bound to have limited success. Nonetheless, some farmers who received advice and were able to implement the skills and knowledge gained in the training programmes provided by the



²⁸ Interview, Eunice Mulamfu, Mumbwa district, Kamilambo, Zambia, 19 May 2016

agro-investors and adopted the use of chemical fertiliser regimes, hybrids of seeds, timely planting and animal husbandry did, in fact, achieve higher yields and healthier breeds of livestock that fetch more on the market and provide diverse diets. These are mainly the elite of the small-scale farmers who have access to capital and other necessary requisites. For instance, access to credit requires farmers to make an upfront payment, and while more farmers indicate that they would like to access the newly introduced credit facilities, poorer farmers that have no other sources of income outside agriculture struggle to secure enough savings to qualify for the credit. Headman Malumfu explained:

“ I HAVE NOT TAKEN UP THE LOAN BECAUSE OF THE RISK THAT COMES WITH THE LOAN. FIRSTLY, RAISING THE MONEY FOR THE DOWN PAYMENT, WHICH IS ABOUT K1,500 IS TOUGH. SECONDLY, BECAUSE FARMING CAN BE SO UNPREDICTABLE ESPECIALLY NOW WITH THESE CHANGING WEATHER PATTERNS, IF I DON'T HAVE CROP OUTPUT TO PAY BACK THE LOAN, AS YOU CAN SEE I AM OLD NOW, SO I WON'T BE ABLE TO BENEFIT FROM THE LITTLE CROPS I AM ABLE TO PRODUCE AND I WON'T BE SUPPORT MY FAMILY AND PAY FOR SCHOOL FEES. MORE SUCCESSFUL FARMERS, EVEN HERE IN MY VILLAGE ARE ABLE TO BENEFIT MORE FROM THE LOAN SCHEME THAT AMATHEON AGRI HAS CREATED FOR US BECAUSE THEY ARE ABLE TO MAKE THE UPFRONT

PAYMENT THAT IS NEEDED FOR THE LOAN. BUT I HOPE I WILL BE TO SAVE ENOUGH AND GET THE LOAN AFTER NEXT HARVEST BECAUSE THE INPUTS WILL HELP ME TO PRODUCE MORE AND EARN MORE FROM MY PRODUCTION.²⁹ ”

Farmers who stick to granary (*gankada*) seeds, less fertiliser and livestock manure tend to produce lower yields, affecting quantity but with good quality nonetheless.

Linked to this are changes in the production patterns of farmers and the growing specialisation in cash crops, particularly by well-to-do farmers, and the implications of the specialisation in cash crops for farm-level decision-making, relating to what to grow and on how much land for small-scale farmers.

The soya boom

An increasing number of small-scale farmers in Mumbwa district are growing soya beans. The promotion of soya production has been driven by agri-business interventions and government policy, aimed at boosting household income and diversifying diets to ensure food security and nutrition at the local and national level.

A crops officer in the Ministry of Agriculture clarified:

“ MOST OF THE SMALL-SCALE FARMERS GROW MAIZE SINCE IT IS THE STAPLE FOOD. HOWEVER,

²⁹ Interview with Moses Mulamfu, Headman of Chinguma village in Big Concession, Mumbwa District, Zambia, 19 May 2016

WE ARE PROMOTING SOYA BEANS, COTTON AND SORGHUM AT A BIGGER SCALE. SOYA BEAN IS GOOD FOR THEM BECAUSE IT WILL INCREASE THE HOUSEHOLD'S INCOME. A 50KG BAG OF SOYA BEANS COST K250 COMPARED TO A BAG OF MAIZE WHICH COST ONLY K75. CONTRARY TO PUBLIC OPINION, IT IS MUCH CHEAPER TO GROW SOYA THAN MAIZE IF ONE LOOKS AT THE COST OF INPUTS. TO GROW A HECTARE OF MAIZE A FARMER WOULD NEED ABOUT 4 X 50KG OF FERTILISER COMPOUND D, AND 4 X 50KG OF UREA. FOR A HECTARE OF SOYA, A FARMER ONLY NEEDS 4 X 50KG OF FERTILISER COMPOUND D AND THERE IS NO NEED FOR UREA. THE MANAGEMENT PRACTICES ARE ALMOST THE SAME.³⁰ ”



Soya pieces sold in the Mumbwa Square open market, Mumbwa district

Some of the small-scale farmers were ready to start growing soya beans once the advantages of growing soya were explained to them.

One small-scale farmer elucidated:

“ I WAS ALSO INFLUENCED BY AMATHEON AGRI TO GROW SOYA BEANS. THEY USED TO COME TO THE VILLAGE AND TELL US ABOUT THE BENEFITS OF GROWING SOYA RATHER THAN MAIZE. THEY SAID, IF YOU GROW SOYA YOU CAN GET MORE MONEY, WHICH WILL MAKE YOU A RICH FARMER, FOR FARMING IS A BUSINESS AND FARMERS MUST SEEK TO MAKE BIG PROFITS AND GROW. THEY ALSO SAID WITH SOYA YOU CAN MAKE SOYA PIECES, SOYA BISCUITS AND SOYA SAUSAGES. HOWEVER, WE ARE STILL TO SOURCE THE MACHINES TO PRODUCE THESE PRODUCTS BUT THE PROSPECTS LOOKED TOO GOOD TO RESIST WHEN ONE COULD COMPARE WHAT YOU COULD DO WITH MAIZE, WHICH IS VERY LIMITED. AMATHEON AGRI WAS PROMOTING SOYA TO HELP FARMERS SO THAT THEY CAN BENEFIT.³¹ ”

Alongside promotion of soya beans in Mumbwa district, the government is promoting drought-resistant crops, such as sorghum, to ensure diversification of diets and

30 Interview, Kamwenu Kazamba, Crops Officer, Mumbwa district, Ministry of Agriculture offices, Zambia, 18 May 2016

31 Getrude Kapasala, former farm worker at Amatheon, Mumbwa district, Nkulamazhiba village, Zambia, 19 May 2016

to cushion farmers from what appears to be recurrent droughts. An official explained:

“WE ENCOURAGE FARMERS TO GROW DROUGHT-RESISTANT CROPS, SUCH AS SORGHUM. FOLLOWING THE WEATHER PATTERNS, SEASONS ARE BECOMING DRIER AND DRIER AND IT IS NO LONGER SAFE TO RELY ON MAIZE, WHICH NEEDS A GOOD AMOUNT OF RAINFALL. WE ARE THEREFORE TRAINING AND EDUCATING FARMERS TO RELY ON DROUGHT-RESISTANT CROPS. THE DIVERSIFICATION OF CROPS IS ALSO HELPFUL BECAUSE MOST OF THE FARMERS HAVE THE SAME TYPE OF FOOD, THAT IS, NSHIMA IN THE MORNING, NSHIMA IN THE AFTERNOON AND MORE NSHIMA IN THE EVENING MADE FROM MAIZE. IN THIS DISTRICT THERE IS REALLY A NEED TO DIVERSIFY DIETS.³²”



New markets

Agri-business investors also provide new markets for the small-scale farmers for a wider range of crops than government, which only provides markets for maize and other designated crops through the Food Reserve Agency (FRA). The FRA was created to manage sustainable national strategic food reserves and ensure food security. Designated crops for the 2016 marketing season, which runs from 1 May 2016 to 31 October

2016, as announced by the FRA, are maize and paddy rice (FRA 2016).

Amatheon Agri buys crops such as soya beans, maize and cotton from farmers. In an interview, a company representative elaborated:

“COMMUNITIES AROUND HERE MAINLY FARM MAIZE. THEY COMPLAINED OF TRANSPORT PROBLEMS TO GO AND MARKET THEIR MAIZE. SO WE CAME UP WITH A SMALL BUDGET TO PURCHASE THEIR MAIZE. IF PEOPLE SELL TO THE FOOD RESERVE AGENCY, IT TAKES TIME TO GET THE PAYMENT, THOUGH THEY MIGHT BE OFFERING A LITTLE BIT MORE. BUT WE NEED PROFIT; WE NEED TO WORK WITH THE COMMUNITY WITHOUT ACTUALLY LOSING MONEY. UNDER THE OUTGROWER SCHEME, LAST SEASON WE BOUGHT 4 500 METRIC TONNES OF MAIZE FROM THE VILLAGERS, BUT THIS SEASON WE PROJECT TO BUY 20 000 METRIC TONNES OF MAIZE FROM THE VILLAGERS. THE QUALITY OF THE MAIZE FROM THE VILLAGERS IS GOOD. WE ARE NOT GOING TO BUY OR GROW AND TAKE THE PRODUCE BACK TO BERLIN. NO, WE SELL THE MAIZE THROUGHOUT ZAMBIA. IT IS MARKET DYNAMICS. THERE IS LOCAL DEMAND FOR THE MAIZE.³³”

32 Interview, Kamwenu Kazamba, Crops Officer, Mumbwa district, Ministry of Agriculture offices, Zambia, 18 May 2016

33 Interview, Tobias Muyaba, Sustainable Development Manager, Amatheon Agri, Mumbwa district, Zambia, 19 May 2016



Mumbwa Square open market, Mumbwa district

NWK Agri-Services also set up a commodity department to buy crops from small-scale farmers.

“ WE BUY SOYA BEANS, MAIZE, SUNFLOWER, GROUNDNUTS; WE BUY COWPEAS TOO, IN LARGE QUANTITIES, FROM SMALL-SCALE FARMERS. WE HAVE AGENTS WHO BUY FOR US FROM FARMERS AND THEN COME TO SELL TO US. WE ALSO LINK FARMERS TO OTHER BIG MARKETS, LIKE AMATHEON

AGRI. BETWEEN THEM WE TRY TO NEGOTIATE A GOOD PRICE FOR EACH OF THEM. WE ARE NOT DOING THIS FOR CHARITY; WE MAKE A BIT OF MONEY FOR EACH TRANSACTION. WE BUY FOR LOCAL AND EXPORT PURPOSES. WE DO NOT DO VALUE ADDITION ON FOOD PRODUCTS. WE SELL TO NAMIBIA, SOUTH AFRICA AND ZIMBABWE; WE SELL TO MILLERS.³⁴ ”

³⁴ Interview with NWK Manager, Mumbwa district, Zambia, 18 May 2016



Changing food consumption patterns and changings diets

Production system changes, new farming practices and the introduction of new crops and new crop varieties are significantly transforming consumption patterns, dietary diversity and household food security. The use of herbicides in production systems introduced by new agro-investors has therefore partly contributed to the disappearance of indigenous vegetables that would grow alongside maize and other cash crops. There are indications that the types of vegetables that people eat have changed. A smallholder farmer noted that:

“ DIETS HAVE BEEN CHANGING. THE VARIETY OF OUR VEGETABLES HAS BEEN AFFECTED BY CHEMICALS... CHIWAWA IS NOW DISAPPEARING. THE FARMING PRACTICES THAT RELY ON HERBICIDES HAVE LED TO THE DISAPPEARANCE OF FOOD CROPS. BONDWE, WHICH WAS AN IMPORTANT INDIGENOUS VEGETABLE FOR OUR DIETS, HAS DISAPPEARED. BONDWE IS A VERY NUTRITIOUS VEGETABLE THAT HELPS INCREASE FERTILITY, BRAIN DEVELOPMENT AND IS RICH IN PROTEIN. AS A RESULT OF HEAVY USES OF CHEMICALS, BONDWE NO LONGER GROWS.³⁵ ”

Mr Shamlimo, a small-scale farmer and member of the Green Living Movement in Mumbwa district explained:

“ I DO CONSERVATION FARMING AND WE USE HERBICIDES WHICH MAKE WEEDING EASIER. HOWEVER, THE HERBICIDE WIPES EVERY CROP EXCEPT THE ONE YOU WANT. A MAIZE WEED KILLER KILLS ALL EXCEPT THE MAIZE. OTHER VEGETABLES WE NEED LIKE KANUKA AND BONDWE ARE BEING WIPED OUT. EVEN THE SEED YOU CANNOT FIND THE LOCAL SEED. VEGETABLES WERE CHEAPER AND EASY TO FIND BUT NOW WE ARE BUYING VEGETABLES LIKE RAPESEED. WE CANNOT GET INDIGENOUS VEGETABLES. IT IS EXPENSIVE. YOU NEED MONEY. WITH NO MONEY YOU ARE ALMOST STARVING.³⁶ ”

Other vegetables that are disappearing include among others, katolo, lumanda, okra and the red sweet potato.

There are strong views on the possible impact of chemicals on what people eat. Despite the promotion of conservation agriculture by government and agro-investors, the government of Zambia is not only supporting, but also subsidising the use of chemical fertiliser for small-scale farmers through the FISP, with the aim that it will improve production output and ensure food security. However, analysis of data from the Central Statistical Office farm surveys shows that the observed

35 Focus Group Discussion with Smallholder Farmers (Green Living Movement), Mumbwa, Zambia, 18 May 2016

36 Mr Peketi Shamlimo, small-scale farmer in Champa village, Mumbwa district, 11 July 2016

improvement in maize yield when farmers use fertiliser tends to be higher on smaller farms, which suggests that the observed improvement is likely partly due to the fact that farmers producing on smaller farms are able to manage their crops better than those producing on larger farms, and that higher production yields can be attributed to other factors in addition to the use of fertiliser (Burke et al 2012).

A small-scale farmer highlighted that:

“ HONESTLY SPEAKING, WHAT WE EAT IS NOT HEALTHY. WHAT WE USED TO EAT WAS NATURAL; THERE WERE NO CHEMICALS. SOME FARMERS SPRAY AND HARVEST BEFORE THE TIME EXPIRES. ALL WE ARE EATING THERE ARE MORE CHEMICALS.”³⁷

While small-scale farmers are not yet processing soya locally, soya products are being sold in the market and female food vendors have joined the expanding soya value chain in Mumbwa. Soya pieces processed in Lusaka are being sold in the open markets in Mumbwa. Although sales were low when these soya pieces were first made available, demand for soya pieces, which are an affordable alternative source of protein, have risen as soya becomes part of the average food basket for households, particularly in the peri-urban town of Mumbwa.

A trader at Mumbwa square market used to sell *kapenta* (Lake Tanganyika fresh water fish from two closely related



Mrs Phiri of Ulilmi Cooperative preparing a meal, Big Concession, Mumbwa district

³⁷ Mr Peketi Shamlimo, small-scale farmer in Champa village, Mumbwa district, 11 July 2016

species, sardine and sprat) and onions, but added soya pieces in 2015. She has stopped selling potatoes.

Margret explained:

“ SOYA IS LATEST, IT IS NUTRITIOUS AND IT IS CHEAP. WE CAN SELL PACKS OF K5, K10 AND K20. SOYA IS LIKE MEAT YET IT IS CHEAP. A GALLON OF SOYA COST K40 AND FOR KAPENTA IT IS K90.³⁸ ”



Food security

At a national level, government officials claim that Zambia has been relatively food self-sufficient in recent years and therefore food secure. This is attributed to increased yields of grains. The Director in the Ministry of Agriculture said:

“ IN THE PAST TWO YEARS, ZAMBIA HAS MANAGED TO STAY FOOD SECURE AND REDUCE HUNGER. WE HAVE ALSO MANAGED TO PRODUCE A SURPLUS THAT WE MAKE AVAILABLE TO OUR



Margret Ngwenya, food vendor, at Mumbwa Square open market, Mumbwa district

³⁸ Margret Ngwenya, trader at Mumbwa Square open market, 12 July 2016

NEIGHBOURS. SEVERAL COUNTRIES HAVE DECLARED FOOD DEFICIENCY, AND ALTHOUGH WE WERE AFFECTED BY THE LACK OF RAIN IN SOME PARTS OF THE COUNTRY, WE WERE ABLE TO ACHIEVE SURPLUSES IN TANDEM WITH OUR ASPIRATIONS. IN THE PAST YEAR, WE PRODUCED 2.8 MILLION METRIC TONNES OF MAIZE. THIS IS TRUE FOR OTHER CROPS, EXCLUDING SORGHUM. IF YOU LOOK AT PRODUCTION YIELDS FOR MILLET, SOYA BEANS, SUNFLOWER AND GROUNDNUTS, WE HAVE BEEN IMPROVING PRODUCTIVITY AND QUALITY PER UNIT.³⁹ ”

At the district level, the agro-investors have also invested in feeding schemes in local schools and are working with partners, including the World Food Programme and World Vision, to improve local food security and nutrition levels.

However, this has not translated into food security in Mumbwa district, as clarified to by a local government official:

“ A 2012 CENTRAL STATISTICAL OFFICE'S HOUSEHOLD SURVEY ON HOUSEHOLD NUTRITION SHOWED THAT THERE IS A PROBLEM OF STUNTED GROWTH IN THIS MUMBWA DISTRICT. AS A RESULT, GOVERNMENT HAS BEEN PROMOTING THE DIVERSIFICATION OF DIETS. MUMBWA WAS SELECTED

FOR THE IMPLEMENTATION OF THE FIRST 1 000 MOST CRITICAL DAYS PROJECT IN 2014, DUE TO HIGH LEVELS OF MALNUTRITION. THIS IS THE SCALE UP NUTRITION (SUN) INITIATIVE FUNDED BY MANY EU DONORS.⁴⁰ ”

Food adequacy, a component of food security and the right to food, concerns dietary diversity and highlights the importance of nutrition in food consumption patterns, taking into account the individual's age, living conditions, health, occupation, sex, etc. (De Schutter 2014).

There is an evident lack of dietary diversity in Mumbwa district, as very few households can afford fruits, meat protein and milk in a week. The dominant meal is *nshima* (staple food, thick porridge made from mielie meal) and vegetables. All the farmers we interviewed eat at least one *nshima* meal every day. From our interviews, the well-off families are able to secure three meals a day, which are customary in Zambia. The food basket of well-off households, particularly those who have non-farm sources of income, includes milk, meat, fish, fruit, sugar, rice and bread. Poorer household have less dietary diversity as they tend to rely more on their own food crops and only purchase processed foods such as cooking oil, tea, salt and sugar. The less well off have less dietary diversity. As Swindale and Punam (2005) argue, proxy indicators for household food security include number of meals a day and diversity in food intake.

39 Peter Lungu, Director at the Ministry of Agriculture, Lusaka, 27 May 2016

40 Interview, Kamwenu Kazamba, Crops Officer, Mumbwa district, Ministry of Agriculture offices, Zambia, 18 May 2016

Availability, whether from own production or procured from markets, is a key component of food security, of which the latter is achieved

“ WHEN ALL THE PEOPLE, AT ALL TIMES, HAVE PHYSICAL AND ECONOMIC ACCESS TO SUFFICIENT, SAFE AND NUTRITIOUS FOOD TO MEET THEIR DIETARY NEEDS AND FOOD PREFERENCES FOR AN ACTIVE AND HEALTHY LIFE. ”

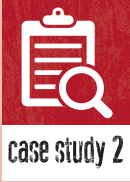
Household food security is differentiated across the farmers, but it is important to note that the majority in Mumba seem not to be food secure. Well-off households that typically produce more food, have higher frequency of meals and dietary diversity compared to the less well off categories. This is explained by a variety of factors, including differences in agricultural production, which are determined by different strategies for gaining access to farm inputs and labour. For instance, small-scale farmers who raise poultry and goats generally eat meat more often than those without livestock. The vast majority of households that do not own livestock indicated that they can only afford to eat meat once a fortnight. In short, ownership of different kinds of livestock is a differentiating factor in the everyday life of small-scale farmers. Indigenous chickens are the most commonly kept type of livestock among small-scale farmers. Small-scale farmers with livestock, like Mr Shamlimo in Mumbwa, also indicated that they consume milk more frequently than those households without livestock. Mr Shamlimo owns 13 cattle, 12 of which are cows.



Branded SUN project vehicle in Mumbwa district, Zambia



Cattle being herded for grazing, Mumbwa district



case study 2

Kalumbila District

In August 2015, President Edgar Lungu declared Kalumbila area, located in Chief Musele's area –about 180km west of Solwezi, the capital of North-Western Province – as a district, in view of recent economic growth and social development in the area. The economic and social development of the area started taking shape following a major mining investment. While a District Director has been appointed, Kalumbila district is still temporarily being administratively governed from Solwezi district (*Lusaka Voice* 29 August 2015).

Kalumbila district is developing rapidly. Currently the district is made up of Kalumbila town, an upmarket town with mixed-income housing for the mine's staff, and two resettlement areas – Shinengeni and Northern Settlement. The aim is to attract further investment in the area and establish a new economic hub with wide-ranging business and industrial opportunities for investors and job seekers. Kansanshi Mine, which is located about 14km outside of the city centre of Solwezi, has attracted many migrant labourers over the years. However, as one moves further away from the city centre and the mine, the vast majority of the population are small-scale farmers who eke their livelihoods on customary land. The main crops across North-Western Province, and Solwezi and Kalumbila districts, include sorghum, millet and cassava – and more recently maize.



Who are the investors and what are they saying?



KALUMBILA MINERALS LIMITED (KML)

Kalumbila Minerals Limited is a subsidiary of First Quantum Minerals (FQM), a Canadian-based mining company. KML acquired a prospecting licence in 2009 and the exploration phase started in 2010. From 2013, the company has been mining copper. The company holds a 25-year mining licence. The mining investment entailed the acquisition of 947.25km², including the mining surface rights cover of 384.9km². KML has also invested in a town covering 5 464ha of land. Under the Trident project, KML has developed three sub-projects, namely:

- Sentinel, which is low-grade copper, where the company is mining copper concentrate, which is not for commercial sale yet. The pit is 6km long, 1km wide and 330m deep.
- Enterprise is a nickel depot. It's a smaller deposit, but higher grade. Because of the levy on the nickel export and absence of smelting facilities in Zambia, the company is not mining nickel profitably.
- Intrepid has not yet been defined as an economically viable area. It focuses on regional exploration activities. KML has been doing regional exploration and holds several prospective licences.

“ FROM MID-2011 WE STARTED A PROCESSING PLANT TO GET THE SENTINEL EIA AND THE ADDENDUM APPROVED AND TO OBTAIN A MINING LICENCE. WE HAVE FIVE LARGE-SCALE MINING LICENCES. WE HAVE ACCESS TO PART OF THE AREA/PORIONS OF LAND WHERE WE HOLD THOSE LICENCES FOR SENTINEL AND INTREPID. THE FIVE MINING LICENCES COVER 947.25 KM2; THE MINING SURFACE RIGHTS COVER 384.9KM2. WE HAVE RECEIVED MINING APPROVAL FOR THE 384.9KM2, BUT WE DON'T HAVE SURFACE RIGHTS. THIS IS AN IRREGULARITY, OF COURSE. AFTER OBTAINING THE MINING LICENCE, THE INVESTORS HAVE TO GO TO THE MINISTRY OF LAND TO OBTAIN SURFACE RIGHTS.⁴¹ ”

“ THERE ABOUT 5 000 PEOPLE LIVING IN KALUMBILA TOWN. WE HAVE OUR SECOND MAJOR INVESTOR IN THE KALUMBILA INDUSTRIAL PARK, A COMPANY THAT WILL BE MAKING MILL BALLS TO SERVE MARKETS IN SOLWEZI, COPPERBELT AND ANGOLA. HOWEVER, THIS INVESTMENT HAS NOT BEEN IMPLEMENTED YET. WE HAVE LOST MANY INVESTORS DESPITE THE SUPPORT FQM TRIES TO PROVIDE. WE HAVE LOST ABOUT 50 INVESTORS AS KALUMBILA TOWN. ALL THE COMMERCIAL INVESTMENT YOU SEE WAS ALSO BUILT BY FQM. INVESTORS CANNOT

⁴¹ Interview with Garth Lapperman, Trident Foundation Manager, KML, Kalumbila district, 24 May 2016

INVEST HERE WITHOUT LAND TITLE BECAUSE THE RISK IS TOO HIGH. THE TOTAL FILLING STATION THAT YOU SEE IN KALUMBILA, THE ATM BLOCKS AND THE SPAR WERE ALL BUILT BY FQM. EVERYONE WHO WANTS TO INVEST HERE IS BLOCKED BECAUSE OF THE TITLE DEED SITUATION. THE BIGGEST ISSUE FOR US HERE IN ZAMBIA IS THAT LAND IS NOT REGULATED; 95% OF LAND IS UNDER THE JURISDICTION OF TRADITIONAL LEADERS. FQM HAS CONSTRUCTED THREE SCHOOLS, 1 200 HOUSES, SEWAGE WORKS AND WATER WORKS. WE'RE HOPING THAT BY 2020 WE WILL HAVE A COMMUNITY OF 20 000 - 30 000 HOUSES. KALUMBILA TOWN CURRENTLY HAS BEEN DEVELOPED AND IS CURRENTLY BEING MANAGED A USING CHIEFS LETTER, FQM OWNS NINE PLOTS AND THE EIA (ENVIRONMENTAL IMPACT ASSESSMENT) HAS BEEN APPROVED BY THE MINISTRY OF LOCAL HOUSING. WE HAVE OBTAINED APPROVAL FOR THE TOWN FROM THE TOWN PLANNING OFFICE, AND KALUMBILA WAS APPROVED FOR MULTI-FACILITY ECONOMIC ZONES (MFEZ) FOR KALUMBILA BY ZDA (ZAMBIA DEVELOPMENT AGENCY) TWO YEARS AGO. THE MOTIVATION FOR FQM TO INVEST SO MUCH IS TO PROVIDE FACILITIES FOR THE FAMILIES OF PEOPLE WORKING IN THE MINE.⁴² ”

two dams to ensure water supply for the mine and will be diverting water from the local river.

“ WE CONSTRUCTED MUSANGEJI DAM FOR SENTINEL LOWER GRADE COPPER MINING AND CHISOLA DAM FOR ENTERPRISE NICKEL MINING. FOR THE LATTER, THE RIVER WAS CUTTING ACROSS THE NICKEL MINE DEPOT. THE DAMS WERE ESSENTIALLY CONSTRUCTED TO ALLOW THE MINING OPERATION TO BYPASS THE RIVER AND TO ENSURE WATER SUPPLY FOR THE MINE'S WASTE FACILITY. HOWEVER, THE WATER FROM THE RIVER IS NOT DIVERTING INTO THE DAMS YET AS IT STILL HAS TO BUILD UP. WHILE DIVERSION IS NOT HAPPENING YET, THERE ARE MINIMUM LEVELS OF WATER THAT MUST BE DISCHARGED DOWNSTREAM. MUSANGEJI DAM IS SOMETHING THAT PEOPLE ARE HAPPY ABOUT. THERE ARE LARGE AREAS THAT ARE ACCESSIBLE FOR COMMUNITIES IN BOTH DAMS. IN CHISOLA, PEOPLE ARE FISHING. IN ADDITION, NEAR THE DAMS THERE ARE MASSIVE OPPORTUNITIES FOR LOCAL FARMERS TO DO FISH FARMING AND CROP CULTIVATION. IN 2012, WE PUT IN 2 000 AND IN 2015 WE PUT IN 20 000 FINGERLINGS IN MUSANGEJI DAM. FQM CANNOT LEGALLY LIMIT ACCESS TO WATER SOURCES. CHISOLA DAM, HOWEVER, IS PRACTICALLY INACCESSIBLE BECAUSE OF WHERE THE DAM IS LOCATED. ENTRY FROM THE NORTH

With regards to water sources, the mine has constructed

42 Interview with Igor Mythias, Trident Foundation, KML, Kalumbila district, 24 May 2016

WOULD ESSENTIALLY CONSTITUTE TRESPASSING THE NATIONAL FOREST. ENTRY FROM THE SOUTH WOULD CONSTITUTE A SERIOUS SAFETY RISK FOR PEOPLE BECAUSE ONE WOULD HAVE TO PASS THROUGH INTREPID MINING OPERATIONS FOR ACCESSING CHISOLA DAM.⁴³ ”

However, to access the water for large-scale commercial activities, local farmers would have to apply for water rights from government.



KALUMBILA SPAR

With the development of Kalumbila town, an independent SPAR grocery store was opened in May 2015 to serve the mining community. SPAR is an international group of independently owned and operated retailers and wholesalers who work together in partnership under the SPAR brand. The retail grocery store represents a major downstream investment in the local agro-food system.

“ WE OPENED THIS SPAR KALUMBILA IN MAY 2015. SPAR IS A FRANCHISE, BUT OUR STORE IS INDEPENDENTLY OWNED; IT IS NOT OWNED BY SPAR, WE ARE JUST USING THEIR NAME. IT IS WELL KNOWN THAT THERE IS A LOT OF UNCERTAINTY IN THE MINING SECTOR. THE STORE ONLY SERVICES THE MINING COMMUNITY HERE IN KALUMBILA. THE SHOP IS TOO EXPENSIVE FOR OTHER COMMUNITIES. WE ARE ABOUT

30KM AWAY FROM THE NEAREST TOWN, KISASA, AND ABOUT 10KM AWAY FROM THE NEAREST RESETTLED COMMUNITY. BUT WE DO SUPPORT THE LOCAL COMMUNITY – WE HAVE A PROGRAMME TO PROCURE FRESH PRODUCE LOCALLY, WE HAVE DEALERS WHO PROCURE BEANS, RAPE AND CHINESE CABBAGE FROM SMALL-SCALE FARMERS ON OUR BEHALF. WE ALSO PROCURE FROM 'WALK-INS', WHEREBY FARMERS SIMPLY WALK IN SEEKING TO SELL THEIR CROP PRODUCTION YIELDS AND WE BUY ON THE SPOT, CASH. HOWEVER, PROCURING LOCALLY MEANS THAT WE FACE THE CHALLENGE OF LACK OF CAPACITY AND ENSURING WE HAVE RELIABLE SUPPLIERS. I HAVE A STAFF COMPLIMENT OF 40 PEOPLE FROM THE LOCAL COMMUNITIES, SO WE ARE HELPING LOCAL PEOPLE. WE ARE GIVING THEM JOBS, [AND] WE HELP SUPPORT 40 FAMILIES. THE EMPLOYEES ARE GENERALLY YOUNG PEOPLE, WITH THE EXCEPTION OF THE BAKERS AND COOKS AND THE BUTCHER.⁴⁴ ”



Kalumbila SPAR located in the newly constructed Kalumbila Town

43 Interview with Joseph Ngwira, Environmental Manager, Kalumbila Minerals Limited, Kalumbila district, 24 May 2016

44 Interview with Milimo Handahu, Manager of SPAR, 24 May 2016



PREMIER CORN

Premier Corn Company promotes the commercial production of cassava in Kalumbila to supply starch used to process copper ore into concentrate for First Quantum Mineral, the parent company of KML in Kalumbila district and Kinsanshi Mining PLC in Solwezi district. KLM has been importing this starch from Australia. Premier Corn aims to 'turn cassava from a food security point of view to a cash crop'. In addition, Zambia National Breweries is expanding its cassava-based beer production, increasing demand for cassava tubers in Zambia. According to Premier Corn Company's CEO, the company has already 'signed an agreement with the mine to provide 20 000–30 000 tonnes of cassava starch per annum and a separate agreement with Zambia National Breweries to provide 40 000 tonnes⁴⁵'. The starch is used to brew Eagle beer. Premier Corn's target is to produce 7 200 tonnes of starch annually, which means the company must produce 28 800 tonnes of raw cassava tubers per annum. Given the high demand, Premier Corn Company has designed an outgrower scheme, which primarily targets displaced farmers in Kalumbila district, but also allows for the participation of small-scale farmers in Solwezi district. Cassava is grown from stem cuttings, as the tubers do not produce buds. In 2016, Premier Corn provided cuttings to 800 small-scale farmers in Kalumbila, and FQM supplied 1 000 small-scale farmers. Premier Corn has made an appeal to the Ministry of Agriculture to support 3 200 new small-scale cassava farmers in the 2016–2017 season under FISP.

Changes in local agro-food systems – What are the people saying?

Changes in access to, and control over means of production

The mining investment entailed the acquisition of large tracts of land, which led to the resettlement of 586 households, 1 520 smallholder farmers, two categories of graves on the mining site (those that needed to be exhumed and those that would be fenced off), 84 livestock farmers with 500 head of cattle in total, 89 beekeepers with three active beehives on average, eighteen water sources, seven churches, one school, and temporary farming shelters in the distant farming fields, mainly from Wanyinwa, which was part of the Musele Chiefdom. In total this amounted to five traditional villages, and of the 586 households, 250 households were original residents of Kalumbila.

A member of the Musele Nkisu Taskforce (MNT), which was set up to mediate between the two resettled communities and the investor, in the interest of the resettled communities, stated that:

“ THE LAND ENCROACHED INTO COMMUNAL LAND FOR CHIEF MUSELE AREA AND FORESTRY RESERVE. THE FORMER PROVINCIAL ADMINISTRATOR ALSO STATED THAT THE LAND ENCROACHED INTO LUALABA FORESTRY RESERVE ON THE SOUTHEASTERN SIDE AND BUSHINGWE FORESTRY RESERVE ON THE

45 Interview with Lubasa, Premier Corn CEO, Solwezi/Kalumbila, Zambia, 15 July 2016

NORTHWESTERN SIDE. THE GOVERNMENT DEMANDED AN EXORCISE OF ALL THE ENCROACHED LANDS FROM THE 518 000HA AND FINANCIAL SUPPORT TO PROCESS REDRAWING OF MAPS FOR URGENT SIGNING AND ONWARD SUBMISSION.⁴⁶ ”

According to the government, the land acquired was supposed to be cut to 318 000ha. Most of the people we interviewed were of the view that Chief Musele was forced to sign off the land by MMD officials in Solwezi.

Most of the farmers we interviewed in the two resettlement areas, Shinengene and Northern Resettlement, highlighted that displacement from farmland has diminished their food growing capacity and led to increased dependency on the market for food. One of the displaced farmers explained:

“ I HAVE NOT BEEN FARMING MAIZE SINCE I WAS MOVED IN 2014. THERE IS NO FARMING LAND. I WAS ONLY COMPENSATED WITH A 40 M x 40 M FOOD GARDEN. I USED TO HAVE 6HA OF LAND WHERE I WAS GROWING MAIZE, CASSAVA AND OTHER VEGETABLES. I USED TO PRODUCE BETWEEN 100 AND 120 BAGS OF MAIZE PER SEASON. I WOULD KEEP 40 BAGS FOR CONSUMPTION AND THEN SELL 80 BAGS. NOW I AM BUYING MAIZE MEAL EVERY

MONTH. I BUY FOUR BAGS AT 25KG EVERY MONTH. WE ARE THIRTEEN IN MY FAMILY – FIVE CHILDREN AND 8 ADULTS. NOW THE FOOD WE BUY IS NOT ENOUGH. WE CAN NO LONGER HAVE THREE MEALS A DAY.⁴⁷ ”

In a report, government acknowledged that the displaced farmers were not farming for three years and were entitled to compensation with agricultural inputs and money to purchase food till the next harvest.

Loss of land also meant loss of housing. In accordance with ZEMA and the guidelines of the International Finance Corporation (IFC), KLM provided new housing for displaced households under Trident Foundation. Households were allocated brick houses with asbestos or corrugated iron roofs. There were contestations as to whether the houses were better than the ones previously owned by the displaced, especially in Kalumbila. The Kalumbila Mine representatives argue that these brick structures with asbestos roofing are more durable and meet the government standards. Almost all the displaced families we interviewed indicated that they were not satisfied with the housing provided, with the size of the houses being cited as the most common reason. Christina Mulalu said: 'I had a five-bedroomed house, but the Mine built a one-bedroomed house⁴⁸.'

⁴⁶ Government letter to Kalumbila Minerals, 17 June 2013, PA/NWP/12/3/6

⁴⁷ Interview, Sise Sise, displaced farmer, Northern Resettlement, Kalumbila, Zambia, 25 May 2016

⁴⁸ Interview, Christina Mulalu, displaced farmer, 15 July 2016, Southern Resettlement, Kalumbila, Zambia, 15 July 2016

A member of the Taskforce, which had been negotiating for better compensation on houses, added:

“MANY HAD GOOD HOUSES BEFORE DISPLACEMENT. THEY HAD ON AVERAGE THREE- TO FOUR-BEDROOMED HOUSES. NOW THEY WERE GIVEN TWO-ROOMED HOUSES. THIS IS VERY, VERY SAD. AS TASKFORCE THIS IS WHAT WE ARE FIGHTING AGAINST. ACCORDING TO IMF, WHEN SOMEONE IS BEING RESETTLED, THEY MUST GET BETTER ACCOMMODATION THAN THEY HAD. ACCORDING

TO IMF, HOUSES MUST HAVE BETTER TOILETS INSIDE, ELECTRICITY AND GOOD SANITATION. MAYBE THE MINE SHOULD HAVE BUILT FOUR- TO FIVE-BEDROOMED HOUSES. WE CALL THESE CHALETS AND NOT HOUSES.⁴⁹”

Some houses in Northern Settlement have been abandoned and are being put up for rent. The owners have largely relocated back to Chief Musele's area to seek land, while some have left to seek job opportunities elsewhere. The picture on the left shows one of the houses that was abandoned and was available to rent.



A house in Northern Resettlement, Kalumbila district

⁴⁹ Interview, Emmanuel Kanganjo, Kisasa community, taskforce member and pump minder, 16 July 2016



Abandoned house in Northern Resettlement, Kalumbila district

Most of the farmers who were resettled by Kalumbila Mine reject the idea of individual titling, preferring customary tenure. Free-market theories argue that land titling can 'unlock the hidden assets of the poor' and increase agricultural productivity.⁵⁰ However, a majority of the farmers we interviewed stated that they prefer customary tenure, as captured below.

“ WE WERE RESETTLED HERE BUT WE REFUSED TITLE DEEDS. WE WANT IT TO REMAIN CUSTOMARY LAND. IF WE ARE ISSUED WITH TITLE DEEDS THERE ARE RATES THAT MUST BE PAID TO COUNCIL ANNUALLY. YOU ARE GIVEN 18 MONTHS TO DEVELOP THE LAND. IF YOU DO NOT DEVELOP THE LAND, IT WILL BE GRABBED FROM YOU BY COUNCIL. THEY WANT TO SEE A BIG FARM IF IT'S AGRICULTURAL LAND, WELL DEVELOPED. IF RESIDENTIAL, THEY WANT STANDARD HOUSES WITH SEWERAGE. THE HOUSES MUST ALSO LOOK BIG, CONSTRUCTED WITH SAME BLOCKS AND WELL-ROOFED. THEY ALSO WANT

SEPTIC TANKS AND DO NOT ALLOW OUTSIDE BLAIR TOILETS. IF YOU FAIL, LAND IS TAKEN BACK TO THE COUNCIL. WITHOUT SECURE JOBS LIKE THIS WE WILL FAIL TO PAY AND OUR LAND WILL BE GRABBED AND BE GIVEN TO THE RICH.⁵¹ ”

This captures the sentiment of many of the resettled farmers. However, some indicated that they would like the headmen's role to be regulated to ensure that the headmen do not sell off their land or engage in land transactions with outsiders. Organisations like Zambia National Farmers Union (ZNFU), founded in 1905 during the colonial time, support a more modernist approach. The ZNFU regional manager explained:

“ WE PREFER FARMERS TO HAVE TITLE SO THAT THEY CAN BORROW FROM THE BANK. WE PROVIDE A SERVICE TO OUR MEMBERS TO EXPEDITE THE PROCESS OF ACQUIRING TITLE. ONCE THEY GET LOANS THEY CAN PRODUCE MORE AND SELL AS COMMERCIAL FARMERS, AND AT THE SAME TIME FEED THEIR FAMILIES.⁵² ”

Foreclosure of council rates can result in the loss of land for the vulnerable. This would also lead to large concentrations of land among the rich, who can afford to service the rates, and the big investors. Adams et al (1999) argue that landlessness will increase through sales of land if a family is in distress.

50 De Soto, H. (2000) *The Mystery of Capital*. London: Bantam

51 Interview, Sise Sise, displaced farmer, Northern Resettlement, Kalumbila, Zambia, 25 May 2016

52 Interview, Simon Nguluwe, Regional Manager, Zambia National Farmers Union, Kalumbila/Solwezi, 23 May 2016

Another displaced farmer also emphasised that the impact of loss of land is not only on contemporary food and social security needs. The displaced are also worried about the negative impact it will have on their children. James elaborated:

“ IF MY CHILDREN GET MARRIED, THEY HAVE NOWHERE TO GET LAND. THE HECTARE IS ONLY FOR MY WIFE AND ME. THEY HAVE NOWHERE TO GET LAND.⁵³ ”

In addition, the displacement of household by KML has had a direct impact on the farmer's access to local water sources.

“ THERE ARE NO STREAMS AND RIVERS IN THE NORTHERN RESETTLEMENT. MOST OF THE PEOPLE IN WANYIMBWA DEPENDED ON WATER FROM KASOMBO, MUKIRA AND WANTAMBO STREAMS. THEY ALSO RELIED ON MUSANGEZHI RIVER, WHICH WAS BLOCKED. KASOMBO IS A TRIBUTARY TO KABOMBO, BUT IT WAS BLOCKED. IN THE NORTHERN RESETTLEMENT THERE IS A STREAM CALLED MINUNGA, BUT IT IS FAR FROM PEOPLE TO GO AND DO GARDENING THERE. IN ADDITION, PEOPLE ALSO DEPENDED ON FIFTEEN BOREHOLES THAT HAD BEEN SUNK BY WORLD VISION.⁵⁴ ”

According to a government directive, the mine was supposed to provide one borehole per twenty households. The government, foreseeing the dangers of water drying up, also directed Kalumbila Mine to create a diversion channel into the Kasombo stream to prevent it from drying up due to mining activities.⁵⁵

While KLM has provided boreholes in the resettlement areas, the quality of the water from the boreholes is questionable and appears 'undrinkable'. The investors did not disagree. In an interview, the KLM, Trident Foundation manager confirmed:

“ WE ARE FULLY AWARE OF WATER QUALITY PROBLEMS. IN WANYINWA, BEFORE RESETTLEMENT, THE VILLAGERS HAD GOOD SANDY SOILS THAT DID NOT AFFECT WATER. IN SHINENGENE WHERE THEY WERE RESETTLED, YOU HAVE IRON-RICH SOILS. THE WATER OXIDISES AND IT TURNS RED. IT IS A FUNCTION OF THE GEOLOGY. THE IRON FINDS ITS WAY. THE WATER IS NOT HEALTHY; IT DOES NOT TASTE NICE AND GIVES CONSTIPATION. IT IS NOT NICE TO HAVE CHRONIC ILLNESS. WE CANNOT FILTER IT; IT BECOMES EXPENSIVE. ANOTHER SOLUTION IS TAPPING STREAMS. SUPPLYING PORTABLE WATER IS COSTLY.⁵⁶ ”

53 Interview, James, displaced farmer, Southern Resettlement, Kalumbila, Zambia, 15 July 2016

54 Interview, Emmanuel Kanganjo, Kisasa community, Taskforce member and Pump minder, 16 July 2016

55 Government letter to Kalumbila Minerals, 17 June 2013, PA/NWP/12/3/6

56 Interview, Garth Lappeman, Trident Foundation Manager, Kalumbila district, 24 May 2016



A group of displaced farmers in Shinengeni resettlement area, Kalumbila district

However, there are different views regarding the cause for the poor quality of the water drawn from the boreholes in the resettlement area. We interviewed a pump minder specialist trained by World Vision. He said that the company had used cheap GI pipes instead of stainless steel or plastic pipes. He explained:

“ THE QUALITY OF THE WATER IS NOT GOOD DUE TO TYPES OF PUMPS THAT WERE USED BY THE COMPANY. I AM A PUMP MINDER EMPLOYED BY WORLD VISION. I WENT TO CHECK THE QUALITY OF WATER THAT PEOPLE DRANK. IT IS NOT GOOD; THE WATER IS BAD. THIS IS BECAUSE THE MINE USED GI PIPES, WHICH EASILY GET RUSTY AND CONTAMINATE THE WATER. EVEN WORLD VISION HAD A SIMILAR PROBLEM WHEN IT SUNK BOREHOLES IN THE AREA. WORLD VISION HAD USED GI PIPES BUT LATER REPLACED THEM WITH STAINLESS STEEL PIPES AND THE QUALITY OF THE WATER IMPROVED. THE RESETTLED PEOPLE IN THE NORTH TOLD THE COMPANY TO REPLACE THE GI PIPES WITH STAINLESS STEEL OR PLASTIC, BUT NOTHING HAS BEEN DONE.⁵⁷ ”

⁵⁷ Interview, Emmanuel Kanganjo, Kisasa community, taskforce member and pump minder, 16 July 2016



Reconfiguration of input supply

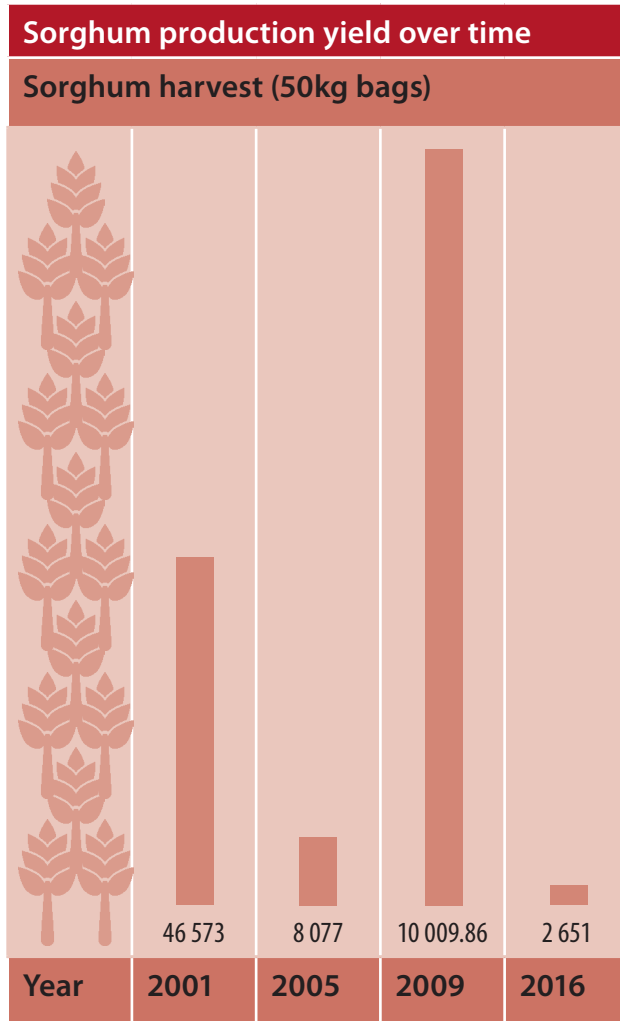
While government is trying to promote small grains such as sorghum in Mumbwa, ironically the production of sorghum has drastically declined in Solwezi/Kalumbila due to government policies that aim to increase the production of maize. The Senior Agricultural Officer for Kalumbila stated that:

“ THE STAPLE FOODS WERE SORGHUM, MILLET AND CASSAVA. PEOPLE HAVE SHIFTED TO MAIZE. MAIZE IS SUBSIDISED BY GOVERNMENT SO THE INPUTS ARE CHEAPER. MAIZE ALSO GIVES MORE YIELDS THAN SORGHUM. THE FOOD RESERVE AGENCY [GOVERNMENT PARASTATAL] PROVIDES THE MARKET FOR MAIZE AND THERE ARE PRIVATE BUYERS FROM CONGO. THE CONSUMPTION PATTERNS HAVE CHANGED AS STAPLE FOOD IS NOW MAIZE MIXED WITH CASSAVA.⁵⁸ ”

Under the FISP, farmers pay K90 for a bag of 74 kg fertiliser for maize, but the market price is K400 from private agro-dealers. While there have been fluctuations in sorghum production over the years, the little data we could obtain from the government archives shows a general trend of decline of sorghum production yields.

Given the inadequacies of our quantitative data due to poor recordings by government, we complemented with interviews from key informants. In an interview,

⁵⁸ Interview, Boyd Sakala, Senior Agricultural Officer, Kalumbila, Zambia, 14 July 2016



the Coordinator of CARITAS, an aid and development agency of the Catholic Church that has been working in Zambia since 2001 cited the following:

“ FINGER MILLET AND SORGHUM ARE ALMOST EXTINCT NOW. OUT OF TWENTY FARMERS YOU FIND ONLY TWO GROWING SORGHUM AND MILLET. THE GRAINS HAVE BEEN OVERSHADOWED BY MAIZE. FARMERS WANT A CROP THAT CAN BE SOLD INTO THE MARKET.⁵⁹ ”

On the other hand, maize production is going up almost annually. In 2016, production was almost a million tons in the district compared to about 200 000 tons in previous years.

Premier Corn has introduced new varieties of cassava that mature quicker than the indigenous varieties. The Premier Corn CEO explained:

“ THE OLD VARIETY TAKES THREE YEARS TO MATURE AND YOU CAN HARVEST ABOUT 10 TONS PER HECTARE, BUT THE NEW VARIETIES WE HAVE INTRODUCED, WITH THE SCIENTIFIC HELP OF THE ZAMBIA AGRICULTURE RESEARCH INSTITUTE, MATURE IN 16 MONTHS AND YOU CAN HARVEST UP TO 41 TONS PER HECTARE.⁶⁰ ”

⁵⁹ Interview, John Kalusa, Coordinator for Catholic Commission for Justice and Peace (CCJP), 13 July 2016

⁶⁰ Interview, Lubasa, Premier Corn CEO, Solwezi/Kalumbila, Zambia, 15 July 2016

Premier Corn provides inputs and extension services for cassava seed growers to produce the new varieties locally. This supply of input is aimed at female farmers. The Premier Corn CEO explained:

“ WE SUPPORT WOMEN SEED GROWERS IN SOLWEZI. THIS IS BECAUSE WOMEN FOLLOW INSTRUCTIONS. IF YOU TELL THEM TO PLANT AT 16H00, THEY PLANT EXACTLY AT THE SAME TIME. WITH MEN THEY CAN PLANT ANY TIME THEY WANT. SEEDS NEED CARING.⁶¹ ”

An outgrower farmer detailed:

“ I HAVE TWO LIMAS OF CASSAVA. I RECEIVED 50 X 50 CUTTINGS, 25KG OF CASSAVA COMPOUND D FERTILISER AND 25KG OF CASSAVA TOP DRESSING FROM PREMIER CORN, AND WE ALSO GET TRAINING FROM THE COMPANY. THEY TEACH US RIDGE SPACING, HOW TO APPLY FERTILISERS AND THEY DO THE MONITORING TO SEE IF WE ARE COMPLYING.⁶² ”

Premier Corn is planning to establish a breeder farm to produce cassava seedlings to distribute to small-scale farmers, and a factory to process cassava into starch. However, it seems that the process of establishing the factory is relatively slow and the farmers on the

outgrower scheme are getting anxious. An outgrower farmer explained:

“ WE WILL BE HARVESTING OUR CASSAVA IN DECEMBER 2016 OR JANUARY 2017, BUT THE FACTORY IS STILL TO BE BUILT.⁶³ ”

According to the CEO, Premier Corn is still looking for finances to build the factory and he attributed the delays to the high cost of doing business. In the event of the company failing to buy their crop, some farmers were confused on what to do. Premier has employed supervisors to ensure that the farmers on the outgrower scheme do not consume the cassava output.

James, an outgrower farmer, said:

“ PREMIER APPOINTED SUPERVISORS TO ENSURE NO ONE CONSUMED THE CASSAVA. THEY SAID THEY WOULD SUE US AND TAKE US TO COURT IF WE EAT THE CASSAVA.⁶⁴ ”

However, some are adamant:

“ WE WILL EAT THE CASSAVA IF THEY DELAY BUYING, IT IS OUR OWN LAND AND THEY ARE JUST HELPING US.⁶⁵ ”

61 Interview, Lubasa, Premier Corn CEO, Solwezi/Kalumbila, Zambia, 15 July 2016

62 Interview, D. Nowa, outgrower farmer, Musele, Northern Resettlement, Kalumbila, Zambia, 16 July 2016

63 Interview, D. Nowa, Outgrower farmer, Musele, Northern Resettlement, Kalumbila, Zambia, 16 July 2016

64 Interview, James, displaced farmer, Southern Resettlement, Kalumbila, Zambia, 15 July 2016

65 Interview, James, displaced farmer, Southern Resettlement, Kalumbila, Zambia, 15 July 2016



Mr Nowa, small-scale farmer, showing his cassava crops for the Premier Corn outgrower scheme, Kalumbila district



The dynamics of new markets

A major development has been the introduction of a SPAR supermarket in Kalumbila in 2015. Supermarkets have the potential of contributing to rural development and strengthening local agro-food systems by procuring from small-scale farmers while maintaining a low-cost environment. However, the supermarket sourced its food from national suppliers in Lusaka, a distance of 700km from Kalumbila district and rarely procured from local producers. Its major suppliers are National Milling Company for maize meal and flour, Fruit and Vegetables

for cabbages, carrots, mangoes, rapeseed, tomatoes and cucumbers, Kachema Meat Supplies for beef and pork, and ZAMBEEF for chicken. For the supply of vegetables, SPAR Kalumbila operates a supply truck weekly from Lusaka. The manager explained that they did not source food products locally because the small-scale farmers lacked capacity, consistency in supply and their products are expensive. For instance, chicken from ZAMBEEF cost between K29 and K31, while local village chicken is sold at K50. The supermarket has vast, empty shelves, an indication that business is not doing well. In an interview, the SPAR manager revealed that the supermarket was facing major challenges and could hardly break even.



Food vendors selling fresh fruit and vegetable at the sheltered Kalumbila Town market, located behind Kalumbila SPAR, Kalumbila district.

Firstly, Kalumbila Minerals does not provide a huge market for their products as the SPAR investors had anticipated. The SPAR manager further explained:

“ THINGS TURNED OUT DIFFERENTLY. YOU COME INTO AN AREA THINKING THERE WILL BE GROWTH AND SO MUCH SALES, BUT THIS HAS NOT HAPPENED. THE MINE IS MOVING FROM THE PROJECT TO THE PRODUCTION PHASE, HENCE IT LAID OFF CASUAL WORKERS WHO CLEARED FIELDS, CONSTRUCTED HOUSES AND ROADS. IN THIS BUSINESS, MARGINS ARE LOW AND YOU NEED HIGH VOLUMES. GOING FORWARD WE NEED A HUGE POPULATION OTHERWISE I SEE NO FUTURE IN THIS BUSINESS. ”

Secondly, the consumers, who mainly consist of the residents of Kalumbila town near the mine, have not been buying the processed food products stored by SPAR.

“ WE HAD A FULL SHOP FULL OF LUXURIES LAST YEAR, BUT PEOPLE DID NOT BUY. WE HAD CHEESE, CREAM, JUICE AND WE REALISED LOCALS DID NOT EAT CHEESE. YOU DO NOT NEED TO STOCK THINGS THAT YOU CANNOT SELL. WE HAD LOTS OF FOOD THAT WE THREW AWAY, LIKE TOMATO SAUCE, OLIVE OIL, FLOUR, CANNED MEAT, SPAGHETTI AND CANNED MEATBALLS. THAT IS WHY WE HAVE EMPTY SHELVES. EXPATRIATES WHO WORK AT THE MINE

WOULD BUY, BUT LOCALS DID NOT BUY - IT IS AN ACQUIRED TASTE. WE EVEN STOCK LONG-LIFE MILK AS FRESH MILK HAS A SHORT SHELF LIFE. ”



Food security

The displacement of farmers by KLM means that farmers not only lost their homestead and social assets, but also their farmland and vegetable gardens, which were located nearby natural streams. Vivian, a small-scale farmer who was resettled in Northern Resettlement, explained:

“ WE HAD AMPLE LAND TO GROW VEGETABLES; THERE WAS ENOUGH SPACE TO DIG OUR OWN WATER WELLS. HERE IN THE RESETTLEMENT SCHEME WE WERE ALLOCATED A 40M2 PIECE OF LAND TO GROW ENOUGH VEGETABLES FOR HOUSEHOLD CONSUMPTION. ”

Another displaced farmer weighed in:

“ WE USED TO GROW AND EAT A LOT OF VEGETABLES EVERY MEAL. WE WOULD GROW KALEMBULA, KATOLO, CHIWAWA, RAPESEED AND CASSAVA. WE HAD SOME WELLS NEAR OUR HOUSES AND IT WAS EASY TO WATER THE VEGETABLES.

66 Interview with Milimo Handahu, SPAR Manager, Kalumbila, Zambia, 24 May 2016

67 Interview with Milimo Handahu, SPAR Manager, Kalumbila, Zambia, 24 May 2016

68 Interview with Vivian Malaya, displaced small-scale farmer, Northern Resettlement, 16 July 201



Vivian, displaced farmer in Northern Resettlement, Kalumbila district

IN ADDITION TO WHAT WE WOULD GROW, WE ALSO HARVESTED VEGETABLES FROM THE BUSH THAT WOULD GROW ON THEIR OWN. VEGETABLES LIKE BONDWE, DERERE AND THERE WAS A TYPE OF KALEMBULA THAT WOULD GROW ON ITS OWN. WE NOW MAINLY EAT RAPE AND KALEMBULA. IT IS NOT EVERY MEAL THAT WE EAT VEGETABLES, EVEN THE RAPE AND KALEMBULA. EVEN WHEN WE DO, THE QUANTITY IS NOT ENOUGH BECAUSE WE HAVE TO PAY K2 PER SMALL BUNDLE OF RAPE AND YOU CAN ONLY AFFORD THREE BUNDLES.⁶⁹ ”

In various interviews, the farmers cited that the displacement has also affected their diets substantially, for instance, there are no fruit trees in the resettlement areas. Some of the families had grown fruit trees in Wanyinwa but were displaced and the company fenced in the fruit trees. Vivian, a displaced farmer, explained her situation:

“ IN WANYINWA, WE HAD PLANTED FRUIT TREES IN OUR YARDS. SOME OF THE TREES WERE ALREADY BEARING FRUIT. WE HAD ORANGES, BANANAS, MANGOES AND AVOCADOS. THOSE TREES HAVE REMAINED IN WANYINWA AND THE MINE FENCED THEM IN. WE USED TO EAT THE FRUIT AND SELL SOME. HERE, IF YOU WALK AROUND, YOU CAN

SEE THAT NO ONE IS SELLING FRUIT AT THE LOCAL MARKETS, WHICH WAS DIFFERENT IN OUR AREA. EVERY TIME I PASS THROUGH THE MINE AND SEE THE FRUIT TRESS FENCED, I AM PAINED.⁷⁰ ”

In addition, some farmers also lost their livestock, an important source of meat and milk protein, due to displacements.

“ I USED TO KEEP EIGHT CATTLE AND TWENTY GOATS. WHEN WE WERE DISPLACED, WE HAD TO MOVE OUR LIVESTOCK FROM KASOMBO GRAZING LAND TO SHINENGENI GRAZING LAND. IN THE PROCESS, MY CATTLE AND GOATS DRANK CONTAMINATED WATER AND THEY GOT SICK AND DIED IN DIFFERENT PHASES. THE WATER HAD BEEN CONTAMINATED BY SOME CHEMICALS FROM THE MINE. EVEN THE FISH IN MUSANGEJI RIVER STARTED DYING FROM THE CHEMICALS, WHICH WERE POISONOUS.⁷¹ ”

The Kalumbila Mine representatives agreed that food was a big problem in the resettlement schemes, hence KLM has is running initiatives to provide farming inputs. Although food insecurity is a big problem in the district, the food security for households that have been displaced has worsened, particularly those who have been resettled in Northern Resettlement, due to lack of farmland.

69 Interview, Sise Sise, displaced farmer, Northern Resettlement, Kalumbila, Zambia, 25 May 2016

70 Interview, Vivian Malaya, displaced small-scale farmer, Northern Resettlement, 16 July 2016

71 Interview, Sise Sise, displaced farmer, Northern Resettlement, Kalumbila, Zambia, 25 May 2016

According to the Senior Agricultural Officer for Kalumbila district, food insecurity in Kalumbila can be partly attributed to old methods of production that result in low food yields. He said:

“ WITH REGARD TO FOOD SECURITY, NOT EVERYONE IN KALUMBILA WAS FOOD SECURE. THIS IS BECAUSE OF UNSUSTAINABLE AGRICULTURE METHODS. THERE IS NO MECHANISATION. IT IS A HOE- AND AXE-BASED FARMING, SO PEOPLE CANNOT CULTIVATE ENOUGH LAND TO HARVEST ENOUGH FOR USE AS WELL AS SELL SURPLUS. WE ARE NOT FOOD SECURE BECAUSE THERE ARE A FEW PEOPLE WITH MAIZE OR OTHER CROPS ALL YEAR THROUGH. FARMERS RUSH TO SELL THEIR MAIZE, THEN TWO TO THREE MONTHS DOWN THE LINE THEY HAVE NOTHING. THAT LEAVES PEOPLE HUNGRY. BECAUSE WHEN YOU SELL, YOU GET MONEY AND YOU GET EXCITED. THEY SELL MAIZE AND THEY BUY BATTERIES FOR THE RADIO. EVEN WHEN SOME FARMERS GROW ENOUGH, THEY STILL STARVE.⁷² ”

Although it is true that farmers are in fact selling most of their crop output and leaving very little for household consumption, small-scale farmers are also faced with increased pressure as rural life is becoming more monetised. For instance, the resettlement areas are isolated, meaning that people living in the resettlement

areas are now further away from amenities and transport costs are more expensive. Therefore, accessing farming inputs and markets such as the Kisasa market, which is the nearest town, has become more expensive for farmers. Moreover, the opening of a mine, and in this case the construction of Kalumbila town, generated a lot of wage employment opportunities for the resettled communities and nearby communities. Now, with the mine in full operation, the mine needs less workers. This means that, for a lot of households, income has reduced significantly. Households cannot grow enough food due to lack of land and other resources, but their ability to procure food has also been severely impacted.



Changing diets and consumption patterns

Government promotion of maize through the FISP means that people are growing less cassava and allocating more of their land to maize production. Although some farmers are now growing more cassava due to Premier Corn's outgrower scheme, the company's operation is still small compared to the maize drive by government. The vast majority of farmers still see maize as a more viable cash crop, despite it being more labour intensive than cassava, because maize has a bigger market in Zambia and it fetches a better price in the market compared to cassava. Therefore, more and more families are consuming maize as a staple food crop.

⁷² Interview, Boyd Sakala, Senior Agricultural Officer, Kalumbila, Zambia, 14 July 2016

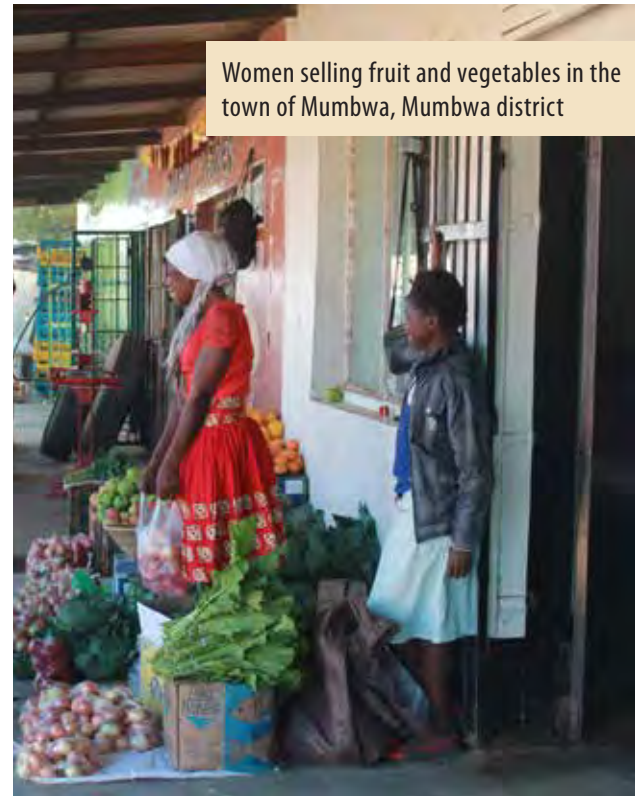
In the Kalumbila resettlement areas, a lot of the displaced households lost their cassava fields when they were relocated. A displaced widow said that:

“ IN WANYINWA I USED CASSAVA FOR NSHIMA BUT HERE I NOW USE MAIZE BECAUSE THERE IS NO CASSAVA. OUR CASSAVA WAS RAZED BY THE MINE OFFICIALS, SO WHEN WE CAME [TO THE RESETTLEMENT AREA] WE DID NOT HAVE ANY SEEDS FOR CASSAVA. THAT IS WHY I GROW MAIZE AND NOW CONSUME MAIZE AS THE MAIN FOOD.”⁷³

Most of the people we interviewed confirmed that the cassava fields were affected, with some receiving monetary compensation.

The new SPAR supermarket in Kalumbila district has not been without impact on consumption patterns. Eggs are not commonly consumed across rural Zambia because egg laying chickens are mainly for reproducing, but the mineworkers are consuming more eggs. The SPAR manager indicated that the consumers buy up to 9 000 eggs a week in the first week of being paid. Eggs and maize meal are popular foods with the workers. SPAR sells about 400 bags of 25kg maize meal per month. As most of the mineworkers in Kalumbila town have not brought their families, eggs present an easy, cheap, fast and convenient meal to prepare. During lunch, the supermarket also supplies about 40 plates of prepared

food, mainly *nshima* and meat, to the mine for workers. This means less cooking in the homes as workers are provided with cooked meals by the mine. Meat and milk, processed cheap food including potato chips and sweets, are among the most commonly bought foods, while fruit and vegetables, and luxury manufactured foods are rarely bought by the locals.



Women selling fruit and vegetables in the town of Mumbwa, Mumbwa district

⁷³ Interview, Margret Kachinda, displaced farmer, Shinengeni Resettlement, 15 July 2016



Implications of changing agro-food systems – the case of rural Zambia

Government's agricultural policy and vision for Zambia to become the regional breadbasket has influenced small-scale agriculture and food security significantly. The prioritisation of maize and most recently soya production means that a large chunk of the national budget for agriculture is being channelled towards the FISP, the sustainability of which is questionable. The Zambian state has adopted a high modernist ideology that places faith in the merits of standard commercial farming. The technocrats within the state also indicated an interest to transform small-scale agriculture to create a group of middle-farmers. The idea is to modernise the 'lazy' small-scale farmers and transform the traditional farming system. The emphasis is evidently on the shift

from subsistence to commercial farming. The approach suits a group of farmers with capital, access to inputs, land, water and labour, who regularly generate surplus. The well-to-do farmers have the wherewithal to adopt the hybrid seeds, chemical fertilisers, technology and animal feeds, but the resource poor have little money to buy these expensive recommended inputs on the market. While Zambia has recorded increased production yields, the new agriculture approach is not without its failures as the current system privileges farmers with more diverse livelihood strategies, who are already producing more output than poorer farmers. Yet according to mainstream rhetoric among various stakeholders including government officials and union representatives, the failure is explained by reference to the farmers' 'laziness' and 'irrational' attitude to the dictates of high modernism.



Agri-dealers in Mumbwa Town, Mumbwa district



Homestead in Northern Resettlement, Kalumbila district

Conclusion

Our case studies reveal growing food insecurity for poorer households in the context of increasing levels of agro-investment. In Mozambique and Zambia, both at national and district level, government, under the assumption that cash crops bring substantial wage and employment opportunities to the rural economy, view the promotion of new crops and new seed varieties by agro-investors as a means of improving food security and livelihoods. However, our case studies in both countries reveal that specialisation in cash crops by small-scale farmers is also associated with the depletion of natural resources, the disappearance of traditional foods due to the growing use of agro-chemicals like herbicides, and the reduction of the range of diversity of seed varieties as a result of the growing prominence of hybrid seeds that offer small-scale farmers higher yields. Therefore, alongside diversifying food baskets as more and more farmers integrate cash crops like soya beans into their diets, there are fundamental shifts in the food crops that are then available locally for farmers to produce for household consumption. Hence growing dependence on purchased food for meeting household food needs. The main channel through which cash crops affect food security is through income as the production of cash crops by large-scale farmers creates employment opportunities and small-scale farmers can earn income by selling their output in the formal market, which they may use to purchase food. However, in the context of highly mechanised commercial farming, job opportunities for low-skilled labour are few and far between. The displacement of farmers from farmland, water sources, and grazing land has diminished their food growing capacity. This has left many having to source food from the market, yet with little cash income.



Family in front of paw paw tree
in Mitovola village, Gurúè district

The impacts of increasing levels of land and agricultural investment are differentiated, as there are losers and winners, those struggling to access opportunities and those exploiting new opportunities to benefit from the reconfiguration of the agro-food value chains. The changes have been more negative for the relatively less well off in society, including women, and particularly those who have been disposed of their farmland, those who have been resettled in new areas as a result of land-based investments, as well as those who are unevenly integrated in the new investor-driven rural markets. Well-off farmers have taken advantage of the new markets, inputs and agro-extension services to improve their crop yields, livestock production, household

incomes and to diversify their diets. Of essence is that the majority is still to benefit from these processes of agrarian change spurred by new investments, bringing the viability of modernist agricultural approaches for rural development, and poverty eradication and food security. Future research should therefore investigate questions related to how small-scale farmers are inserted in the expanding agro-food value chains, and how changing 'food environments' at the local level affect people as both producers and consumers. The current research findings broadly indicate who the different value chain actors are, but there is a lack of understanding of the relationships between them, who assigns value, and how the value changes along the agro-food value chain.



A selection of high protein foods - red beans, soya pieces and kapenta – sold in Mumbwa Sqaure open market, Gurûê district



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Food vendor carrying a bucket of fresh fish, Mumbwa Square open market, Mumbwa district

African food systems are undergoing deep transformations, evidenced by the commercialisation of natural resources and the growing corporatisation of farming inputs, and the production, processing and retailing of food.

This book of case studies presents the responses and experiences of rural and agrarian communities where there has been large-scale land-based and/or agri-business investment. It looks at the wider impact of these investments on food security, agrarian change trajectories, land-based livelihoods and the associated social relations. In this sense, the project draws links between smallholder farmers' struggles over access and control of productive resources, including land and water and the right to food. The restructuring of local agro-food systems as a result of large-scale land-based and agri-business investments is affecting different people differently and leading to growing inequality between those small-scale farmers and households who have been able to exploit the new opportunities arising from these investments, and the small-scale farmers struggling to access these opportunities, who represent the majority.

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