THE IMPACTS OF LARGE-SCALE AGRICULTURAL INVESTMENTS ON FOOD PRODUCTION SYSTEMS: THE CASE OF GURUÉ DISTRICT, MOZAMBIQUE

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A thesis submitted in partial fulfilment of the requirements for the degree of Master Philosophiae in the Institute for Poverty Land and Agrarian Studies (PLAAS), School of Government, University of the Western Cape.

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ABSTRACT

Large-scale agricultural investments in Mozambique peaked following the food, fuel and finance crises in 2008 and so far, more than 34 land deals have been established in the country. Proponents of such investments point to the advantages of capital investment, market adaptability and economies of scale. The large-scale agricultural investments have intensified as a mechanism to address food demands, ensure food security and improve production and productivity patterns. This study analyses the impacts of large-scale agricultural investments on the food production of small-scale farmers in one district. The main question guiding the study is: what are the impacts of large-scale agricultural investments on the food production systems of small-scale farmers and what is the significance of the dynamics of agrarian change of land labour, input or technology and livelihoods in Gurué district? Specifically, the study assesses the impacts on small-scale farmers' access to, use and control of the land; on agricultural inputs and farming technology; and on household employment and livelihoods' trajectories. The thesis examines a case study of the Gurué District, along Nacala Corridor in the centre of Mozambique, where Agromoz Agrobusiness Lda acquired 10,000 hectares for soya bean production. Data was collected through a combination of qualitative and quantitative research methods in villages both directly and indirectly affected by the Agromoz Agrobusiness company. Based on the generated evidence and through the theoretical lenses of Agrarian Political Economy and the Sustainable Livelihoods Approach, the study argues that large-scale agricultural investments operations in rural areas lead to land dispossession of local small-scale farmers and generate differentiated impacts and outcomes, including the emergence of different mechanism for land access, reduction of production areas and the intensification of informal land markets, which spills over into complex changes in food production systems. On the one hand, the study found an accelerated use of capital and consumable inputs and technology; on the other hand, it highlighted the selling of land and labour-power, which undermine the subsistence resulting from the small-scale own production and foster reliance on the purchasing of food. Finally, the study concludes that while small-scale farmers get dispossessed from their means of production, reproduction and accumulation, afterwards some managed to acquire land, expand their production, and upgraded their production systems in terms of what, where and how to produce. Nevertheless, others employed varied survivalist livelihood activities within the household in the context of limited access to land and the absence of opportunities.

KEY WORDS

Agricultural inputs and technology

Agromoz Agrobusiness

Food production system

Gurué

Labour power

Land

Large-scale agricultural investment

Livelihood

Mozambique

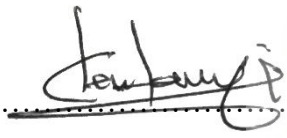
Small-scale farmers

DECLARATION

I declare that "The Impacts of Large-Scale Agricultural Investments on Food Production Systems: The Case of Gurué District, Mozambique" is my own work, that it has not been submitted before for any degree or examination in any other university, and that all the sources I have used or quoted have been indicated and acknowledged as complete references.

Clemente Jorge Ntauazi

December 2021

Signed: ……  ……

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I humbly dedicate this work to small-scale farmers who, find room for accumulation and social reproduction despite the immensurable wave of social economic injustice.

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ACRONYMS

4 C	Four Categories
ABC	African Centre for Biosafety
ADECRU	Acção Académica para o Desenvolvimento Rural
AGRA	Alliance for Green Revolution in Africa
APE	Agrarian Political Economy
APIEX	Agência de Promoção e Importação e Exportação
BRICS	The Brazil, Russia, India, China and South Africa Bloc
CAADP	Comprehensive African Agriculture Development
CEPAGRI	Centro para Promoção de Investimento Agrário
DNT	Direção Nacional de Terras
DUAT	Direito de Uso e Aproveitamento de Terra
EPN	Environmental Paper Network
EU	European Union
FAO	United Nations Food and Agriculture Organisation
FDI	Foreign Direct Investments
FRELIMO	Frente Nacional de Libertação de Moçambique
FYGP	Five Year Government Programme
IMF	International Monetary Fund
INE	Instituto Nacional de Estatística
LOLE	Legislation on local state administration
MADER	Ministério de Agricultura e Desenvolvimento Rural
MASA	Ministério de Agricultura e Segurança Alimentar
MdAE	Ministério de Administração Estatal
MINAG	Ministério de Agricultura
MOZFER	Moz Fertilizer Company
NAFSN	New Alliance for Food Security and Nutrition
NAMP	National Agriculture Mechanization Programme
NEPAD	New Partnership for African Development
NGO	Non-Government Organization
NILC	Nacala Integrated Logistical Corridor
PARP	Plano para a Redução da Pobreza
PEDSA	Plano Estratégico do Desenvolvimento do Sector Agrário
PLASOC	Pltaforma da Organizações da Sociedade Civil de Manica
PNISA	Plano Nacional de Investimento do Sector Agrário
RDS	Rural Development Strategy
RENAMO	Resistência Nacional de Moçambique
SADC	Southern Africa Development Community
SDAE	Serviços Distritais de Actividades Económicas
SLF	Sustainable Livelihood Approach
UKAID	Department for International Development

UNAC	União Nacional dos Camponeses
UNTACD	United Nations Conference on Trade and Development
USAID	United State Agency for International Development
VAT	Value Added Tax
WB	World Bank
WCED	World Commission on Environment and Development
WFP	World Food Programme

Chapter 1: INTRODUCTION

Large-scale agricultural investments are still prevailing realities in sub-Saharan countries (Cotula et al., 2014; Hall, 2011a). This means that large-scale agricultural investors continue to place their interest in agricultural value chains, including agro-commodity production in forestry for wood and crops for animal feed (Grain, 2016; Scoones, 2015). Alongside large-scale investments are medium-scale farmers (defined by Jayne et al., (2019) as farm holdings between 5 to 100 hectares) that are operating in some countries such as Kenya, Zambia and Ghana. These types of farmers control roughly 20% of total farmland in Kenya, 32% in Ghana, 39% in Tanzania, and over 50% in Zambia (Jayne et al., 2019). Yet, small-scale farmers (here defined as farm holdings of between 1 to 5 hectares) comprise some of the key actors in some states for the development of the agriculture sector, although, historically, they are equated as being backwards and unproductive (Kirsten & van Zyl, 1998; Mosca, 2017; (Smart & Hanlon, 2014).

Large-scale agricultural investments in Mozambique and other countries across the sub-Saharan counties peaked in mid-2000 and onward, following the outbreak of the Triple F crisis (food, fuels and finance) and the longstanding advantages of these investments in market adaptability and economies of scale (Clements & Fernandes, 2013; (Smalley et al., 2014). Currently, intensified climate change events are evident in natural disasters and droughts in some countries such as the Gulf states and yet, the lack of enough land holdings in some financially rich countries for farming practices, make large-scale agricultural investments one of the viable options to accumulate food resources, dominate the food value chain and ensure food security (Swinnen et al., 2020). Moreover, these types of investments are increasingly influenced by the countries' respective moves towards market liberalisation, and the language of modernisation being used to meet food security goals.

States in the developed world, together with multilateral institutions such as the World Bank (WB), International Monetary Fund (IMF), development agencies such as the United States Agency for International Development (USAID), United Kingdom Agency for International Development (UKAID), and countries receiving Foreign Direct Investments (FDI) assume that large-scale agricultural investments have the potential to create employment, reduce poverty and hunger, and yet promote rural economic growth in developing countries (Deininger & Byerlee, 2011). Furthermore, these investments are assumed to be viable for skills transfer,

improving productivity levels among small-scale farmers and facilitating easier access to inputs that the commercial farmer can stock and supply to small-scale farmers in remote villages, where the majority of them still employ traditional farming practices (Aha & Ayitey, 2017; Ayelazuno, 2019; Anseeuw & Boche, 2012; Deininger & Byerlee, 2011) They also indicate other advantages such as development of infrastructure, being mainly road, electricity supply and irrigation systems in poor communities.

In contrast, authors such as Brüntrup et al., (2016) and Mccullough & Pingali, (2008) are sceptical about the advantages generated by large-scale agricultural investments in developing countries, particular in poor communities where they are implemented. According to these authors, the development of infrastructure such as electricity, roads and many others, is mostly based on the companies' interest, in that investors build road infrastructures wherever they may need to use them to transport goods or crops to markets or consumers. (Borras & Franco, 2012). This results in land dispossession and the integration of small-scale farmers into the commercial agricultural value chain as additional effects arising from large-scale agricultural investments in recipient communities Grain & UNAC, (2015); African Centre for Biodiversity, 2(019); De Schutter, (2011). When land dispossessions occur, changes on land rights (land access), labour, capital or inputs and livelihood trajectories are visible and affect food production, productivity and consumption patterns (Cotula et al., 2014). To maintain or increase food production and productivity in the context of land dispossession, small-scale farmers are required to adjust to the prevailing production systems, including the introduction of new cash crops and adoption of new farming inputs, generally required so as to increase production levels. Most of the new farming practices are based on market-oriented crops, undermining the production of staple crops (Borras & Franco, 2012; (McCullough & Pingali, 2008). Also, land dispossession may lead to rural migration dynamics in search of alternative livelihoods. It may also lead to an emergence of new class which is patently reliable to market (Nyantakyi-Frimpong & Bezner Kerr, 2017).

A number of studies of large-scale agricultural investments have been conducted such as Cotula et al. (2014); Deininger & Xia (2016); Hall (2011b); Joala et al. (2016); White 2012); Khadjavi et al. (2021), across the sub-Saharan region and a key insight from these literatures is that, on the one hand, large-scale agricultural investments are needed by host countries to boost food security, create jobs and income, while, on the other hand, they sometimes create tensions between investors and villages as most of the investments affect both positively and negatively.

This body of literature has widely focused on understanding what has triggered the rise of large-scale agricultural investments and whether they are beneficial for host countries. However, few researchers have focused on the directly observable outcomes such as income, agricultural productivity, employment, land accessibility and social capital, all of which are affected by large-scale agricultural investments. In Mozambique, although existing studies (Bruna 2019; Mandamule and Macanhengane 2016; Selemane 2017; Mosca, 2011), there is still a dearth of information on the outcomes of large-scale agricultural investments on food production systems, particularly tenure rights (access and use of land) of local land holders, capital or farming inputs and livelihood assets of enclosed communities.

This MPhil thesis investigates how large-scale agricultural investments are restructuring food production systems of small-scale farmers in Gurué District, Zambezia province, along the Nacala Corridor, in the central region of Mozambique. Large-scale agricultural investments are defined as commercial arrangements (or agribusiness enterprises) that generate income through large-scale land acquisitions. Food production systems can be understood in terms of the way that people produce foods; this includes where and what crops are produced, what combination of inputs are used in order to grow crops and the total production output (Timmer, 1983). In addition, it refers to all the processes and infrastructures involved in satisfying a population's food security, that is, the gathering/catching, growing, harvesting (production aspects), storing, processing, packaging, transporting, marketing, and consuming of food, and disposing of food waste (non-production aspects) (Challinor et al., 2014). Furthermore, the study tracks and monitors different impacts of large-scale agricultural investments on local farming practices with a particular focus on Agromoz Agribusiness, Lda, (herein after referred to as Agromoz) in the Gurué district at the border with Nampula province. Agromoz is a large-scale agricultural investment, which is a joint venture between the Americo Amorin Group and Intelec. This joint venture acquired 10000 hectares of land for commercial farming in 2012 (Joala et al., 2016). Specifically, the study explores how these investments impact on small-scale farmers' access to and control of land, as well impacts on household labour power. The study also examines how new agriculture inputs and technologies are emerging and their implication for rural livelihoods in the Gurué District, in Zambezia Province, in Mozambique.

1.1. Background and Context

In recent years, African governments have implemented numerous reforms on agricultural policies and strategies through entering into bilateral agreements in order to attract Foreign Direct Investments (FDI) in the agriculture sector, which remains the main source of livelihoods, incomes and food security for the majority of the population in many countries (Unctad, 2020). As result of these reforms, in 2003, African governments adopted the Maputo Declaration, through which the African governments committed themselves to the allocation of at least 10% of national budget resources to agriculture and the policy implementation of rural development (African Union. et al., 2003). In the same year, they adopted the Comprehensive Africa Agricultural Development Programme, which highlighted the rise of annual agricultural productivity to a minimum of six per cent and increased public investments in agriculture to at least 10 per cent. In 2007 the Green Revolution for Africa was adopted which is aimed at improving agriculture productivity by using improved farming technologies (NEPAD, 2003). In 2014, the African government adopted the Malabo Declaration, which set new goals showing a more targeted approach to achieve the agricultural vision for the continent, which is shared prosperity and improved livelihoods (African Union, 2014). In terms of bilateral agreements, from 2010 to 2014, African governments signed 5,313 agreements with FDI source countries, most of them from Europe and Asia (UNCTAD, 2020). These policy arrangements renewed worldwide business interests in African agriculture (Cotula, 2012), with large-scale agricultural investments continuing to be one of the prevailing and active actors in agriculture across the continent. In addition, the narratives on resource scarcity and population growth, with global population set to reach 9 billion by 2050, have been increasing the competition for resources, including land for the production of agro-commodities for various business sectors, including food and chemicals and mining, as well as bio-energy and tourism, among others (Anseeuw & Bending, 2012; Scoones, 2015). More specifically, the new business footprint in African agriculture has been attributed to what has come to be known as the triple-F crisis – the food, fuel, financial crises that arose in 2007/2008 (HlPE, 2013; Mousseau, 2010). According to a (Deininger et al., 2011) more than 70% of farmland acquisitions worldwide have occurred in sub-Saharan Africa, particularly in Mozambique, Ethiopia, and Sudan.

Although large-scale agricultural investments continue to prevail in the continent, medium-scale farmers are arising due to the rising population densities across sub-Saharan Africa,

coupled with populations that retain family farms regardless of their primary source of employment. For instance, some countries, such as Kenya, Zambia and Ghana, are already witnessing the expansion of medium-scale farms. Roughly, these types of farmers control 20% of total farmland in Kenya, 32% in Ghana, 39% in Tanzania, and over 50% in Zambia (Jayne, 2016). Land acquisition by this group entails changing of perceptions within the African government about how agricultural development should unfold in the continent.

In Mozambique, such medium-scale farms are emerging and they are defined as farm holdings of between 5 to 50 hectares. This is evidenced with the implementation of public programme like Sustenta (led by the Mozambican government with the financial support of the World Bank) and accompanying programmes and projects like Feed the Future (led by the United States Agency for International Development, USAID), Inovagro (led by the Swiss Agency for Development and Cooperation). For multiple development agencies and donors such the World Bank, International Monetary Fund (IMF), USAID, and the UKAID and others, the country has large tracks of arable, unutilised land and with a large population of small-scale farmers with very low productivity (Joala et al., 2016; White et al., 2012). This assumption has, not surprisingly, attracted considerable interest in land investments for agriculture from private sector actors, mostly from the north: The United States of America (USA), Great Britain, China, Sweden, Brazil and Japan, among others, have shown interest in land-based investment (Amanor & Chichava, 2016; Hanlon & Smart, 2012).

For the government of Mozambique, large-scale agricultural investments are critical for improving productivity and the transformation of the agricultural sector (Shankland & Gonçalves, 2016; Cammaer, 2016; Dinerman, 2001). Agriculture is the mainstay of the country's economy as 95% of food consumed in the country comes from small-scale farmers (Mosca, 2017). This vision has led to an introduction of new policies and adoption of programmes such as the New Alliance for Food Security and Nutrition (NAFSN) in 2013, which is a Group of Eight (G8) initiative (currently G7 as Russia left), aimed at improving African agricultural productivity and developing the agrifood sector by attracting more private investment in agriculture. This programme can be partly attributed to the influence of international strategies such as Green Revolution and dominant narratives around agricultural development pathways for Africa (African Centre for Biosafety, 2019). Mozambique adopted the Green Revolution approach to agriculture development in 2007 as a strategy to improve production and productivity levels (African Centre for Biosafety, 2019). The Green Revolution

is an agricultural strategy that hinges on a package of technology including improved or hybrid seeds, the use of synthetic fertiliser, irrigation and consolidation of land credit, as well as access to the market (Greenberg, 2015). In 2013, Mozambique joined the NAFSN with the intention of increasing investment to develop Mozambican agriculture, eradicate poverty and reduce malnutrition (de Schutter, 2011; Munoz, 2012).

The agricultural investments in Mozambique, so far, are driven by the Strategic Plan for the Development of the Agricultural Sector (Plano Estratégico do Desenvolvimento do Sector Agrário – PEDSA) (Cammaer, 2016). PEDSA aims to promote an integrated, prosperous, competitive and sustainable sector (MASA, 2011). Alongside PEDSA, the government adopted the National Investments Plan for the Agrarian Sector (Plano Nacional de Investimento do Sector Agrário – PNISA) in 2012 as an instrument to drive the implementation of objectives outlined in PEDSA (Vunjanhe & Adriano, 2015). PNISA sets out to develop sustainable production systems capable of doubling agricultural output. This requires a significant increase in production output and improving productivity levels, market access, food and nutrition, natural resources and institutional reform (MASA, 2011).

Data from the Bank of Mozambique (2013) revealed that during this period, the inflow of liquid capital in the form of foreign direct investment (FDI) was USD5 935 million in total – a 15,8 per cent increase compared to 2012 – making the country the third top FDI destination in Africa (UNAC & Justica Ambiental, 2011). In contrast, in 2014 the Centre for Investment Promotion (CIP, 2014)[1] approved 487 investment projects totalling the amount of USD7 million, exceeding the USD2,8 million acquired in 2013. Large proportions of these investments were geared towards the development of agribusiness in the Nacala Corridor, which includes the Gurué district. For example, between 2007 and 2016 more than 50 investors received an amount of 1.5 million hectares of land from Mozambican authorities (Grain & UNAC, 2015). On one hand, these investments contributed to employment, skills transfer and provided a market for small-scale famers (Baleira & Castro, 2016; Smart & Hanlon, 2014). On the other hand, they are perceived to have violated local people's rights to land, water, and access to forests, affecting household labour relations, capital and widespread implications for different farmers' livelihoods (Grain & UNAC, 2015; Mandamule, 2016).

[1] CIP is no longer the Centre for Investment Promotion, it's now the Investment and Export Promotion Agency.

1.2. Problem Statement

A convergence of global crises (financial, environmental, energy, and food scarcity) in recent years has contributed to a dramatic rush to control land, especially in the Global South (Borras & Franco, 2012). Studies indicated that from 2008 to 2014 external investors targeted 50 million hectares in developing countries (Anseeuw et al., 2012; Selod et al., 2011). More recent data compiled in the Land Matrix Global Observatory, reports more than 1,500 concluded international deals and more than 48 million hectares that have been acquired by investors since the year 2000, most of them having been in the sub-Saharan region (Anseeuw et al., 2012). In Africa, 685 cases of large-scale agricultural investments were initiated in 2000, covering an area of 40 million hectares, while in Southern Africa, 216 cases have been identified that collectively makeup 10 million hectares of land (Collier & Dercon, 2014). In Mozambique, more than 34 land deals have been established until 2021 (Lay et al., 2021).

There have been increasing levels of agro-investment in Mozambique since 2003, for the development of six growth corridors (ADECRU, 2014)[2] namely, Pemba-Lichinga, the Nacala corridor in the north; the Zambeze Valley and the Beira Corridor in the centre; and the Limpopo and Maputo Corridors located in the south of the country (MASA, 2011). The total area targeted by these growth corridors across the country accounts for 70% of the country's national wealth (MASA, 2016). These corridors are being planned for and developed across the country, particularly along high potential agro-ecological zones to allow for the production of a wide range of crops, including more traditional crops such as cash crops like maize, rice, cotton, tobacco and relatively newer cash crops like sugar, soybean, jatropha, cassava and cowpeas, and staple crops including beans, millet and sorghum, to name a few, MASA (2011); Ntauazi (2014),[3]. In addition, these corridors are rich in mineral and fossil fuel resources such as precious stones, coal and oil (Ntauazi, 2014; MASA, 2011)[4]; (UNAC & Justica Ambiental, 2011).

[2] https://adecru.wordpress.com/2014/10/06/camponeses-acusam-candidatos-a-presidencia-da-republica-de-marginalizarem-a-agricultura-camponesa/
[3]https://adecru.wordpress.com/2014/10/06/camponeses-acusam-candidatos-a-presidencia-da-republica-de-marginalizarem-a-agricultura-camponesa/
[4]https://adecru.wordpress.com/2014/10/06/camponeses-acusam-candidatos-a-presidencia-da-republica-de-marginalizarem-a-agricultura-camponesa/

Large-scale agricultural investments are being implemented under the banner of promoting economic growth and development in countries that are rich in natural resources like Mozambique (Clements & Fernandes, 2013) and to tackle concerns around food and fuel security, as well as, the spiking of global prices (Glover & Jones, 2019; World Bank, 2021). This is sustained by studies questioning the production and productivity capacity of small-scale farmers to respond to world food demand, as the world population grows to 9 billion by 2050 (Collier & Dercon, 2014; Scoones, 2015). Some studies have argued that agriculture is still a key sector for social and economic development in developing countries; and that the sector should be handled by small-scale farmers as they are efficient in what they do; however, they need improved technology, inputs, credit and markets (Chand et al., 2011; Mosca, 2017). However, this argument is partly contested by other studies (Hanlon & Smart, 2012; Kirsten & van Zyl, 1998; Pattenden, 2018), which recognise the importance of agriculture for social and economic transformation in developing countries. However, they argue that the small-scale farmer or smallholder model is less productive and efficient due to the applied farming technology and a lower capacity to handle logistics. In the recent years it seems that the debate converges on the need to promote large-scale agricultural investments to achieve and maintain food security and combat poverty (Baglioni & Gibbon, 2013; Cotula et al., 2014). However, this should be done by also letting the investors cooperate with the small-scale famers in the output markets (Collier & Dercon, 2014).

The increase of large-scale agricultural investments in Mozambique often has back-up support of the government, facilitated by new economic growth and neoliberal policies and strategies (Grain &UNAC, 2015; White, 2012)). Within the development corridors, investments in land are being negotiated and implemented under national development programmes including ProSavana (terminated in July 2020), the New Alliance for Food Security and Nutrition (NAFSN), the Development of the Nacala corridor, Sustenta and a range of other agribusiness projects run by the private sector and facilitated by the government, through introduction of new policies and programmes and promotion of *Direito de Uso e Aproveitamento de Terra* (DUAT), which is a land certificate given to investors (Grain & UNAC, 2015; Nogueira et al., 2017)). For instance, the Guré district, which falls under the the Nacala corridor, has attracted different types of agro-investments since 2003. These include the large-scale, land-based investments for commercial agriculture, agribusiness companies and non-governmental international organisations (Joala et al., 2016).

Drawing from a body of literature (Baleira & Castro, 2016; Hanlon & Smart, 2012; Khadjavi et al., 2021; Smart & Hanlon, 2014), large-scale agricultural investments are needed by host countries to boost food security, create jobs and income. On the other hand, this sometimes create tensions between investors and villages as most of the investments affect both positively and negatively. Much of the debates outlined in multiple studies (Bruna, 2019; Fairbairn et al., 2014; White et al., 2012) conducted on the continent and Mozambique, have criticised such investments for the negative implications for small-scale farmers. With the arrival of large-scale agricultural investments, the so-called marginal, empty and available land is captured (Fairbairn et al., 2014; Glover & Jones, 2019; White, 2012). According to UNAC & Justica Ambiental (2011), the loss of access to Niassa province, north of Mozambique, by villages has decreased crop production since 2008. In the central region, as a result of Portucel investments, villages are shifting from non-fertiliser production and the use of indigenous seeds to fertiliser and improved seeds in order to enhance production. Owing to increasing land pressure as a result of large-scale acquisition, some villages in the same region are left with a small plot to cultivate, making it difficult to practice seasonal agriculture (Baffoni & Haggith, 2017). These practices have led to changes in the food production system in Mozambique in diverse ways.

In general, these investments have been rooted in theoretical and analytical perspectives that speak to the land question or land deals and the effects on the environment, leaving a gap of understanding and knowledge on the impact of these investments on local food production systems in Mozambique, particularly regarding tenure rights, household employment, farming inputs and livelihood sources. This study will focus on the case of Agromoz which is a private company that has been engaged in maize and soybean production, with only 3000 hectares of land under cultivation since it commenced production in 2012 (Joala et al., 2016).

In the Gurué district, almost all households are engaged in farming in one way or another, with the majority cultivating land that is under customary tenure using local inputs and technology (Hanlon & Smart, 2012). Under the context of growing rural land pressure, small-scale farmers may have to pay rent for access to farming land or even buy land to affix residences, change farming inputs and increase or reduce the number of the household labour force (Ntauazi, 2014). The land is a source of livelihood for many rural communities and it is difficult for them to subsist without it (Murphy, 2012).

This research responds to the dearth of information and the lack of understanding and knowledge regarding the likely impacts of large-scale agricultural investments on small-scale farmers' food production systems in Mozambique. An analysis of the implications of the land acquisition by AgroMoz in Lioma, the Gurue district in the central region of Mozambique, aims to contribute towards addressing this gap in knowledge by understanding how food production systems in rural Mozambique are being reconfigured within the context of large-scale agricultural investments.

1.3. Research Objectives

The objectives of this research are as follows:

Main objective: Analyse the impacts of large-scale agricultural investments on land, labour, input or technology and livelihoods and implications on food production systems of small-scale farmers and on dynamics of agrarian change.

Specific objectives:

1. To assess how large-scale agricultural investments change small-scale farmers' access, use and control of land;
2. To assess how large-scale agricultural investments affect small-scale farmers' labour dynamics and rural employment;
3. To analyse the implications of large-scale agricultural investments for input use, technology and different small-scale farmers' livelihoods trajectories.

1.4. Research Questions

The research questions that this study aims to address include:

Key question: What are the impacts of large-scale agricultural investments on food production systems of small-scale farmers and the significance of dynamics of agrarian change in land, labour, input or technology and livelihoods in the Gurué district?

Sub questions:

1. In what ways do the large-scale agricultural investments affect small-scale farmers' access to, use and control of land?
2. To what degree do the large-scale agricultural investments affect labour dynamics and rural employment?

3. In what ways are the large-scale agricultural investments reshaping agricultural inputs, technology and livelihood trajectories of small-scale farmers?

1.5 Structure of the Thesis

This MPhil thesis is enlightened by two critical agrarian political theories. On one hand the Agrarian Political Economy (APE) and on the other, the Sustainable Livelihood approach. These two approaches were chosen by their interdependence relation on the analysis related to land, labour, inputs and livelihoods trajectories. Building on both theories, this thesis structurally starts with the introduction chapter which incorporates objectives and a set of research questions. Further, it goes to a theoretical framework and literature review chapter where the two theories guiding the study are presented and described. Additionally, through the literature review, the study was located in ongoing debates and recent studies on the implications of large-scale agricultural investments for small-scale farmers. This section was preceded by a key concept section whereby defines and debates different concepts embodied in this thesis were defined and debated in the context of this study to avoid multiple and diversified definitions that suggest multiple interpretations. Methodology and research design are addressed and make chapter four. Here, key methods and data collection tools have been described. The thesis is further developed with four research findings chapters that are anticipated by the lead-up to the conclusion chapter.

The research findings start with chapter three which I outline and analyse the background of land-based investments in Mozambique, focusing on the land-based investments trend in the country with an analysis of the legal and institutional frameworks (policies, laws and regulations) that govern agricultural investments. The key argument in this chapter shows that the most large-scale agricultural investment operations in rural Mozambican areas lead to land dispossessions of local small-scale farmers and generate differentiated impacts and outcomes regardless of the existence of a legal framework. This was confirmed in the study site, whereby evidence sustained that Agromoz evicted small-scale farmers from their native land. Yet, the land pressure created by Agromoz and other land-related programmes such as Sustenta Programme (an agricultural government programme) in Gurué is pushing generated pressures of multiple and competing interests in land, with the result that land – previously an entitlement that comes with membership of a community – came to be into a direction where it is regarded by small-scale farmers as commercial or tradable assets or, as referred to by Bernstein (2010)

puts it, as the conversion of land into a commodity. Agricultural investments therefore prompt not only land dispossession but also land commodification.

The fifth chapter, which is after the methodology and research design chapter, focuses on land access and use. It is a fact that large-scale agricultural investments such as Agromoz dispossess and exploit the local people, as argued by Hall, et al, (2015; 2011); O'Laughlin, (2016); Murphy, (2013) and others show. However, this argument cannot be taken for granted because as it will be evidenced further in this study shows, small-scale farmers affected by Agromoz access different types (and quality) of land through different mechanisms such as kinship, informal allocation, labour tenancy, purchase and rental, following as mechanisms to face the involuntary dispossession due to undertaken Agromoz. These findings contradict the studies conducted by UNAC, et al., (2016) and Bruna, (2019) in Mozambique in which both authors highlighted a complete loss of land among small-scale farmers as a result of the arrival of agrarian capital or investors in various communities. Instead, those displaced continue to access land, but different sizes and quality of land, and through different mechanisms.

The sixth chapter focuses on the farming inputs or technology of small-scale farmers, herein understood as infrastructures and processes involved in crop production, including growing, related to harvesting, processing, packaging and transportation of crops before consumption (Brookes & Barfoot, 2018; McArthur & McCord, 2017). It specifically explains changes in agricultural inputs and technology for food production that have emerged for small-scale farmers as a result of large-scale agricultural investments. Drawing from the conducted interviews and literature review, food production in Gurué is carried out by small-scale farmers, understood herein as those producing on 0.5 to less than 5 hectares of land, using the family as the primary source of the labour force (MASA, 2016). The chapter shows that before the arrival of Agromoz in Gurué, small-scale farmers produced food using traditional methods and produced traditional crops such as maize, beans, cassava and sweet potato. This echo agrees with Mosca (2011) and Mendes, et al., (2014) who argued that before the penetration of agrarian capital in the rural areas, small-scale farmers relied on their production logic essentially driven by the traditional system of production. However, with the arrival of Agromoz, most small-scale farmers have changed their farming inputs and technologies to so-called modern technologies such as hybrid seeds and full employment of reliance on chemical pesticides for the production of food. This has led small-scale farmers to introduce new cash crops and seed varieties as it is happening elsewhere, as shown in the other regions of the

country as evidenced in the studies by Mosca & Abbas, (2016) in Gaza province (south of Mozambique) and Cammaer, (2016), in Nampula province (north of Mozambique) where both found out that commercial agriculture investors play great to exert significant influence on surrounding smallholders around them in terms of what and how to produce.

The seventh chapter focus on rural livelihoods and, labour dynamics and relations. This chapter is anticipated by the conclusion and it shows that where before the arrival of Agromoz many small-scale farmers depended on agricultural-related activities to generate livelihoods, however, after the arrival of Agromoz an increasing number of households some small-scale farmers relied on the purchase of food and yet others depending on their capacity opted on doing small investments such as mini-groceries to sell basic needs such as salt, soap, cooking oil and other products. Borrowing from Hall et al., (2015) and Neaves, (2017), these effects cannot be generalized because there are always differentiation patterns in access to livelihood assets. This is evidenced in the way that some farmers are benefiting and others are not from the use of better high-yielding improved seeds, and the use of agro-chemicals like herbicides, instead of doing labour-intensive weeding (Bernstein, 2010; Deininger & Byerlee, 2013). Additionally, some small-scale farmers attempted to expand their activities and or move into new activities. As to the labour, Agromoz impacted household labour, in the sense that small-scale farmers reduced the labour-power per household; instead of 4 household members working on a family plot, now it is an average of 2 members, as others. The other members have migrated and integrated themselves into the off-farming activities. However, this finding challenges the view contradicted by Nolte and & Ostermeier, (2017) and Cochet, (2018) that whose arguments are intrinsically elaborated on the potential of large-scale agricultural investments for employment creation. For these authors, since large-scale agricultural investments focus on rural areas, they, therefore, generate jobs to satisfy labour demand through direct (working in the company) and indirect (e.g. contract farming) employment opportunities for former or local land users.

After having described the genesis of the thesis and the structures with key findings, I now move to chapter 2 to provide insights on the theoretical frameworks and literature review.

Chapter 2: THEORETICAL FRAMEWORK AND LITERATURE REVIEW

This second chapter comprises a theoretical framework and literature review. It opens with the theoretical framework which is followed by the key concepts used in the study and concludes with a literature review. The theoretical framework provides the main theories that have guided the study in understanding the reshaping of food production systems in Gurué, which consists of the Agrarian Political Economy (APE), as theorised by Marxist scholar, Bernstein (1996, 2007, 2009, 2010) and the Sustainable Livelihood Framework (SLF), as theorised by Scoones (1998, 2015) and Chambers and Conway (1992). These frameworks foster an extended analysis of the dynamics of land access, labour, farming inputs, technology and livelihoods and the impact on small-scale farmers.

Both theories were applied in this study because they have small-scale farmers, poor people and capital as units of analysis. Another reason involves their assumptions which explain the research problem to be addressed, i.e. the implication of large-scale agricultural investments on food production of small-scale farmers. Nevertheless, both theories elucidate the implication of large-scale agricultural investments (capital) for poor people – those affected by Agromoz investments. It clarifies the role of small-scale farmers by focusing on their views, experience and daily practices. Therefore, the Agrarian Political Economy analysis is centred on the classical questions of labour, land, and capital in terms of "who owns what" and "Who gets what?" Bernstein (2010) asks four questions (who owns what, who does what, who gets what and what do they do with it). This provided a deep analysis of the social relations of production in Gurué and how they have been reshaped within the context of large-scale agricultural investments. The Sustainable Livelihood Approach focused on analysing the impact of large-scale agricultural investments on the multiple combined livelihood strategies undertaken by smallholders daily for their survival in the face of the existing changes and impacts. In other words, the framework was relevant throughout the research, particularly to answer the third research question which is "how do large-scale agricultural investments affect household employment and livelihood trajectories"?

The key concepts were defined and debated in the context of this study to avoid multiple and diversified definitions that suggest multiple interpretations. The literature review locates the study in ongoing debates and recent studies on the implication of large-scale agricultural investments for small-scale farmers.

2.1 Theoretical Framework

2.1.1 The Agrarian Political Economy

The central focus of the Agrarian Political Economy (APE) is on "social relations of production and reproduction" (Bernstein, 2010, p. 1) Bernstein (2010) provides an analysis of farming systems in the contemporary capitalist period, particular regarding how and where food is produced, by whom and for what. According to McCullough and Pingali (2008), the food production systems of small-scale farmers are changing. A combination of both international and local developments such as globalisation, technology development, economic development and population growth are the drivers of these changes (McMichael, 2014; Corson, 2011; Corson & MacDonald, 2012). However, understanding these changes implies having to understand the dynamics of production, reproduction and power property in the production cycle (Bernstein, 2016). In addition, it implies having to understand the dynamics of technology, labour and land access (Hall & Cousins, 2015) as these factors inform changes occurring in the agrarian terrain.

Drawing from Bernstein (2010), one assumption is that production systems are handled by the capitalist systems of production based on the social relations between capital and labour. In this regard, "capital exploits labour in its pursuits of profits and accumulation, while labour works to obtain its mean of subsistence (means of reproduction) – this is known as capitalism" (Bernstein, 2010, p. 1). Bernstein (2010) goes on further to argue that the essential characteristic of capitalism is production (mainly commodities or marketable goods and services). This perspective portrays how the current food production system is essential for capital accumulation through commodification. This means that labour power and the means of production are bought and sold as commodities. It might be valid that a capitalist system deals with the food production systems based on the pursuit of their interests (profit and accumulation). However, it is also important to recognise other production systems that are not necessary dealt with by capitalist systems but by small-scale farmers where the focus is on food production and the social relations fall outside capitalism.

Another assumption is that dispossession and exploitation are the primary concepts involved in capitalism. It is patently clear in existing studies Bernstein, (2010); Hall & Cousins, (2015) that there is an increase in land deals without fair compensation and low wages for labour power in developing countries through agrarian capital (large-scale agricultural investments).

This sets a clear example of the predominance of dispossession and exploitation (Hall, 2011a; Hall et al., 2015a; O'Laughlin, 2017). Some studies have gone deeper by stating that people are not only disposed of their land but are also displaced (Zoomers, 2010). According to Cotula et al., (2011) they are expected to find land elsewhere, however, due to land scarcity and declining human power to open up new farmlands, people finish up with less fertile and less productive land. In the worst cases, land dispossession and evictions involve physical violence. For example, in Gurué, local people damaged a local leader's right eye, as a demonstration of their unhappiness over his collaboration with Agromoz regarding land concessions. This underpins a range of differentiation in rural agrarian societies such that some are better and others are just surviving. Although dispossession and exploitation are dominant processes in the capitalist production system, with large-scale agricultural investments as the example, this assumption cannot be taken for granted; it may hold true for many cases but not for all cases in recent land acquisitions, as there is also consent and other investments even build partnerships with villagers, which is the case with Agromoz.

Nevertheless, other assumptions portrayed by Bernstein (2010) are related to land and labour commodification, in the sense that people sell means of reproduction (labour and land) to get income. Bernstein (2010) gives an example of England where the first transition to capitalism was evidenced. In this country, the landlord or land owner would rent out land to tenant farmers for commercial proposes and this gave rise to a class of agrarian capital. Landless people who could not rent land or who did not have access to unclaimed land had to sell their labour power in order to secure their means of subsistence. Another example can be extracted from the study on the impact of big investments on the right to food, conducted by Joala et al. (2016). This study shows that in Gurué more than a thousand people have been displaced from their native land to give way for agrarian capital, which is mostly focused on commodities production. Some of the displaced people commodify their labour power to Agromoz in pursuit of a means of reproduction. Here, labour and land commodification should be regarded as the consequence or cause-effect of capitalist performance and as a practice of investors such as Agromoz, whose operations embrace dispossession and exploitation.

While a number of scholars and researchers (2013; Joala et al., 2016; O'Laughlin, 2012a; van der Ploeg, 2016), criticise agrarian capital for negative livelihood implications resulting in dispossession, others (Aha & Ayitey, 2017; Ayelazuno, 2019; Hanlon & Smart, 2012), although recognising the risks of this type of investment for small-scale farmers, they also

explain the need for these arrangements for the development of poor economies like Mozambique. For these authors, agrarian capitalists are key to food production and with the use of improved seed and other related technologies, production can double (McMichael, 2012; German et al., 2013). Moreover, Vermeulen and Cotula (2010); Anseeuw (2013) argue that large-scale investments enable a structural transformation of the agrarian terrain, leading to development that is capable of feeding a growing population.

An analysis of production and reproduction (Bernstein, 2010), as well as the dynamics of land access, labour and technology, imply taking into consideration the four classic questions summarised by Bernstein (2010).

The first question "*who owns what*", relates to the issue of property and ownership of natural resources or geopolitical resources such as land (Bernstein, 2010). Land "is the base of farming" (Bernstein, 2010, p. 23). It is an important factor for food and wealth production across the sub-Saharan region (Cotula et al., 2009; O'Laughlin, 2012b). Bernstein (2010) deploys the idea that land is being converted into private property and into a commodity by capitalists. However, other literature has highlighted that land can be both privately and publicly owned in Western Europe and can be legally held by local chiefs in Ghana and Sera Leo, and yet in Mozambique and Tanzania, land is owned by the state (Adriano & Machaze, 2016; Cotula et al., 2011; Mosca & Abbas, 2016). This shows that although the widespread conversion of land into private property exists, there are other states where the debate is centred on land rights and not on ownership of land property. In Mozambique and Tanzania, the state recognises customary land rights without formal documentation (Fairbairn et al., 2014). However, due to the land rush phenomena over the past years, land has been locked into a commodity reality. In Mozambique unregistered land is weaker than that with the title (Fairbairn et al., 2014). Many small-scale farmers have access to land through customary tenure; however, this perception seems to be changing because of growing competition for large-scale agricultural investments which results in limited access to land (Bernstein, 2010; Mosca, 2011; O'Laughlin, 2017). The above discussion shows that although there are existing dual land ownership systems, Bernstein's (2010) arguments on private ownership of land are somehow still valid. In today's agrarian structure it is easier for a private company to hold land rights and own means of production, including technologies, in a country where land is state-owned and it is actually much easier for private companies to own land in countries with public and private land ownership systems.

The second question, "*who does what"*, is about the social division of labour between employers and the employed, as well as the divisions based on gender (Bernstein, 2010). Bernstein (2010) posits the idea that classes in an agrarian and capitalist society, including gender (men and women), perform different activities of social production and reproduction. This seems to be clear and true. For instance, small-scale farmers produce a variety of subsistence crops through their traditional farming methods. With the current trends characterised by an inclusiveness model, small-scale farmers become pretty commodity producers – they produce cash crops on a small plot using modern technologies (Anseeuw & Bending, 2012; Bernstein, 2010; T. Jayne et al., 2014), while capitalists in the agriculture sector are engaged in the large-scale production of commodities, and also coordinate and provide markets for smallholders.

The third question, "*who gets what*", is about the distribution of the fruits of labour (income) that may take the form of money and non-legal tender income (Bernstein, 2010). For instance, in Mozambique, small-scale farmers operate in a duality – they produce for subsistence and for the market. The fourth question, "*what do they do with it"* relates to the array of livelihood strategies and their consequences (Bernstein, 2010; Scoones, 2015). For instance, small-scale farmers in Mozambique sell crops they produce but receive other benefits from the bourgeoisie (big investors) by selling their labour force, enabling them and their families to subsist or invest in family production (O'Laughlin, 2012b; Mosca, 2011; Scoones, 2015).

The above description of the Agrarian Political Economy provides a general picture of changes in food production systems and analyses of the reasons for changes and where these changes are grounded.

2.1.2 Sustainable Livelihood Framework (SLF)

Transformation in livelihood strategies is another crucial aspect when understanding the agrarian terrain. The concept of sustainable livelihoods was initially introduced in "Our Common Future" – better known as Brundtland Report – that was released by the World Commission on Environment and Development (WCED, 1987). In this report, sustainable livelihoods were raised as an important component to reach sustainable development. With this concept, the authors meant that providing sustainable livelihoods for resource-poor farmers would present a special challenge for agricultural research. By that time and during the 1990s,

environmental issues played a very prominent role in the livelihood discussion (Muntrakis, 2014).

Based on the definition by Scoones, (2015) inspired by Chamber and Conway (1992), livelihood comprises the capabilities and assets, including both material and social resources and activities, required for a means of living. Scoones (2015) added that a livelihood can be sustainable when it can cope with and recover from the stress or shock of maintaining or enhancing its capabilities and assets while not undermining the natural resources base.

In analysing sustainable livelihood dynamics, Scoones, (2015) suggests asking four questions that have been asked by Bernstein (2010) in Agrarian Political Economy. In addition to these four questions, Scoones (2015) added two more questions focused on the social and ecological changes that characterise contemporary society.

The first question, "*who owns what or who has access to what*", relates to issues of property and ownership of livelihood assets and resources (Scoones, 2015), In Mozambique, with the outbreak of large-scale agricultural investments, land rights, in general, have been undermined by these investors (Glover & Jones, 2019; Joala et al., 2016; Mandamule, 2016). This may have consequently undermined traditional livelihood strategies, prompting the loss of assets and resulting in increased poverty (Scoones, 2015).

The second question, "*who does what*", relates to the social division of labour, the distinction between those employed and those employed, as well as divisions based on gender (Scoones, 2015). For instance, small-scale farmers in Mozambique operate in a duality as they grow crops for their consumption and also for local markets, but such markets have become volatile and small-scale farmers have been forced to migrate seasonally for them to sustain their livelihoods (Ibid., 2015). Migration has increased due to the loss of land and modernisation of agriculture that imply the use of non-small-scale farmers' affordable technologies (Delgado Wise & Veltmeyer, 2016; Scoones, 2015). This forces people to sell out what Karl Marx called labour power and to combine different livelihood strategies, including off-farming activities (Scoones, 2015).

The third question, "*who gets what*", relates to the issue of income and assets, as well as the patterns of accumulation over time, and so also processes of social and economic

differentiation (Scoones, 2015). There has been a pattern of increased differentiation, as formerly remote areas have become subject to market forces and capitalist penetration. In this regard, there is a growing pattern of persistent poverty and a higher level of vulnerability among some groups. Larger landholders, moneylenders and labour recruiters have profited from this process. The result is growing inequality.

The fourth question, "*what do they do with it*", relates to the array of livelihood strategies and their consequences as they relate to the patterns of consumption, social reproduction, saving and investments. Small-scale farmers sell subsistence grain to cover debts. Casual, unskilled labour offers low wages and poor conditions but enables family members to send money back to their villages, and sometimes invest in rural production. Those who exploit the social relationship between production and the market can benefit from this new form of inequality.

Concerning the fifth question, "*how do people interact*", and concerning this question, Scoones, (2015) argues that social relations are characterised by exploitation and dispossession. Market actors, state bureaucrats, labour recruiters and others can exploit local farmers, and may dispossess them of assets. As they are a form of categorical exclusion from political representation, local movements have emerged to voice concerns. The structural disadvantage, often highly gendered, results in extreme forms of exclusion, sometimes resulting in conflict.

With regard to the sixth question, "*how are political changes shaped by the ecologies*"**,** Scoones (2015) argues that previously forested areas have been largely denuded, often through commercial exploitation from outsiders. The upland areas are dry and marginal, so agricultural production is prone to drought. In Mozambique, such ecological vulnerability has increased as locals' access to the resource base has declined.

In addition to the six questions above, Scoones (2015) presents important livelihood elements, which are: livelihood resources, livelihood strategies, institutional processes and organisation. He understands livelihood to be the basic material and social, tangible and intangible assets that people use for constructing their livelihoods. These assets are known as capital, but Scoones (2015) identifies four types of capital, these being the natural capital, economic or financial capital, human capital and social capital.

Natural capital refers to natural resources including stocks (land, water, air, genetic resources and environmental) which people use to deliver livelihoods. Human capital refers to the skills, knowledge, ability to labour and good health and physical capabilities used to achieve livelihood strategies. Economic capital refers to the capital base (cash, saving, production equipment and technologies) that are essential for the pursuit of different livelihood strategies.

Drawing insights from various sources (Bernstein, 2010; Borras & Franco, 2012; Scoones, 2015; Wallerstein, 1992), large-scale investments contribute to a reshaping of food production systems of small-scale farmers, such that small-scale farmers have poor access to land, which leads to poor crop production, use of modern agriculture inputs, and concentrates on the production of market-oriented crops. However, a combination of these frameworks will allow for the identification and analysis of the effects of large-scale investments on the food production systems of small-scale farmers in Gurué and the northern region of Mozambique.

2.1.3 Why both theories?

Both APE and SFL theories have an interdependent relation. Both theories look at issues of capital and labour, however, APE focus on the relation of class and dynamics of reproduction and accumulation, whether it is from above or from below. SLF however, focusses on the assets and resources that people have or use to address poverty or make a living. It looks at real-word issues and provides explanations so as to understand things from a local perspective. The analysis is therefore on the micro level, mainly dealing with households and individuals. Both theories link together in trying to understand how people are making a living. Some scholars have even considered the SLF to be a recreation of the structural perspectives that prevailed until the 1980s including the dependency *teoria da dependencia (*dependency theory*),* neo-Marxism and modernisation theories (Shahbaz, 2014).

The prevailing critics of SLF maintain that the approach is too descriptive; it tries to concentrate too much on the poor people's assets and does not analyse how the institutions negotiate access to assets. The table below highlights differences in answering the first three key common questions raised by both theories.

Table 1

Differences in answering the three key common questions by Bernstein, (2010) and Scoones, (2015)

KEY QUESTION	AGRARIAN POLITICAL ECONOMY	SUSTAINABLE LIVELIHOOD APPROACH (2015)
WHO OWNS WHAT?	Ownership of land/natural resources of land – generally private ownership for reproduction and accumulation	Access/ownership of livelihood assets; resources for people to address poverty or make living
WHO DOES WHAT?	Social division of labour – what activities are in place for social reproduction and accumulation (small-scale farmers produce food while big investors produce commodities)	Social division of labour to generate livelihoods. – what activities are in place to generate assets/resources for people's livelihoods (small-scale farmers have been migrating to generate livelihood assets)
WHO GETS WHAT?	Class relation; who becomes capitalists; (small-scale farmers can get moneyed and non-moneyed income)	Livelihood trajectories; who is hanging in, up or stepping out? (Some small-scale farmers are doing well but others are not)

2.2 Key Concepts

The current research is guided by the following key concepts: large-scale agricultural investment, small-scale farmers and production systems. Depending on their relevance, these concepts were defined, interpreted and debated in the context of this study to avoid multiple and diversified definitions that suggest multiple interpretations.

2.2.1 Large-scale agricultural investment

These are two inter-connected concepts which will be defined separately. The first, large-scale investments, can also be seen as large-scale commercial farming or where 'large-scale' implies a type of farming where crops are grown on large estates, mostly for commercial use only. This is often considered a modernised method of farming that is undertaken on a large scale. In this

type of farming, large land, labour and machines are used to reduce production costs and it enjoys economies of scale, including higher returns and profit from farming activities (Zaehringer et al., 2018). The definition of large-scale agricultural investments is not very much debated across the literature, however, it holds varied meanings across different countries. Relatively speaking, producing fifty hectares can be considered small in the United States of America, compared to Mozambique. In this regard, while producing fifty hectares is a small investment in the USA, in Mozambique, it can be a large-scale investment. The amount of scale, depending on the county criteria, is a key element to define a large-scale investment (Li, 2015). Furthermore, large-scale investments generate income through investment on a large scale on land. For this study, large-scale investments are all investments concerning fifty hectares or more. Based on the definition of the government of Mozambique (MADER, 2020) the second concept is land-based investments. This refers to the companies that rely on land to run their mechanisms of generating income, specifically through the production of goods, such as food (Li, 2014).

2.2.2 Small-scale farmers

The definition of small-scale farmers is strongly contested. Its rangers from those who farm less than two hectares, up to farmers in the Global South with a low level of agro-technology and reliance on family labour and subsistence orientation (Bernstein, 2010). Generally, the meaning of small-scale farmers varies from country to country, from source to source, but usually, it is often determined by the number of hectares (special criteria) and type of farming (sociological criteria) (Cousins, 2014; Kirsten & van Zyl, 1998). The number of hectares is related to the national context. For example, twenty hectares may be big in Rwanda, but very small in Argentina. Out of scale, there are other factors determining the definitions of small-scale farmers, such as access to irrigation, the fertility of the soil and the type of production being undertaken. However, there is no universal definition of small-scale farmers. The World Bank defines small-scale farming as household farming with less than two hectares. Cousins (2010) refers to small-scale farmers as being the opposite of commercial farmers. Small-scale farmers produce outputs for home consumption to a great extent and largely make use of family labour. In Mozambique, the term small-scale farmers refer to those producing less than 10 hectares of non-irrigated land and less than 5 hectares of irrigated land and using traditional techniques such as manual tools and human labour forces (MADER, 2020). This is the definition that will be applied in this thesis as it refers to the local context. This applies to 80%

of the population in the country (Grain, 2016). The production systems of a large part of this type of farmer are based on manual production, normally with manual tools – such as a hoe – on a small plot, making use of indigenous seeds, non-organic fertiliser, family or occasionally hired labour; a large percentage of what is produced is for self-consumption (Arduino et al., 2012).

Cousins (2010) breaks down smallholder farmers in terms of the degree to which agriculture contributes to social reproduction or expanded reproduction, and the degree to which hired labour is used in the agricultural production process; he categorises them as follows:

I. *Supplementary food producers* – work on small plots or gardens. They do not have access to wage income and rely on additional forms of income such as a social grant, craftwork or petty trading for their simple reproduction.
II. *Allotment-holding wageworkers* – work small plots or gardens but are primarily dependent on wages for their simple reproduction.
III. *Worker peasants* – farm on a substantial scale but are also engaged in wage labour, and combine these in their simple reproduction.
IV. *Petty commodity producers* – can reproduce themselves by farming alone or with only minor additional forms of income.
V. *Small-scale capitalist farmers* – rely substantially on hired labour and can begin to engage in expanded reproduction and capital accumulation.
VI. *Capitalists whose main income is not from farming* – farm on a small-scale but their main source of income is another business.

Drawing from Cousins' (2010) categories, small-scale farmers in Gurué fall into different categories in different contexts. Supplementary food producers and worker peasants have been the predominant categories, even before the arrival of investments – small-scale farmers relied on farm and off-farm activities for income and reproduction. However, with the arrival of investments, pretty commodity producers and small-scale capitalist farmers emerged as new categories.

A different concept that is important when defining small-scale farmers is the *peasant.* Bernstein (2010) defines peasant as a farmer organised for subsistence. With the advancement of capitalism, peasants now produce commodities that can be integrated into the market. The

conceptual differences are to be seen when looking into farm size and farm scale. While *farm size* refers to the land areas, usually measured in hectares of the production unit, *farm scale* refers to the relative scale of a farming operation or enterprise, which can be large in small areas of land (for example intensive horticulture and livestock production), or small-scale on a large area (as in intensive livestock in an arid zone). Its key determinant is how capital-intensive the enterprise is (Cousins, 2009).

2.2.3 Food production systems

This refers to all processes and infrastructure involved in feeding a population: growing, harvesting, processing, packaging, transporting, marketing, consumption, and disposal of food and food-related items (Vitale, 2016; Matata, et al, 2001). For Vitale (2016), a food production system has three main components and these are: (1) Inputs, which are the different ingredients, materials, machinery and items, which go into system; (2) processes, which are the different things that happen to the input which changes into the output and (3) outputs, which are the finished food products[5]. Food systems are influenced by social, political, economic and environmental contexts. In addition, Timmer (1983) defines food systems as the way that people produce. It includes aspects such as where and what crops to produce, what combination of input to use in order to produce and what total output to produce.

Matata et al, (2001), distinguish three types of food production systems and these are:

(1) *Conventional or industrial food production systems*, which are well-mechanised and function under economies of scale. They require maximum efficiency in order to lower consumer costs and increase production as a whole. These systems can be observed throughout the developed world, with a strong perspective on safety, a high degree of coordination, a large and consolidated processing sector and organised retailers. They utilise economic models such as vertical integration, economic specialisation and global trade.

(2) *Local food production systems* are the network of food production and consumption aiming to be economically and geographically accessible. Such systems have a limited market infrastructure which diminishes the use of transport and direct marketing. There are fewer people between farmers and consumers.

[5] https://www.s-cool.co.uk/gcse/food-technology/systems-and-control/revise-it/food-production-systems

(3) *Organic food production systems* are defined by a decreased dependency on chemical use. They are developed without the chemical pesticides and fertilisers that characterise industrial food systems. This type of food system is often symbiotic with local food systems.

Currently, in developing countries like Mozambique, due to the rapid industrialisation that has led to the concentration of agricultural input, food distribution, an increase of agro-technology such as new seed varieties and chemical fertilisers, and growing importance on safety and quality of food, has resulted in a dramatic change of food systems. Smallholder farmers are encouraged to adjust their production systems to the more industrialised or commercialised systems through input subsidy programmes. These systems are characterised by specialisation at the farm level, great dependence on purchased inputs and more marketing output (Mccullough & Pingali, 2008). As urban areas demand higher-value products, there is a shift in cropping systems in the way that smallholders tend to grow market-oriented crops or high-value enterprises such as horticulture and livestock, as opposed to lower-value cereals. This adjustment is good but its speed is impacting smallholder farmers to adapt to new changes and the possibility of an orderly exit from agriculture. The exit from agriculture will require appropriate human capital to work in off- or on-farm sectors or result in migration. It is important to note that migration to the city does not reduce poverty but transfers it (Ravallion et al., 2007).

The current study seeks to generate a narrative on changes in the food production systems of small-scale farmers in the context of large-scale land-based investments. It will also examine the food production system before and at the beginning of the investments. For this thesis, the definition brought by Timmer (1983, p. 83) "food system as the way people produce" will be used, since it is the most applicable, and there are existing similarities between the two above-mentioned definitions.

2.3 Literature Review

2.3.1 Background of large-scale agricultural investments in Africa

The large-scale agricultural investments are rooted in the past and they have historically passed through different phases throughout the African agriculture landscape. Wily (2012) describes four phases (1885 to 1915 – the second period of capitalism accumulation; 1919 to 1939 – after the First World War; 1945 to 1955 – after the Second World War; and after independence),

while Scoones (2015) describes three simple phases (the pre-colonial, colonial and modern or after independence). Reviewing the different phases, both authors converge by arguing that the crisis for food crops and raw materials for the industry were the drivers of a land rush in the past era in the Global South. Moreover, land access or land acquisition took place through the land-grab process. This process, in addition to land concessions, prevailed even after independence in the Global South. A study conducted by Grain and UNAC (2015) in Mozambique, evidenced years after the independence, stated that the country was still stuck in colonial practices sustained under neoliberal policies, evidenced through the land-grabbing process in communal land along the Nacala Corridor.

However, the term land grab has been contested in academic spheres when analysing the contemporary land acquisition process or suchlike after independence (Borra and Franco, 2012). According to Zoomers and Kaag (2014, p. 201) the term is not a "suitable and analytical one because of its implicit connotation of illegality and force". Borras & Franco (2012, p. 34) argue that activists deployed the term to take political action towards an envisaged transaction from an environmental and agrarian justice perspective. While it might be true that land grabbing before independence was the prevailing method, the term land grab after independence "can be confusing and emotional because not every land is taken illegally and by force." Borras and Franco (2012) go one to opine that there are some levels of negotiation and consent. For example, the land acquired by Agromoz in Gurué was through consultations and negotiations with villagers. However, the nature of consultations and negotiations which were conducted can be contested because they only involved traditional leaders, small businesspersons (local elite) from the villages and local government entities (District Government and District Services of Economic Activities – SDAE) and not ordinary members of the villages. Relatively, this suggests that Agromoz poorly applied the Free, Prior, Informant Consent principles defined by the United Nation Food and Agricultural Organisation (FAO). While recognising the political power of the term land grab and its importance for activists' work, especially, advocacy for land rights; terms such as land deals or land rush (used in this thesis) are the preferred ones because they are less misleading than the land grab in the context of contemporary land acquisition. Besides the case of Agromoz, land deal might be the appropriate term because the land was not necessarily taken by force.

While Wily (2012) and Scoones (2015) seem not to differentiate between the modus operandi of the traditional and new investors, Collier and Dercon (2014) denoted one fundamental

difference. The new investors (it is unlikely to be the traditional ones) seem to be largely motivated by geopolitical and financial motives, rather than the production of food for global and local markets.

The current land rush according to Anseeuw and Boche (2012) and Anseeuw and Bending (2012), involves the sale of or mainly leases of hectares since 2000, especially since 2008. The same sources affirm that these deals are mainly taking place in the poverty-stricken and investment-hungry countries, mostly sub-Saharan countries but not ignoring Asia and Latin America. Practically, it involves the acquisition of many thousands of hectares by domestic and foreign investors, also known as speculators. Globally, the triple F (fuel, finance and food) crisis of 2007-2008 which peaked in 2011 (Akram-Lodhi, 2012) was widely known as the first driver of the post-independence era (Deininger & Xia, 2016). However, Mengoub, (2018), added climate change events, which are evidenced in natural disasters such as flood and droughts in some countries such as the Gulf States, leaving countries with not enough land holding (Swinnen et al., 2020). Moreover, Scoones et al. (2014) added the narratives of resource scarcity and population growth (the global population is set to reach 9 billion by 2050) as another driver. In the context of specific countries such as Tanzania, Malawi and Mozambique, scholars (Cabral, 2019; Cabral & Norfolk, 2016; Chichava et al., 2013) mention the tenure system in addition to the global drivers, which promotes large-scale agricultural investors; the call for investors (Shahbaz, 2014) is also seen as a driver in addition to good agro-ecological zones argued by Mosca (2011).

Historically, European and North American plenipotentiaries were known for many decades as the land acquirers in Africa and Asia (Wily, 2012), however, with the new international order (emergence of new powerful nations or multipolar world) (Petar Kurecic, 2017) land acquirers become global and diverse. Currently, they are from China, India, some countries in the Middle East, along with the traditional European and American companies. In Mozambique, according to APIEX the top five large-scale agricultural investors are diversely from Spain, China, South Africa, India and Portugal. In the case of developed countries such as European states and the United State of America, they generally acquire land in developing countries to produce cash crops and biofuel (Grain, 2016). While countries with a shortage of land such as Gulf States mostly acquire land elsewhere to produce food to fill their consumption needs (Nolte & Giger, 2016). The major targets of these investors are countries where land and water are abundant and production costs are lower (Clements and Fernandes, 2013). Data from a land matrix portal

indicate that Africa is still the leading targeted continent for large-scale land deals in the Global South, with 871 land deals followed by Asia with 559 (Lay et al., 2021). Mozambique is one of the target countries for agricultural investments and until 2015, it has been seen as one of the countries among 7 countries where most land is available and where investors have been showing more interest (Lay et al., 2021).

Drawing from a range of scholars who have conducted theoretical and analytical research on the outcome of large-scale agricultural investments, there are two prevailing arguments. Some scholars are concerned that large-scale agricultural investments may generate a shift from food production crops to cash crops, which could have diverse effects on the food security of local people. More specifically, these scholars are concerned with negative effects such as changes of land access and land use, labour dynamics, inputs or technology and local people's livelihoods (Ali et al., 2017; Cotula, 2012; Nolte & Ostermeier, 2017). These shifts and effects are due to dispossession or displacement and ultimately cause class differentiation and private accumulation or accumulation by dispossession[6] (Kröger, 2014). Others point out that this could have positive spill-over effects for local villages (De Matteo and Schoneveld, 2016; Osabuohien, 2020). The next section elaborates the detailed effects. Although large-scale agricultural investments are the objects of the current research and are widely known for their causal-effects in villages, Jayne et al. (2016) warned not to stay ignorant of other effects. For him, there is a need to recognise that alongside large-scale investments are medium-scale farmers that are rising in some countries such as Kenya, Zambia and Ghana with similar outcomes to local farmers. Roughly, these types of farmers control 20% of total farmland in Kenya, 32% in Ghana, 39% in Tanzania, and over 50% in Zambia (Jayne, et al. 2016). In Mozambique, the medium-scale farms are emerging and they are defined as farm holdings between 5 to 50 hectares. This is evidenced with the implementation of public programmes like Sustenta (led by the Mozambican government with financial support of the World Bank) and tie-bound programmes and projects like Feed the Future (led by the United States Agency

[6]Accumulation by dispossession is a concept presented by the Marxist geographer David Harvey. It defines neoliberal capitalist policies that result in a centralisation of wealth and power in the hands of a few by dispossessing the public and private entities of their wealth or land. Such policies are visible in many western nations from the 1970s and to the present day. Harvey argues these policies are guided mainly by four practices: privatisation, financialisation, management and manipulation of crises, and state redistributions (Harvey, 2003: 72-76).

for International Development – USAID) and Inovagro (led by the Swiss Agency for Development and Cooperation).

2.3.2 Changes in land access and land use

Changes in the global economy and the agrarian world as a result of the triple 'F' crisis, changes in politics with an array of liberation policies (Borras, 2009), as well the opening of the economy to the world market and multiplication of free trade agreements which triggered investments in agro-export commodities by agrarian capital, fostered changes in land access and land use. Studies by Grain (2011), Justiça Ambiental and UNAC (2011) in Mozambique showed that large-scale agricultural investments affect small-scale farmers' land rights, as people get displaced and dispossessed. These authors highlighted a complete loss of means of reproduction (land) for small-scale farmers as a result of agrarian capital or investors and therefore the deepening of poverty. This is because these kinds of investments generally require a huge scale of land with good quality. A study conducted by Turner et al. (2014), shows that in Zambezia province 2.2 million or 62% of the total area was requested for agribusiness and forest (timber extraction) activities until 2015. In Mozambique, 11 million hectares (an area bigger than Malawi) were supposed to be used for the failed ProSavana programmes in Nacala corridor – a region with good quality land (Monjane & Bruna, 2020).

On the other hand, Borras et al. (2011) argued that the ultimate outcome of changes in land access and land use is class differentiation where the investors operate as a result of land dispossession by agrarian capital, in the sense that there are winners and losers or more specifically, some small-scale farmers get dispossessed and displaced but others do not. A study conducted by Nyantakyi-Frimpong and Bezner Kerr (2017) in Ghana evidenced four categories of class differentiation as a consequence of land dispossession: landless, near landless and land rich. This differentiation can broadly be associated with agrarian classes that Bernstein (2010) identified, following Lenin (1964) who termed them rich peasants, and semi-proletariats (Nyantakyi-Frimpong and Bezner Kerr, (2017). The landless are those who have been dispossessed of all means of reproduction (land); near landless are those who have been dispossessed of all land and are in possession of means of reproduction; while the land rich are those farming households with relatively large landholdings. These small-scale farmers are able to engage in expanded reproduction (Nyantakyi-Frimpong and Bezner Kerr, 2017). However, little is known about the impact of agrarian capital or large-scale agricultural

investments in differentiated classes. Therefore, the current research in Gurué revealed that most of the dispossessed small-scale farmers had means of reproduction (land). Some small-scale farmers got land through different mechanisms upon dispossession, through kinship (from a relative), informal allocation (from a neighbour or acquaintance), self-allocation, rental and purchase. However, notwithstanding the categories in which they fall, class differentiation, therefore, should consider farmland sizes and security in land holding. Some have fewer hectares than they used to have or more than others and yet, others fear losing the land given by a traditional leader or relative. This leads to the conclusion that within each category there are those who are doing well and those who are not.

Large-scale agricultural investments also change land property rights (Borras & Franco, 2012). Land property rights refer to the relationship between land users (small-scale farmers) and land, and the right of small-scale farmers to claim land usage (FAO, 2010). According to Granovsky-Larsen (2013) the intention of linking rural spaces to global markets for the production and reproduction of agrarian goods in the context of scarce resources results in disputes about who can access, control and use land. According to Borras and Franco (2012), agrarian capitalists (investors) hold control over land resources acquired either through the government or dominant classes such as landlords and traditional leaders or rural elites, undermining the customary regime. It is commonly known that these classes try to cash in on revalued land property, either consolidating or expanding landholding and selling or leasing them out to new investors (Borras & Franco, 2012). This can be seen in Malawi where the Green Belt Initiative targeted small-scale farmers (Chinsinga, 2017). It can also be seen in Brazil with the expansion of sugar cane farms where land which previously belonged to small producers was leased and sold to large sugar-cane investors (Lelis & Júnior, 2015). It can also be seen in Mozambique with the expansion of eucalyptus plantations by the Portucel company where traditional leaders and government allowed the company to occupy land previously used by small-scale farmers (Environmental Paper Network, 2017). This shows that in one-way large-scale agricultural investments expand their production by overwhelming small-scale farmers' land rights. As Cruz (2010), concluded, this affected a bundle of rights for example: "(i) the right to derive benefit from the land (e.g. through cultivation or grazing, which is a use right); (ii) the right to decide how to use the land and to decide who shall be permitted to use it and under what conditions (management right); the right to derive income from the use of the land (income right); and the right to transform it (capital right), and other rights" (Cruz, 2010, p. 12).

Borras & Franco, (2012) have termed the above description as the private property being land *de jure* (stated in the law) and *de facto* (going on in practice). However, this is not applied to all countries. For instance, countries where land is owned by the state (e.g. Tanzania and Mozambique), private property is strongly *de facto* as *de jure* does not exist. While in countries with dual land tenure regimes, 'public and private', such as in Brazil, Argentina and Zambia, private property is strongly *de jure* and *de facto.* The fact that rural elites in Gurué lease or sell land does not mean that it is legally stated. However, it's a rural practice sustained on the understanding and interpretation of customary property rights.

Land access is also related to land use. According to Borras and Franco (2012), global land use today is changing and going in different directions. To sustain their argument, the authors present four types of land-use change: type A – food to food; type B – food to biofuel; type C – non-food to food; and type D – non-food to biofuel. These typologies capture changes in land use and purposes. For the purpose of this research, typology A was further developed below as the features match with the reality in the study site. Thus, in the case of type A, the land remains within food production but the purpose for which food is produced has changed. For a better illustration of these changes, Borra and Franco (2012) provide three subcategories of type A. The A1 involves lands previously dedicated to food production for consumption that is then converted to food production for domestic exchange – also known as the commoditisation of food production. In Gurué some small-scale farmers have shifted from the production of food crops such as maize, cassava and beans, which make part of the local diet, to the production of soya alongside maize, which functions as food in the poultry sector and serves the urban market. More specifically, small-scale farmers have introduced new crops and reserve a large part of their farmlands to produce soya. As an outcome of this shift, small-scale farmers in Gurué build houses and buy motorcycles (Hanlon & Smart, 2012). This is also the case of Kilombero in Tanzania, where sugar cane production replaced food crops on many farmlands (Sulle, 2017) and is also the case in Malawi where small-scale farmers were devoted to sugar cane production rather than food crops under the Green Belt Initiative (Chinsinga, 2017). Therefore, as Hall (2011a) said, the A1 is an integral component of capital accumulation in the countryside often through social differentiation. The commoditisation model is visible in rural areas with the support of government market-oriented programmes and non-state actors and recent studies encourage the model but also suggest investments in food-production efforts, as the world population continues to grow exponentially (Molotoks et al., 2021; Broom and Breene, 2020).

A2 involves lands previously devoted to food production for consumption or domestic exchange, which are then converted to food production for export (Borras & Franco, 2012). This seems to be the focus of the current global land deals. It involves the new land dealers (oil-rich Gulf States, South Korea, Japan, China and India) and the traditional or colonial deals. The 2007-2008 crisis promoted non-traditional players to expand their agricultural frontiers by transacting land in foreign lands through direct investments or contracted farming. As argued by Borras and Franco (2012), this represented "an opportunity for some actors to respond to food security demands" (Borra & Franco, 2012, p. 40). This could be the example of ProSavana programme which was designed to ship soya to Japan and Gulf State counties for nutritional purposes (Funada-Classen, 2013). However, it also constituted a strategy for internationalising state or companies' operations to earn profits and their role in the international arena to respond to food emergencies. This could be the case of USA companies in Asia, Africa and Brazil across Latin America, including Agromoz Agribusiness in Mozambique, as both countries are known to be one of the food-secure countries (Corteva, 2020).

Another major shift has to do with the informal land market. This aspect has been accelerated (Adesiyan Oloyede et al., 2011). Citing Negrao (2004), Mandamule and Manhicane (2019, p. 6) defined land commercialisation in the context of Mozambique "as the number of transactions of goods and acquired land rights through a voluntary agreement between two individuals or group of individuals represented by agents. Furthermore, it involves the transfer of certain part of land rights for a limited period, generally, through monetary asset or any form previously agreed between involved parties". In Mozambique, according to Negrao (2004), the nature of land commercialisation can be classified under three types. The first one consists of people who sell land in rural areas. The second consists of people who sell land in peri-urban areas, generally to family members or friends. The third consists of people who sell ditches and drainage or public spaces with the involvement of municipality employees which is the side of offer to vulnerable groups (poor, women, divorced or single mothers) which are the side of demand. In general, the transaction of land may be temporal (leasing, loan or share of production) and permanent (purchase and sale) (Mandamule & Manhicane, 2019). Leasing, lend and permanent transactions are the most frequent in Gurué. Drawing from Mandamule and Manhicane (2019, p. 7), lending of land can be understood as "an agreement whereby the land rights holder abdicates temporarily from the right to use it, passing over to another person without charging any kind of guarantee or payment".

2.3.3 Labour trajectories

Labour is an essential element in the process of production and according to Bernstein (2010, p. 13), "it presupposes agency: the purpose, knowledge, and skill, as well as the physical energy of the producer". Drawing from literature, the establishment of large-scale agricultural investments in communal areas or farming villages affects labour trajectories and market differently (Nolte & Ostermeier, 2017). This, as Hall, et al. (2017) argued, entails differentiated outcomes for different target groups. However, some scholars with homogenous analytical lenses (Cochet, 2018; Nolte & Ostermeier, 2017; Smart & Hanlon, 2014) see large-scale investment having potential for employment creation, whilst, others (Chatterjee, 2020; Gyapong, 2021; Hajjar et al., 2020) fear loss of their means of reproduction or reduction of household labour power.

The potential of large-scale agricultural investments for employment creation is justified due to the fact that this type of investment focusses on rural areas and therefore, generate jobs to satisfy labour demand through direct and indirect employment opportunities for former or local land users. Direct employment is directly linked to the operation of the farm, while indirect employment creation is triggered by farm operations but does not occur on the actual farm (Nolte & Ostermeier, 2017). Specifically, large-scale agricultural investments create employment through direct contract to work in the company and contract farming model (Cochet, 2018). Examples of this can be found in the production of soya in Brazil where 10, 6 million new jobs have been created despite the Covid-19 pandemic[7], and coffee in Kenya, or grain crops in Zambia through grower schemes (Hall & Kepe, 2017) and sugar cane in Tanzania where the sector employs more than 66.3% of Tanzania's direct and indirect labour (Machimu, 2020). Moreover, these investments can also stimulate local economy and create employment outside the agriculture through sectoral linkage (Gyapong, 2020). An example is domestic services, mostly provided by women (Cruz, 2010).

Job creation is one of the first expected outcomes (Gyapong, 2020). Although a recognisable role and potential of large-scale agricultural investments is to generate employment, there are emerging critiques on the quantity and quality of employment across the body of studies. Large-scale investments are capital intensive (Catelo-Branco, 2017). This means that manual

[7] https://summitagro.estadao.com.br/noticias-do-campo/agronegocio-lidera-criacao-de-empregos-em-2020-diz-cna/

labour is replaced by machines, as in Equador, where labour was replaced with mechanised coffee production (Hajjar et al., 2020). This makes it difficult to access employment Chatterjee, (2020), Collier & Dercon, (2014) and Cousins, (2009) add lack of training to perform high-skill tasks also curtails local people from being employed, therefore, local people are being replaced by foreign people in many investments companies (Chatterjee, 2020). Hall et al. (2017) argued that the quantity and quality of employment depends on the type of crops and the farming model. From this research, it also seems to depend on the region or context. The amount of labour needed in the process of producing wheat, soya and maize differ from the amount needed for coffee, tea and banana plantations. The former types of crops are considered capital intensive and labour can technically be replaced or observed in small quantity, whilst the latter type of crops is labour intensive. This provides less scope to substitute labour for capital (Gyapong, 2020; Nolte & Ostermeier, 2017). Agromoz employs labour for soya production but complained that if it was in Brazil, they could have employed only 20 people for 2000 hectares because of high technology mechanisation. Their production in Gurué is only partly mechanised. They plant, add fertiliser, spray and harvest maize with machines.

Much of the debates on labour trajectories amidst large-scale agricultural investments are concerned with the quantity and quality of employment derived from investments. Fewer studies have theoretically and conceptually analysed changes at the household level or household labour trajectories. According to Hajjar et al. (2020), when investments occur, the self-sufficient small-scale farmer and small-scale agricultural entrepreneur (the majority are sub-Saharan) shift to wage labour on investments' land to generate income. For land dispossessed villages, lack of land and employment opportunities prompted some people, mostly the young, to migrate to cities in search of off-farming jobs (Delgado Wise & Veltmeyer, 2016; Hall & Kepe, 2017). In Gurué, these types of shifts are notable throughout the villages directly affected by the Agromoz company. Consequently, there has been a reduction in the amount of household labour power from an average of 3 to 1 per hectare. This cascades to gender roles within the household, as women are left behind to perform tasks which men are traditionally responsible for. In other words, men are going to towns or the city to search for work, leaving women to prepare land for cultivation.

2.3.4 Changes in technology and inputs

According to Mendes, et al., (2014), the use of technologies or farming inputs has very deep roots. However, it has increased with the triple F crises. In other words, the arrival of investments and growing competition fuels triple F crises and large-scale investors have devised new methods of production which rely on the green revolution with its focus on industrial inputs (genetically modified organisms, pesticides, herbicides and other technological inputs) and high-yielding varieties of commercial crops. Small-scale farmers tend to be forced to use the modern technologies (a combination of new varieties of seeds, synthetic fertiliser, etc.) and labour power (Hall et al., 2015b).

Dias et al. (2013) explain that technologies were introduced to resolve the problems of pests and to increase production and productivity. This has encouraged many small-scale farmers to opt for these types of technologies. "In Tanzania the percentage of farmland applies, only family farming inputs have decreased from 2014. Many small-scale farmers are likely to employ mechanisation" (Wineman, et al., 2020, p. 10). In Mozambique, the use of modern technology was triggered by the World Bank in the 2013 World Development Report, where it indicated that 95% of small-scale farmers were not using modern technologies and this could be one of causes behind prevailing poverty (World Bank, 2018). The use of modern technologies was regarded as strategic for improving agricultural production and productivity, as argued by Guanziroli and Guanziroli (2015).

Although recognising the importance of farming technologies to improve or increase production and productivity and also respond to crises of food prices, as argued by the World Bank (2018) and Guanziroli and Guanziroli (2015), there are prevailing critiques behind the use of these technologies. Dias et al. (2013) explained that effectiveness of the use of farming technology can differ from country to country and from time to time. In Argentina, after some years of the introduction of technological packages, it did not work effectively, as many pests were resistant to the treatments and soil was becoming exhausted; consequently, this impacted production. Bernstein (2010) and Borras (2009) have generally pointed out that these technologies are capital intensive and do not recognise small-scale farmers' systems, relatively based on inter-cropping and rotation systems. In addition, small-scale farmers engaged in growing commercial crops are highly dependent on modern farming inputs and technologies. Many soya and cotton farmers in Gurué explained that the use of chemicals and tractor rental

is part of the normal production process. Yet, the competitive value of modern inputs like seeds, is leading to a slow disappearance of native varieties. Most of the small-scale farmers interviewed (92%) in Gurué depend on commercial seeds of basic crops including maize and different type of beans, apart from cash crops. However, introduction of modern farming technologies and inputs also contribute to changes of farming habits over time. Another element has to do with farming practices. Although authors such as Smart and Hanlon (2014b) pointed out that with the arrival of large-scale investments small-scale farmers in Gurué are shifting to using tractors and other combined equipment or technology, there are prevailing changes among farmers directly affected by Agromoz company. Prior displacement, most of them were engaged in the *namuri* system but after displacement, they are finding it difficult to mobilise labour based on traditional kinship and social ties. The *namuri* system is a traditional system based on traditional kinship and social ties organised for helping each other. In a normal situation a group of people – who could be relatives or neighbours – would assign particular days to work on each other's field. Owing to displacement, some small-scale farmers cannot find a nearby relative to make a *namuri* group and this affects labour supply. However, this situation can be reversible over time, depending on people's relationships.

2.3.5 Changes in livelihoods

Much of literatures on livelihoods unanimously argue that people rely on different livelihood assets and strategies (Matenga & Hichaambwa, 2017; Scoones, 2015). However, as explained by Cavanini (2018), these assets and strategies have been changing over time due to a number of factors. One of the notable factors, in the last 13 years (since the beginning of the triple F crisis), is large-scale agricultural investments (Hakizimana et al., 2017). However, Caravani (2019) adds conflicts and climate change which manifest in the form of drought and floods. This can be evidenced in the pastoralist society in Uganda where some pastoralists have abandoned their pastures to engage in casual labour activities because of the drought that reduced their cattle.

Reviewing the dynamics of livelihoods of small-scale farmers in the context of large-scale agricultural investments, existing debates emphasise changes on their source of livelihoods. For instance, Machimu (2020), in a study conducted in Tanzania, argued that with the arrival of commercial agricultural investors, small-scale farmers who used to generate livelihoods through farming, benefitted from on-farm employment and others through grower schemes.

Similar outcomes are evidenced in many other countries such as Kenya, Zambia, Malawi and Mozambique (Manuel et al., 2021; Matenga & Hichaambwa, 2017; Sulle, 2017). However, these should not be regarded as lineal or cause-effects because outcomes differ and depend on the nature of investments. In Zambia, while small-scale farmers affected by and integrated in on-farm activities are doing better and are able to increase farm sizes, as found by Matenga and Hichaambwa, (2017), other small-scale farmers in the same country affected by Amatheon Agri Company witnessed changes in livelihood sources as analysed by Joala et al., (2016). In Uganda and Tanzania most of the pastoralists who shifted to off-farming activities were integrated in low-paid and unskilled jobs (Caravani, 2019). In Gurué most of the small-scale farmers who have been directly affected by Agromoz were integrated into permanent and casual or temporary employment. Depending on their engagement with Agromoz, there are different patterns of accumulation and differentiation, in the sense that, among affected farmers there are those such as local leaders, freedom fighters and businesspersons, who are able to expand production, and those who are relatively just surviving (most of them being ordinary rural people).

Another aspect involved in the debate on the dynamics of livelihoods has to do with food security, which can be a direct output of crop production or other farming methods such as honey production, fruit collection or other activities crucial to generating livelihoods. According to Smart and Hanlon (2014b), small-scale farmers employed in the company in Gurué are likely to diversify sources of livelihoods as some of them, in addition to employment, are still engaged in farming activities. Matenga and Hichaambwa, (2017) in a study conducted in Zambia, found that small-scale farmers around the areas that are not employed by Zambia Sugar Company, reported a declining food security situation, in comparison with the employed ones. The same evidence is presented by Hakizimana et al. (2017) in a study conducted in Kenya, however, while contributions of large-scale agricultural investments is clear in some countries or regions, in other regions there are patterns of livelihood transformation as direct output of large-scale agricultural investments. In Gurué, although it is not a reality for all, according to the survey, 78% of the affected people who have been employed by Agromoz skip meals because they do not earn enough to buy food throughout the year and they lack enough land to produce food. This aspect was also highlighted by Joala et al. (2016) when researching changes in agri-food systems in Mozambique.

Chapter 3: LAND-BASED INVESTMENTS IN MOZAMBIQUE: Land Politics, inputs and farming technologies and impacts on the food production system

Figure 1: A map of Mozambique

3.1 Background: From the Past to the Present Day

Mozambique is a south-eastern African country with an area of about 799,380 square kilometres and has a population of 30,832,244 people (INE, 2021)[8]. Politically and administratively, the country was born out of two major political conflicts, the colonial conflict

[8] http://www.ine.gov.mz/

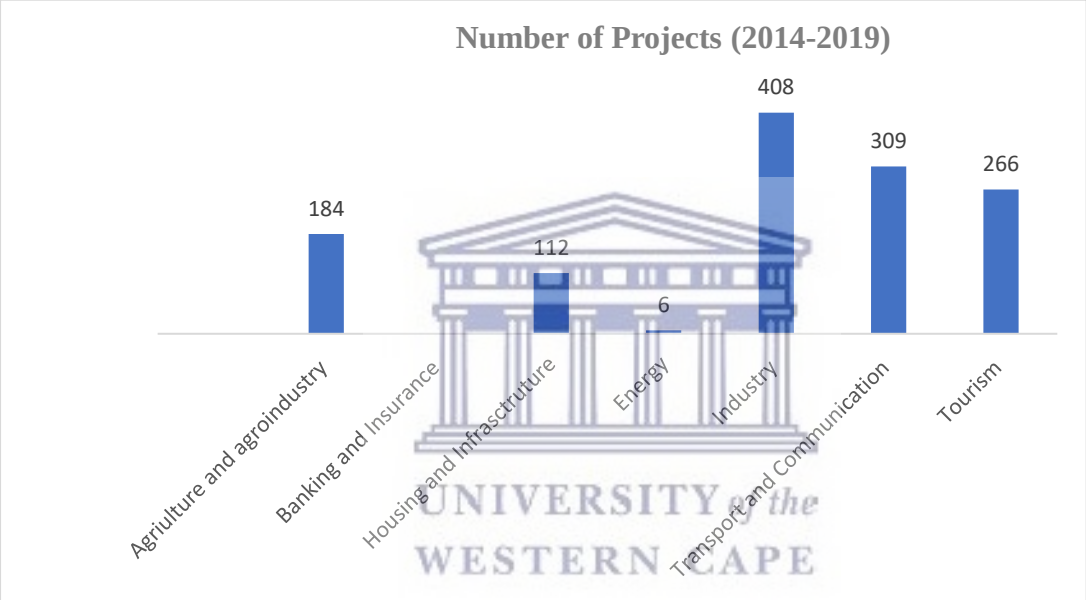
that led to the independence from Portugal in 1975 and the civil war that led to a peace agreement in 1992 between the FRELIMO government and the anti-government guerrilla RENAMO forces (Funada-Classen & Osada, 2012). During the colonial period, historical processes managed to accommodate all Mozambican population with at least a small piece of land, which was being used for a dual pre-capitalist agriculture model, such that people were producing to respond to the colonist interests on one hand and on the other, meet their subsistence requirements (Chichava & Fingermann, 2015). These dynamics continued after independence, as the country had a socialist orientated ideology, promoting collectivisation as well as state-owned farmland to foster the development of the agricultural sector, seen as the driver of the economy. This failed with the civil war lasting from 1977 to 1992 (Zaehringer et al., 2018).

In 1992, as people were celebrating the end of the civil war and returning to their ancestral land, the country was economically damaged; core infrastructures such as ports, railways, factories and others had been destroyed. In the agricultural sector, the war inflected massive losses of cash crops, forcing many peasants back to the subsistence model, and destroying much of cattle production. Consequently, there was a lack of employment opportunities in rural areas and 69% of the population lived below the poverty datum line (Cunguara & Hanlon, 2010).

Although Mozambique was fertile and richly endowed with natural resources, it was far away from responding to the country's demands for food and economic development. Agricultural activities were dependent on the family labour force that, away from agriculture, they combined with different livelihood strategies such as fishing and fruit collection (Ferrão et al., 2018). Although efforts from below were evident, poverty and food security were big concerns and it seemed that neither the state nor the returnees had enough of what was required to get the land back to production and also, to render industries operational. To turn this around, under the presidency of Samora Moises Machel the government put in place a new formula which scrapped the socialist-orientated ideology and joined the structural adjustment programmes (*Programa de Ajustamento Estrutural*) of the International Monetary Fund (IMF) and the World Bank (Mosca & Abbas, 2016).

In practice, the new formula consisted of attracting foreign direct investments (FDI) in different sectors of development, particular in the agricultural sector, as this sector, constitutionally, was

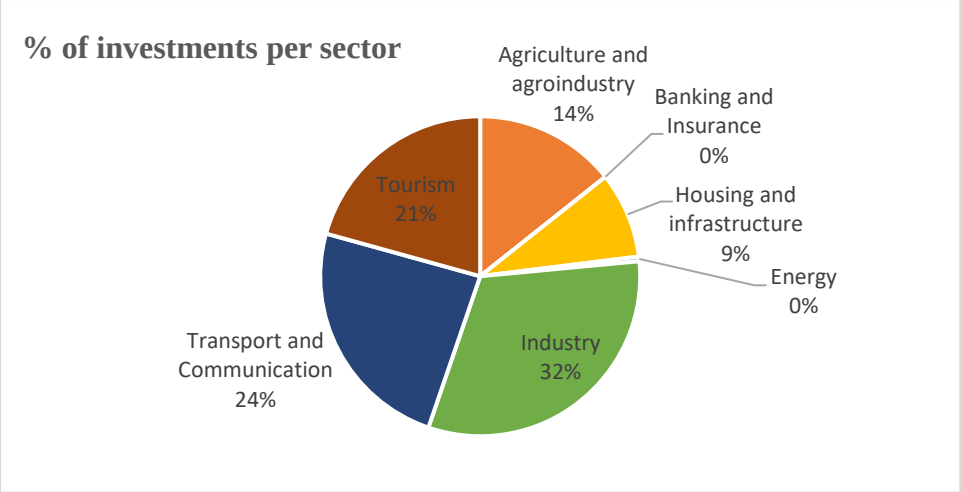
the base of economy[9]. The door was open for international capital and, in fact, the country started witnessing an influx of foreign-intensive investments in sectors such as agriculture, industry, tourism, mining and energy (Massingue & Muianga, 2013). Data from the Agency for Promotion of Importation and Exportation (APIEX) indicated that from 1990 to 2011, 3,408 investment projects were approved, corresponding with 37% of total private investments, 57% of total external loan for investment and 6% of national investments. Statistically within this period, the mineral resources sector received 29%, energy 25%, industry 9%, tourism 8%, agriculture 18% and 11% for the rest of sectors. From 2014 to 2019 there were 1,768 approved projects in sectors such as agriculture, industry, tourism, services, transport and communication, as depicted in the graphic below[10].



Graph 1: The number of projects approved from 2014-2019

The graph above shows 1,768 investment projects approved by APIEX from 2014 to 2019. The total investment volume of the 1,768 projects is $ 4,877,764,338.57 million, which corresponds to 63% of the total investment approved[11].

[9] FDI occurs when a foreign-owned firm acquires a subsidiary or expands in a country. An extensional loan to a foreign firm or company that is mainly owned by foreigners in the country is also FDI and is recorded in the national balance of payment as capital inflow in the country's balance of payments of origins as equivalent capital outflow (Krugman and Obstfeld, 2007).
[10] Data from unpublished Excel documents and internal reports accessed in July 2020.
[11] Data from unpublished Excel documents and internal reports accessed in July 2020.



Graph 1: The percentage of investments per sector in Mozambique from 2014 to 2019

From the above graph, it is possible to see that the industry, which includes the mining and extractive industry, is the leading sector. The failure is evident in the energy sector. The origin of these investments varies from year to year. A compiled set of data from APIEX' main data base showed that from 2014 to 2019 the top 10 countries from which investments have originated are Spain, China, United Arab Emirates, South Africa, India, Portugal, France, Brazil, United States and Japan. In analysing the trend of FDI, one would need to assess data from APPIEX. In 2013, the FDI amounted to $6,1 billion; in 2014 it went down to $4,9 billion; in 2015 it reached $4 billion; in 2016 it went back to $3 billion and; in 2017 it dropped to just $2.3 billion. In 2018 it reached $2.7 and in 2019 it dropped even more to $1,2 billion and in 2020 the investments continued to reduce further[12].

The drop of FDI in 2019 was caused by the hidden debt which unfolded in 2016. The FDI fell significantly causing a debt crisis that resulted in a rapid and sharp devaluation of metical (the national currency in Mozambique) and a frightening drop in imports (Centro de Integridade Publica, 2019). In 2020 it has been because of the international economic crisis fuelled by the Covid19 pandemic, the terrorist attacks in Cabo Delgado in the north of the country, which started in 2017 and the armed conflict in Manica and Sofala province in the centre of the country which started in 2018.

The mining and extractive industry are the primary sources of FDI. Notably, agriculture, animal production and the hunting and forestry sector receive very little investments, for example, in

[12] Data from unpublished Excel documents and internal reports accessed in July 2020.

2019 it received only 53 million dollars. However, it has remained one of the preferable destinations for investments due to a number of drivers, which is further elaborated later in the research[13]. The FDI has the potential to ensure the creation of new jobs in the receiving country (Sambo, 2021). This is one of prevailing reasons behind these investments; however, this is an outcome which is a result of private sector criteria. One should not lose sight of the fact that the private investor, whether foreign or domestic, make investments mainly to make profits and not to help solve the country's unemployment problem (Centro de Integridade Publica, 2019)

The issues of FDI's motives have crossed different streams of economic literatures: international business, international trade theory and the theory of firms. A critical review of literature on FDI has revealed that these arrangements in developing countries like Mozambique are not merely justified on the imperative need of reduction of poverty and promotion of development. Drawing from Dunning (1997) two of the FDI motives can be elaborated (Borras & Franco, 2012):

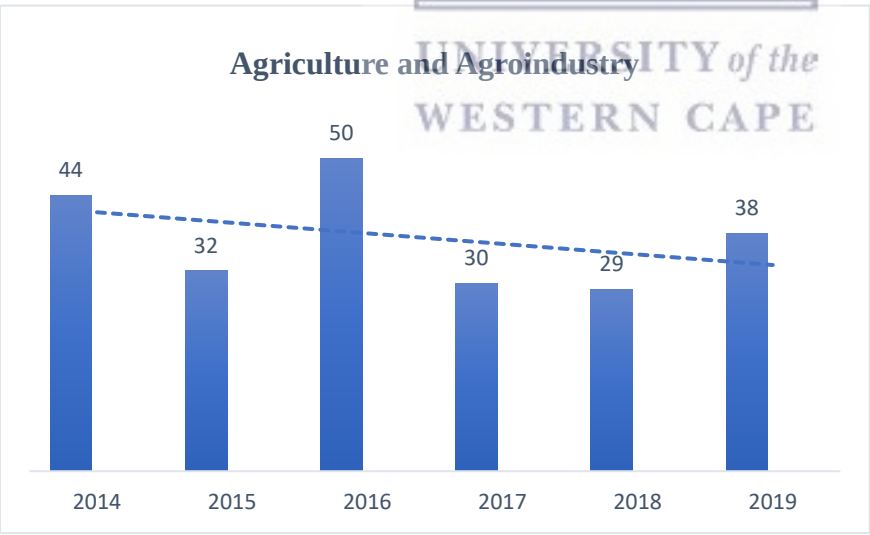
1. *Resources seeking*: the main motive of investors is the acquisition of particular resources not available in their home country (natural resources or raw materials) or available at higher cost (unlike cheap labour). These kinds of investments are notorious in developing countries like Mozambique, Angola, Democratic Republic of Congo and Mauritius, among others from the Southern African Development Community (SADC) countries. In addition, there is a greater increase of investments in Mozambique than in other countries across the region; the Brazil, Russia, India, China and South Africa block (BRICS) are amongst major investors. The developing economies are the ones holding natural resources while the developed countries are the ones consuming them (Unctad, 2012).
2. *Market seeking*: investors invest abroad to generate profit from foreign markets. Various reasons can lead to these choices and some of them include the need to follow suppliers or customers who have built foreign production facilities; the need to adapt goods to local needs or tastes; the need to avoid costs of serving a market from a distance; and the need to have a physical presence on the market in order to discourage potential competitors.

[13] Data from unpublished Excel documents and internal reports accessed in July 2020.

Analysing the growth trend of land-based investment in Mozambique, three factors could be identified and these are as follows: (i) the climate of peace and the relative macroeconomic stability that characterised Mozambique in the first two decades after the signing of peace agreements in 1992; (ii) the abundance of natural resources (mineral complexes as well as the advantage of its coastal location strategic framework for access to international trade in the interior countries and vice versa; and (iii) the political favouritism towards FDI that has characterised successive elected governments since the first general elections in 1994, characterised by continuous policies formulated and implemented to encourage FDI projects, mainly through tax reductions or exemptions (Sambo, 2018).

3.2 Agricultural Investments Trends: Drivers, Environment and Business Model

Investments in non-agricultural sectors such as mineral resources, industry and energy have enabled the country to realise economic growth, amongst other African countries. However, they have failed to reduce poverty and deliver food security or even economic development (De Matteo & Schoneveld, 2016). This performance enabled the government of Mozambique to open up to different investments in the agricultural sector (De Matteo & Schoneveld, 2016). According to De Matteo & Schoneveld (2016), since 2002, there has been an increase in the number of agricultural investments in the country, as depicted in the graph below.



Graph 2: The trend of agricultural investments in Mozambique from 2014 to 2019

Graph 2 shows that from 2014 to 2016 there was an increase of investments in the agricultural sector, for instance, 2016 was the peak. Moreover, it shows that from 2017 to 2018 there was a decrease in the number of investments approved, but an increase of investments from 2019.

As explained in the above section, the drop in 2017 and 2018 might have been caused by the hidden debt. Although an increase of agricultural investments was expected in 2019, this remained in official papers because there was a relative reduction of this type of investment in the centre of the country because of armed conflict and in the north because of terrorist attacks. Moreover, agricultural investments reduced in 2020 because of the Covid-19 pandemic with imposed restrictions. The Covid regulations and restrictions compromised the production model and outputs (Zamchiya, et al., 2020).

Alongside the emergence of land-based investments, there are ongoing institutional and policy reforms to support the investment trend. For instance, in 2006 the government of Mozambique established the Centre for Promotion of Agriculture Investment (CEPAGRI) with a mandate to promote agricultural investments, increase smallholder access to agriculture inputs, as well as to use market and alternative opportunities (De Matteo & Schoneveld, 2016). With the surge of the triple F-crises of 2007/2008, Mozambique adopted the Strategic Plan for Development of the Agricultural Sector (PEDSA) for the period 2011-2020 (extended to 2021) and the National Investment Plan for the agricultural sector for the period 2014-2018, which has been extended to 2021. These policy arrangements renewed business interests in Mozambican agriculture with national and foreign investment continuing to grow exponentially. Although it was not possible to get recent data, it is known that for example, from 2013 until 2017, more than 50 agreements have been signed with FDI source countries, most of them from Europe (United Kingdom and Portugal), Asia (China and Japan), the Americas (Brazil, United State of America) and Africa (South Africa and Zimbabwe) (Unctad, 2020). Apart from investments under FDI, these policies have enabled the government, with the transnational fund development agency such as the World Bank Group, to put forward multiple yearly programmes that focus on food and cash crop value chains, such as Sustenta.

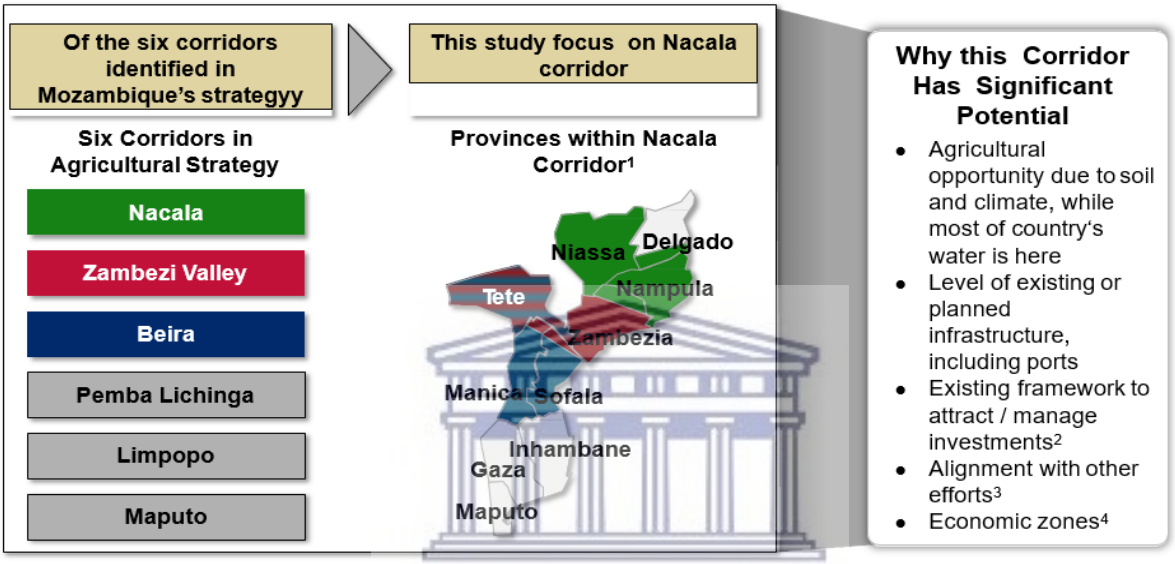
Table 2

Some investments in the agricultural sector over the past 10 years

Company	Province	District	Hectares
Malonda Foundation	Niassa	Lichinga e Sanga	220.000
Chikweti Forest (green resources since 2014)	Niassa	Lago, Lichinga e Sanga	100.000
Florest of Niassa	Niassa	Lichinga	2010.000
Companhia Florestal de Massangulo (Green Resources since 2014)	Niassa	Ngaúma	5.332
New Forest		Muembe	33.040
Green Resources (Noruega)	Niassa	Sanga	7.840
Lurio Green	Nampula	Mecubúri, Ribaué e Nampula	126.060
Mozaco	Nampula	Malema	2.389
Corredor Agro	Nampula	Nampula	8.200
Portucel Moçambique	Manica	Manica, Gondola, Barué, Sussundenga and Mossurize	183.000
Infloma		Manica and Muanza	64.540
Moflor	Manica	Gondola	3.800
Portucel Moçambique (Portugal)	Zambezia	Ile and Namarroi	173.000
Tectona Forest of Zambézia (Green Resources since 2014)	Zambezia	Gurué, Milange and Namarroi	35.000
Ntacua Florestas de Zambézia (Green Resources since 2014)	Zambezia	Ile, Alto Molocué and Lugela	9.500
ATFC II	Zambézia	Namarroi	6.000
Agromoz Agribuiness, Lda	Zambézia	Gurué	10.000
Hoyo – Hoyo Agribusiness, Lda	Zambézia	Gurué	10,000
Murrimo Macademia, Lda (Sourth Africa)	Zambézia	Gurué	3,200
Rei do Agro	Zambezia	Gurué	2.500
AFFEC (China)	Gaza	Chibuto	10.544

Source: author's construct

These investments are allocated within the six development corridors, divided into an agroecological zone (areas suitable and available for commercial agriculture, forestry and livestock), which constitute the Maputo corridor, Limpopo Corridor, Beira Corridor, Nacala Corridor, Lichinga-Pemba corridor and Zambeze Valley. Moreover, in January 2021, the Mozambican Council of Ministers approved the project to create the Limpopo Special Economic Zone for Agribusiness (ZEEA-L). Similar to other development corridors, this zone which is located in Gaza province, aims to improve the business environment to attract private national and international investment, transform and modernise the way of organising production, and promote the value chain of national primary products (MADER, 2020).



Note: 1) Color coding represents approximate positioning of corridors; 2) Zambezi Valley Development Authority and Beira Agricultural Growth Corridor; 3) ProSAVANA in Nacala Corridor; 4) Nacala Economic Zone exists now with Beira Economic Zone planned Source: PEDSA, Government and Expert Interviews

Figure 2: The six development corridors of Mozambique and their potentials

Of the six existing development corridors, this study is generally targeted towards the Nacala Development Corridor, however, the analysis is from a specific region – Gurué District. The Nacala Corridor is one among of the six developing corridors existing in the country. It is one of the main host regions for large-scale agricultural investments and 80% of its five million people depend on agriculture for their subsistence and livelihoods. It comprises an area of 14 million hectares spread over three provinces Nampula, Niassa and Zambezia province. In Nampula it includes 10 districts, namely Nacala-Porto, Meconta, Monapo, Mecubúri, Muecate, Mogovolas, Murrupula, Lalaua, Rapale e Ribaué. In Niassa it includes Cuamba, Mecanhelas, Mandimba, Ngauma, Lichinga, Majune and Sanga districts. Zambezia includes two districts - Alto Molócue and Gurué (Selemane, 2017).

The Nacala Corridor is made up of two cornerstone characteristics, such as an abundance of natural resources for mining, hydrocarbon and the development of the agriculture value chain. For example, in the agricultural sector it has exceptional agro-ecological conditions with precipitation that varies from 10.030 mm to 1.225 mm. It produces 1/3 of the cereals consumed in the country and 38% is vegetable production (Ntauazi, 2014). Another cornerstone characteristic is the railway Moatize-Nacala that is dependent on a mega investment called Nacala Integrated Logistical Corridor (NILC) (elaborated, in the next section). With these two main characteristics, investors set up their business operations in this corridor with the hope of being able to produce and transport through the available railway. However, this aspect has established the Nacala Corridor as a favourite route for investments, because, among other attractive characteristics, the Nacala Corridor falls under the Nacala special economic zone which provides a 500ha industry free zone with no value added tax (VAT) and customs duties as well as technical assistance; Nacala port is one of the deepest ports on the East Africa coast; and the demand for mining is increasing demand for agriculture products currently imported from South Africa at high cost (MADER, 2020). These potentials have attracted numerous land-based investments, including Agromoz.

3.3 Types of Agricultural Investment Models in Mozambique

Various land-based investment models are practiced in different parts of the world. Cotula (2021, p. 10), provides six types of commonly-practiced, land-based, investment business models, which include: "contract farming, management contracts, tenant farming and share cropping, joint ventures, farmer-owned business as well as upstream/ downstream business links". Drawing from Cotula (2012), there are two commonly-known investments models in Mozambique and these are the outgrowing model – a type of farming – and the non-outgrowing model. These models are used in the production, processing, marketing and distribution of food crops around the country. Although the above business models exist, in practice, land-based investments in agriculture can be classified under four basic models, which are i) smallholders (family farming), (ii) outgrowing or contract farming, (iii) large-scale commercial farming; and (iv) a hybrid model (combining large-scale farming and smallholder farming). The section below provides definitions of different types of farming models employed in Mozambique (but not necessarily investments or business models).

3.3.1 Smallholder/family farming model

Smallholder or family farming refers to the form of agriculture that is carried out on small plots of land. Under these farming systems, families grow subsistence crops and one or two cash crops, relying almost exclusively on family labour. According to the classification by Lyimo (2011), smallholder farmers fall into one of two types: (i) farmer-owned businesses and/or (ii) upstream-downstream business linkage models. Farmer-owned businesses combine a group of famers to deal with agribusiness through a formal coalition to reduce the liability of individual farmers and facilitate market access. Upstream-downstream business linkages can be divided into two elements, where upstream business includes supply of agricultural inputs and consultation services, while downstream business focuses on processing, storage and distribution activities. Smallholder farmers, through a limited cash crop, can sell their harvested crops to cooperatives and obtain an opportunity to work with cooperatives that supply inputs and buy crops. However, it is important to note that not smallholders are engaged in commercial production as stratified (Cousins, (2010). Apart from commercial or capitalist smallholders, Cousins (2010), included *supplementary food producers* – those who work on small plots or gardens. They do not have access to a wage income and rely on additional forms of income such as a social grant, craftwork or petty trading for their simple reproduction; and *worker peasants* – they farm on a substantial scale but are also engaged in wage labour, and combine these in their simple reproduction.

In Mozambique, smallholders account for about 80% of the population engaged in farming on less than 5 hectares and using traditional techniques such as hand hoe and human labour forces (MADER, 2020; UNAC & Justica Ambiental, 2011). They also use indigenous seeds, non-organic fertiliser, family or occasionally hired labour and a large percentage of what is produced is for self-consumption (Arduino et al., 2012). As explained by Mosca and Abbas (2016), smallholders in Mozambique produce 90% of food consumed, which is mainly maize, rice, sorghum, and cassava.

For many years, family farming has been the core agriculture model (Mosca, 2017). However, due to its dependency on rain and indigenous techniques, this subsistence model has been marginalised since independence, as evidenced in national agriculture policies and strategies such as PEDSA and the Green Revolution. These frameworks see large-scale farmers or the commercial model as the best option to integrate smallholders to increase production and

productivity. These approaches also help to integrate smallholders into the market. The prevailing critics to this model are concerned with the low level of production and productivity as compared to commercial or large-scale investments (Smart & Hanlon, 2014).

3.3.2 Large-scale commercial farming model

Large-scale commercial farming is a type of farming in which crops are grown on large estates of more than 50 hectares, mostly for commercial use only (MADER, 2020). This is often considered a modernised method of farming that is undertaken on a large-scale. In this type of farming, large land, labour and machines are used to reduce production costs and enjoy economies of scale, including higher returns and profit from farming activities. The definition of large-scale farming varies across different countries (Jayne et al., 2019). For example, while 50 hectares is considered small-scale farming in the USA, in Mozambique it is considered large-scale farming. The amount of scale, depending on the county criteria, is a key element to define large-scale farming (Lowder et al., 2016).

The challenge with these large-scale commercial farms is that most of them are often engaged in outgrower schemes at a small-scale as a part of corporate social responsibility and community empowerment and not in a pure business engagement with communities. To some extent, land rights and livelihoods are not dismantled but land tenure security is threatened in the areas where there is increasing land use by large-scale land-based investments.

3.3.3 Outgrowing or contract farming model

Another form of land-based investment which has recently attracted the majority of investors involves a variety of arrangements with small producers such as outgrowers in sugarcane, tea, cocoa and avocado (Cotula et al., 2011). Given the widespread criticisms of large-scale land acquisitions associated with displacement of poor rural communities in different parts of the developing world, companies are opting for the second form of land-based investment as a way of incorporating communities into corporate production and businesses without taking their land.

Contract farming is often defined as “an agreement between farmers and processing and/or marketing firms regarding the production and supply of agricultural products under forward agreements, frequently at pre-determined prices” (Eaton & Shepherd, 2011, p. 2). It can be

defined as an oral or written agreement, which creates a mutual obligation. For instance, before production, the company is obliged to provide inputs and technical assistance. Contract farming has several forms but the most important aspect is the contract between farmers and companies on the supply or purchase of agriculture produce without the company directly farming. The model is not recorded as a threat to community land rights and livelihood security. However, if not properly checked, rising food prices could jeopardise community food security.

Although there are a number of studies such as Birthal et al. (2009) where advantages like increase of producers' income have been identified, there are concerns regarding the model. For example,

1. Producers may lose autonomy by producing what they are instructed to produce, which undermines food security as they allocate much time to producing commercial crops;
2. Producers increase debt because the inputs are not for free, but in a credit arrangement (they to pay back); and
3. Contracts may be manipulated through delays in payments and differing measurements on the quantity and quality of produce supplied to the investor company.

In Mozambique for example, this model is associated with the production of crops such as tobacco, cotton, sugar cane and rice (MASA, 2016). In some African countries like Tanzania, in particular, changes in contract farming were largely due to implementation of structural adjustment programmes in the 1980s and 1990s, which led to the privatisation of the formerly state-owned sugar cane estates and mills between 1998 and 2001. The privatisation of sugar estates and mills meant that the production and ownership structures of these entities were reconfigured with companies devolving more responsibilities for producing, cutting and transporting sugar cane to farmers' associations (Sulle, 2017).

3.3.4 Hybrid model

This model combines production by large-scale company with estates and processing facilities with outgrowers supplying their agricultural produce in somewhat pre-negotiated arrangements. The model holds the advantages of both models while offsetting the disadvantages of the two. According to the FAO (2015), this model may include contract farming, leasing and management contracts or joint venture schemes. In either case, a company performs large-scale commercial farming with some contractual arrangement for small-scale farmers.

3.4 Drivers of Large-scale Agricultural Investments in Mozambique

For the purpose of the current research, drivers are elements or reasons (whether technical or political or even economic and social) that bring investors (in the agricultural sector) to the country. They describe the reasons why investments are made in agriculture. In Mozambique several facts underpin land acquisition. Drawing from existing literature, two level of drivers can be narrowed down and these are at the Marco and Micro level. The first is related with the decision or arrangements made by the government to favour the inflow of investments in the agricultural sector, whilst the second is related to the emerging narratives coined as narratives of scarcity by Scoones et al. (2014). The authors argue that large-scale land acquisition by government, agribusiness companies and financiers overseas has to do with the overlapping narratives that are at play – be they food, feed or fuel – which are deemed scarce within the context of population growth, therefore, investors seek areas where land and water in particular are seen to be relatively abundant.

Furthermore, the macro drivers, on one hand, are meant to fulfil the foreign policy interests of the country-source of investments (investments home country), whilst on the other hand, they are designed to fulfil domestic policy of the host country of investment. However, it links with the changes in policies and strategies or regulation in favour of commercial investments on land.

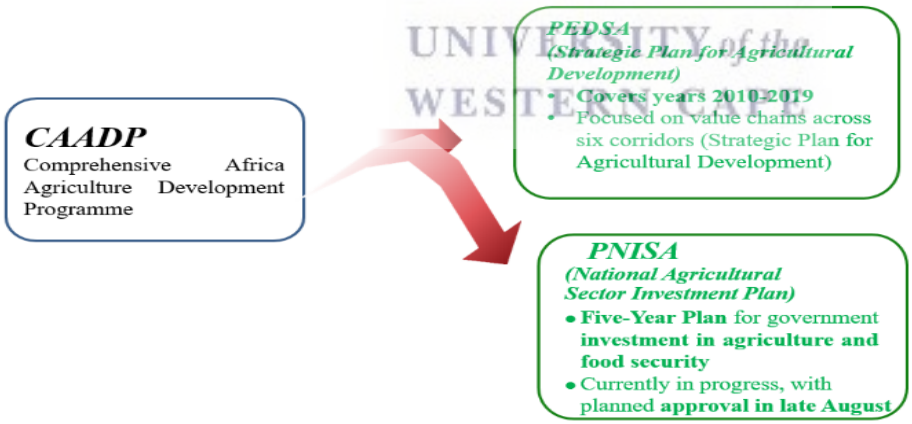


Figure 3: Linkage among PEDSA, PNISA and CAADP

3.4.1 Macro-level drivers

In Mozambique, land-based investments have been structured according to a number of guidelines (policies and strategies) since Mozambique's independence (Chichava et al.,

2013). In the agricultural sector, investments have always been made under the Land Law. However, with the hikes in global food prices, the government developed various policies and strategies: the Green Revolution Strategy (2007), the National Action Plan for Food Production (2008-2011) and the Strategy and Action Plan for Food Security and Nutrition (2016-2020). In addition, the government developed the Strategic Plan for the Development of the Agricultural Sector (PEDSA) and the National Agriculture Investment Plan (PNISA). Both policies are aligned with the Compressive Africa Agriculture Development Programme (CAADP) and are meant to operate and promote investments in the agricultural sector, for example, through the ProSavana or the New Alliance for Food Security and Nutrition.

3.4.1.1 ***The Land Law*****.** In 1995, the government adopted the National Land Policy, which subsequently led to the Land Law of 1997 and subsequent implementing regulations in 1998 (Hull & Whittal, 2018). The current Mozambican Land Law was adopted with the objective of safeguarding the rights and interest of communities (women and smallholder farmers), while also encouraging and facilitating investor's access to land, in the context of the land rush. It was also formulated to halt speculative land grabbing that can potentially lead to landlessness and deepen poverty. The law also established the right to use and benefit from land, known as a DUAT (*Direito do Uso e Aproveitamento da Terra*) (Boletim da Republica, Lei de Terras 19/97 de 1 de outubro; Artigo 3/ Bulletin of the Republic, Land Law 19/97 of October 1; Article 3). The DUAT does not confer full land ownership but covers a usage period of 50 years. This means that investors can use a particular piece of land for 50 years on the basis of a renewable contractual agreement.

The Land Law provides security to investors and gives authority to allocate and concession for commercial business. The basic provisions of this law state that the land is the property of the state and cannot be sold or otherwise alienated, mortgaged or encumbered (Boletim da Republica, Lei de Terras 19/97 de 1 de outubro; Artigo 3/ Bulletin of the Republic, Land Law 19/97 of October 1; Article 3). Additionally, it reasserts to individuals, communities and entities the rights to use and benefit from land for a long-term or perpetual period.

However, as per article 12 of the Land Law[14], the DUAT is at the heart of villages' land rights and it can be obtained as follows:

1. Local villages have a perpetual DUAT for land occupied under customary systems.
2. Individuals occupying land in "good faith" for at least 10 years have a perpetual DUAT for residential and family use. As such, villages are the holder of a single state DUAT, which recognises that customary norms and practices also determine individual and family land rights within the village. Villages and individuals can prove land rights through testimony without registration or titling – they are not required to hold formal DUAT title to prove their land rights (Cabral & Norfolk, 2016).
3. Individuals can apply for a DUAT for a particular piece of land for up to 50 years, with one renewal; and a land rights concession, typically for natural resources extraction or developing agricultural, forestry or fishing activities (Cabral & Norfolk, 2016). While village members can obtain a DUAT by occupying land for 10 years, individuals requiring land for a non-housing or non-village purposes must apply for a DUAT title. The government grant does not set a minimum or maximum size of land that can be allocated. However, the grant applicant must prepare an exploitation plan, which the state then evaluates, and then issues a provisioning grant. While this type of DUAT is seen as an effective way to secure land, critics ORAM (2010) and Tanner (2005) warn that these titles are sought for land speculation and prevent the poor from securing land (Cunguara & Hanlon, 2010; Mandamule, 2016).

In short, a community's customary rights are protected in the Land law. It recognises the rights obtained through traditional and good-faith land occupation as equivalent to rights obtained by a government grant. While national individuals have unrestricted rights of access to land, foreigners and investors, acquire rural land rights with the provision of a provisory DUAT, which is granted on the basis of a development plan. The plan is the outcome of a compulsory community hearing between the community and the investor. The plan requires an approval of the various spheres of the government (provincial governor,

[14] *Lei* nº 19/97 *De 1 de Outubro* (Law nº 19/97 of 1 October)

the Ministry of Land and Rural Development and the Counsel of the Ministry) depending on the size of the area in question; it can be upgraded to a full DUAT (of up to 50 years). Although the Mozambican Land Law is regarded as progressive across the region with 20 years of existence, it has failed in the implementation process. This is reflected in the evidenced land pressure performed by agrarian capital, in other words the law is being used for private sector earning, and as a result, most people face land grabbing. Apart from that, it can be noted that although the DUAT is a mechanism to acquire land rights, it is in actuality not ensuring land-rights security – peasants with DUATs are being evicted. Moreover, the process of attribution of a DUAT might be a governmental mechanism to accumulate land in the form of 'land bank' or a way to allow privatisation. The table below provides an overview of the key legal instruments for securing land rights in Mozambique.

Table 3

Legal instruments for securing tenure in Mozambique

Year	Title	Short description
1997	Law 19/97 (1 October)	Land Law: establishes key norms for land administration and tenure, including the concept of a unitary right (DUAT), rights acquired through good faith and customary occupation and the local community as a land-holding entity.
1998	Decree 66/98 (8 December)	Rural Land Law Regulations and Technical Annexure: specify procedures for community consultations, community land delimitations and land demarcation.
1999	Law 10/99 (12 July)	Forestry and wildlife law: Adopts the same definition of 'local community', providing exploitation rights for subsistence purposes and rights to be consulted regarding forest product extraction licensing.
2003	Decree 1/2003 (18 February)	Amendment to Land Law Regulations, specifically allowing local communities to register delimited land in the Real Property Register (*Registo Predial*).
	Law 8/2003 (27 March)	Legislation on local state administration, known as LOLE. It sets the district as the territorial planning base for economic development and the locality as the lowest level of state administration.

2005	Ministerial Diploma 93/2005 (4 May)	Regulates the distribution among local communities of the 20 per cent of tax revenue from forestry concessions and specifies the establishment of natural resource management committees at community level as a requirement for receipt of payments.
	Decree 11/2005 (10 June)	Regulations of Law 8/2003 on local state administration organisms, introducing statutory consultative councils at various levels.
	Law 8/2005 (23 December)	Law on establishment of agro-livestock associations with simpler procedures and requirements for establishing a legal association.
2007	Law 19/2007 (18 July)	Territorial Planning Law: provides specific planning tools and plan types recognised for (i) different levels (national, provincial, inter-provincial, district, inter-district) and (ii) different planning environments (rural and municipal).
	Decree 50/2007 (16 October)	Amendment to Article 35 of the Land Law Regulations to require local communities to request government authorisation for the titling of their acquired DUAT rights.
2008	Decree 70/2008 (30 December)	Investment guidelines that introduce further regulations on large scale land acquisitions (>10,000 ha).
	Decree 23/2008 (1 July)	Territorial Planning Regulations.
2010	Decree 43/2010 (10 October)	Introduces changes in nº2 of Article 27 of Land Law Regulations (Decree 66/98) regarding the signing off of community consultations.
2011	Ministerial Diploma 158/2011 (15 June)	Details stages for community consultation process.
2012	Decree 31/2012 (8 August)	Regulations on resettlements resulting from economic activities, including the rights to fair compensation of resettled populations.
	Decree 35/2012 (5 October)	Participation of community authorities in planning processes.

Source: author's construct

It is important to note that the land legal framework (Land Law and Land Policy) is in the revision process. This process was justified by the fact that the current legal framework is vague and it does not respond to the dynamics related to the land access and use of it in the current period. The process is taking place in the midst of growing informal land markets within the communities and land concessions in favour of big investments in the country. The contents that are being revised in this legal framework are unclear, therefore, some civil society organisations and academics have argued that the revision process might draw a new land governance pathway in Mozambique. Among the options of privatising, non-privatising land and easing the land acquisition mechanisms for the private sector, there are three prevailing arguments: the first argument defends the maintenance of the current legal framework approach but it advises that compliance mechanism should be strengthened. This argument is mainly defended by civil society organisations, social movements, activists and academics from the left wing and people that defend socialism. The second argues for change of the current land legal framework and it advises for privatisation of land. This approach is mainly defended by the emerging business class, economic groups linked to the political elite, activist and academic of the right wing. Privatisation of land is not prescribed in the Land Law but the reality shows that there is silent privatisation of land on going in communal land, mostly facilitated by local or community leaders. The third argument is defended by some international and national organisations. They argue that in both privatisation and non-privatisation situations, peasant communities should be able to hold land rights and establish partnerships with investors and access credit from commercial bank using land as collateral (Adriano & Machaze, 2016).

3.4.1.1 ***Green Revolution strategy.*** The term Green Revolution was coined in 1968 to describe the so-called success of Indian and South Asian agricultural model that increased crop production in white maize and rice (African Centre for Biodiversity, 2019). For Africa (Green revolution for Africa) this concept is the brainchild of Gordon Conway, a world-renowned agricultural ecologist and the former president of the Rockefeller Foundation who, alongside the Melinda and Bill Gates Foundation, launched the Alliance for Green Revolution in Africa (AGRA). In 2007, the AGRA encouraged many African countries to advance a green revolution in the continent with the goal of increasing the production and addressing food insecurity (Cammaer, 2016).

The Green Revolution is an agricultural strategy that hinges on a package of technology including the use of improved or hybrid seeds, use of synthetic fertiliser, irrigation and consolidation of land credit, as well as access to market (Greenberg, 2015). With the global rise of basic food prices, in 2007 the Counsel of the Ministry adopted the Green Revolution as the way forward to fight against starvation and poverty in the country and to improve production and productivity in a competitive and sustainable way (MASA, 2011).

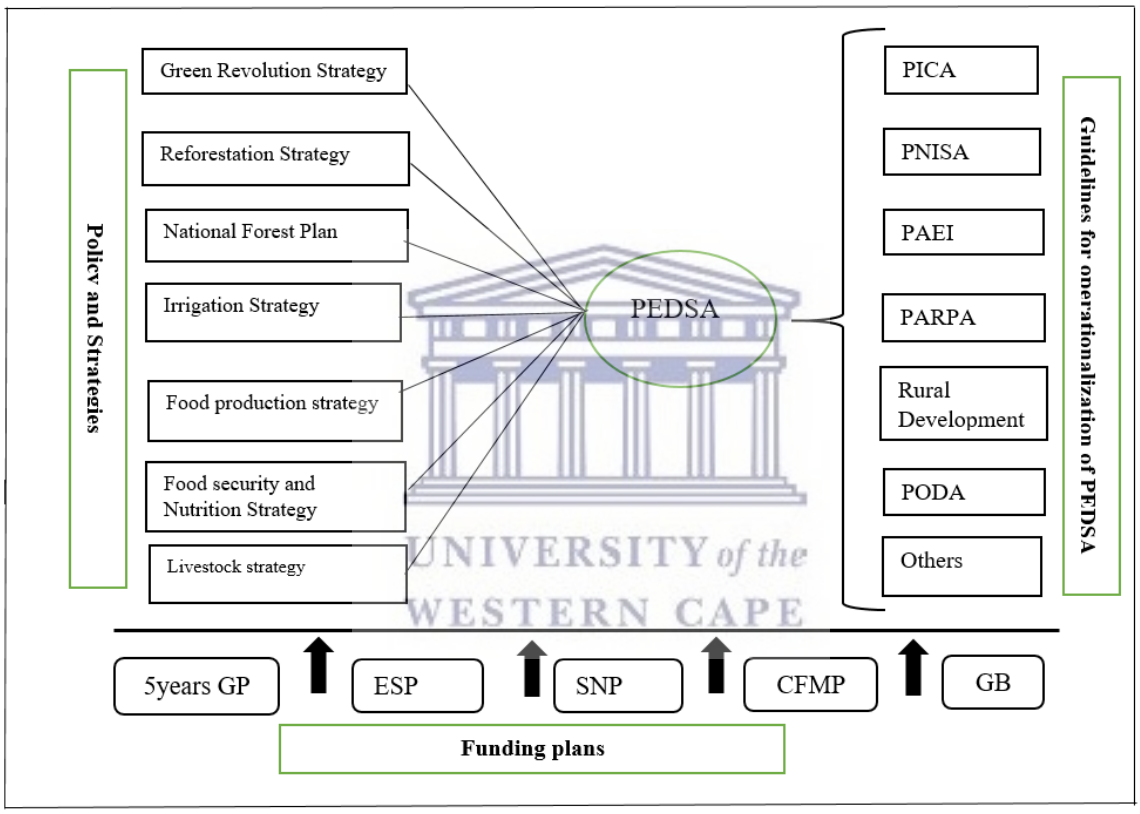
The green revaluation concept in Mozambique contains the following assumption (MASA, 2011).

1. The fight for poverty eradication is subject to the removal of one its manifestation, i.e the shortage in basic food and permanent or temporary food insecurity.
2. Employment and income generation are crucial for the creation of necessary conditions for the development of communities' human dignity.
3. The experiences from other countries where a similar programme was successfully implemented must be taken in consideration.

This means that all interventions of the Green Revolution must firstly maximise production of food in order to fight food insecurity and secondly, increase the generation of family income. Owing to the unquantified existing challenges in the agricultural sector, 5 main cornerstones were framed with the objective of guiding the strategic interventions for the development of the agricultural sector (MASA, 2011). However, the Green Revolution will intervene in (1) natural resources (land, water, forest and wild); (2) improved technology; (3) market and updated information (4) financing services and (5) training for human and social capital.

3.4.1.2 ***Strategic Plan for Development of Agricultural sector (PEDSA).*** The development of the agricultural sector has always been a priority for the government of Mozambique. The Strategic Plan for the Development of the Agricultural Sector (PEDSA 2011-2020, extended `to 2021) was conceived and approved by the Mozambican government based on the structural transformation of the agricultural sector and the development of the agro-industry (MASA, 2011).

PEDSA has different systematised strategic guidelines enclosing the agricultural sector, namely: the Green Revolution Strategy, agricultural sector priorities, a research strategy, the National Extension Programme, a reforestation strategy, the National Forest Plan, an irrigation strategy, the Food Production Action Plan (PAPA), the Food Security and Nutrition Strategy and Action Plan and the Livestock Strategic Plan (MASA, 2011). On the other hand, the PEDSA includes the guidelines also contained in the following documents: the Agrarian Policy and Implementation Strategy (PAEI), Plan of Action for Poverty Reduction (PARP), Five Year Government Programme (FYGP), Rural Development Strategy (RDS), and Multi-sectoral Plan of Action for the Reduction of Chronic Malnutrition in Mozambique (MASA, 2011).



Source: the author's construct, based on Dada and Mussa (2019)

Figure 4: The different guidelines enclosing PEDSA

At the international level, it aligns with the Sustainable Development Goals (hunger reduction and environment protection are the main priorities). At the continental level, it falls under the Comprehensive African Agricultural Development Programme (CAADP), which is an African policy framework for agriculture transformation, wealth creation, food security and nutrition, economic growth and partnership for all (MASA, 2011, 2016)

With an approach based on the expansion of the value chain, the operation of PEDSA takes into account the following strategic areas:

1. Generation and transfer of technology;
2. Provision of agricultural inputs;
3. Agricultural production;
4. Processing and marketing activities that add value to agricultural, livestock, forestry and wildlife products; and
5. Sustainable management of natural resources.

The approach is based on the following pillars:

1. Agricultural productivity – Increased productivity, production and competitiveness in agriculture, contributing to an adequate diet for the citizens;
2. Market access – Services and infrastructure for greater market access and a guiding framework conducive to agricultural investment;
3. Natural resources – Sustainable use and full utilisation of land, water, forest and fauna resources; and
4. Institutions – Strong agricultural institutions for implementation of PEDSA (MASA, 2011).

3.4.1.3 ***National Agricultural Investment Plan (PNISA).*** PNISA is an instrument for the implementation of PEDSA. It was developed under the argument for increasing food production and productivity in order to fight hunger, reduce poverty and eliminate food insecurity. To achieve this, the plan provides 21 programmes and 65 sub-programmes under five components, which are aligned with the main strategic objectives of the PEDSA and CAADP cornerstones.

PNISA emerged as an imperative of CAADP whose mandate is to pull the agricultural sector up to a growth of 6% per year and to allocate 10% of its budget to the agricultural sector. However, PNISA defines main guidelines and strategic actions for a coordinated governmental intervention that may allow for the rebirth of the agro-industry in Mozambique. It seeks to guide public and private investment, as well as international development agencies. The main goal is to promote the agro-industry in the country (MASA, 2011, 2016)

For the implementation of this plan, multi-annual investment programmes such as the Economic and Social Plans and annual budgets were drawn up and put into operation by the Annual Operational Plan. One of the implementation instruments was the Operational Plan for Agrarian Development (PODA).

PODA is essentially aimed at: (1) ensuring the production of food of plant and animal origin; (2) ensuring food and nutritional security; (3) reducing import levels of food of plant and animal origin; (4) encouraging the increase of family income of small producers; (5) promoting forest plantations and sustainable management of natural resources (land and water). PODA identifies a total of fifteen strategic products for development and investment in the agricultural sector and these are maize, beans, rice, vegetables, fruit, poultry, cattle, roots and tubers, bananas, sugar, wheat, sesame, soybeans, cashew nuts and cotton. The production of these crops and vegetables is to be promoted along the agricultural development corridors according to their agricultural potential.

Agricultural policies and strategies or guidelines play a significant role in the agricultural sector, mainly in productivity, production, commercialisation and consumption patterns (Mosca, 2016). In the case of policies and strategies adopted by the government as outlined above, their objective is to increase production and productivity through the use of agricultural inputs and technological packages, provide access to market for producers and vulnerable groups for food security and nutrition and promote a sustainable and rational use of natural resources. However, these policies and strategies are classified by Mosca (2017) such that they are 'agrarians', in the sense that these policies are pro-private investments, and commodity crop production is conducted with a market-oriented approach. In addition, much priority is given to the middle and large-scale producers and small-scale farmers are statistically not considered, they are left behind.

3.4.1.4 ***South-South and official development assistance.*** Some investors are motivated by multilateral arrangements such as alliances or networks between or among states; others are motivated by international commitments. The first is related to arrangements such as South-South Cooperation (SSC) and the former is related to the Official Development Assistance (ODA). Historically, the SSC was an instrument of foreign policy used by the non-aligned countries. Currently, both the SSC and Official Development Assistance are political

arrangements under soft power diplomacy used to promote international development. These arrangements are beneficial in the sense that they imply a transfer of knowledge, capacity building and employment delivery (Ji & Lim, 2018; Kowalski et al., 2017). In Mozambique, some investments like ProSavana[15] and others from BRICS countries (Brazil, Russia, India, China and South Africa) and the India-Brazil-South Africa Dialogue Forum are implemented under the SSC and ODA perspectives.

3.4.1.5 ***Fiscal incentives.*** Farming and forestry goods and services, including farm inputs and equipment, are exempt from VAT (Chichava et al., 2013). Although investors are meant to pay land tax for their acquired DUAT, most international investors "pay a trifling $0.60 per hectare per year" (Fairbairn et al., 2014, p. 7).

3.4.2 Micro-level drivers

Some countries, such as Mozambique that is dependent on food importation and yet has a low capacity for food availability and supply, consider land acquisition for commercial agriculture part of their national food security strategy. This is to cope with climate change, food and energy crises and demographic growth within the dynamic of global capitalism. Some micro-level drivers of land acquisition are discussed below.

3.4.2.1 ***Food Security.*** With the outbreak of the triple "F" crisis (food, fuel and energy) international development agencies such as FAO, World Bank and International Fund for Agricultural Development (IFAD) and academics and scholars supported by neoliberal theories, started to build narratives and projections on the possible food scarcity and increase of food insecurity in the upcoming generations. For example, in 2012 IFAD, drawing on the work by FAO, argued that the projected growth in the world population to 9.2 billion by 2050 adds an extra challenge for food security (Scoones et al., 2014).

[15] ProSavana was triangular programme from Mozambique, Brazil and Japan meant to promote agribusiness in 14.5 million hectares in the Nacala Corridor. However, due to a lot of contestations of civil society organisations and grassroots movements, the government of Mozambique, Brazil and Japan decided to terminate the programme. More details on the termination of the programme can be accessed through the press release issued by the Ministry of Agriculture and Rural Development on 20/07/2020 through the link https://www.agricultura.gov.mz/governo-de-mocambique-e-parceiros-acordam-o-termino-do-prosavana/

Some scholars have argued that this scenario may increase demand for agricultural investments in order to meet the demographic demands (Humphreys et al., 2013). Moreover, it will increase competition for land and livelihood and business assets for production of agro-commodities for multiple purposes including food security (Anseeuw & Ducastel, 2012; Scoones et al., 2014). However, intentions and investments in land for food and commodities from land-poor countries like the United Arab Emirates and those with a large and growing population like China and Japan may be evidenced in Mozambique

3.4.2.2 *Biofuel*. Production of liquid biofuel is a key driver. This is primarily for energy security. The higher prices of fluorinating of oil, especially in 2007/9, catalysed the biofuel revolution. Biofuels are seen as route to alternative environmental protections, affecting economic growth with a shortage of farmland in the north, therefore, the corporations and financiers are investing massively in biofuel production in Mozambique such as soya and sugar cane for making biodiesel (Bruna, 2019).

3.4.2.3 *Carbon markets.* Carbon markets are mechanisms aimed at reduce greenhouse emission cost-effectively by setting limits on emissions and enabling the trading of emission units (Conceição et al., 2019). These mechanisms may foster land acquisition since they are relevant for afforestation projects and possibly including biofuels. According to Conceição et al. (2019), the United Nations Collaborative Programme on Reducing Emission from Deforestation and Degradation (REDS) offers an incentive for Mozambique to acquire land to earn carbon credit. This is evidenced by the implementation of MozFip and MozBio projects. The first project is a forestry investment programme and the second is for conservation of trans-frontier areas (Bruna et al., 2021; MITADER, 2016).

3.4.2.4 *Geographical Location*. According to MASA (2012), the Mozambican geographic positioning provides an ideal gateway to both international and regional markets, as can be seen in the map below.

Source: Ministry of Agriculture

Figure 5: Geographical location of Mozambique and its gateway to global markets

While food and energy security emerge as key drivers of government-backed agricultural investments in Mozambique, private sector involvement seems to be driven by an expectation of competitive returns from agriculture or land. Moreover, in the view of investors, Mozambique seems to be the exit for the triple F crisis, whereby investing in its farmlands constitute solutions for the global capitalism crisis, as it is endowed by geopolitical resources and agro-ecological conditions such as soil, water, streams etc.

3.5 Farming Inputs and Technology in Mozambique

3.5.1 Background and context

Farming inputs or technologies comprise the infrastructure and processes involved in crop production, including growing, harvesting, processing, packaging and transportation before consumption (McDonald et al., 2016; Matata, 2001). These concepts should be understood as products or tools used for crop production which can be consumable (seeds, fertiliser,

agrochemicals etc.) and capital inputs (tractors, agriculture machines, agricultural implements and tools, etc).

Understanding farming inputs and technologies in Mozambique requires tracing them back to three main periods of Mozambican agrarian studies which are the colonial period (before 1975), post-independence period (after 1975) and the period of structural reforms (1983-1987), then linking them to post-structural reforms, which is the present time. According to O'Laughlin (1981), Chichava (2010) and Mosca (2011), during the colonial period agriculture remained underdeveloped across indigenous communities as small-scale farmers used rudimentary technologies (generally using the short hand hoe – *enxada de cabo curto*) and agricultural techniques in their farmlands. However, the sector was envisaged to save the interest of primitive accumulation of capital under the Portuguese colonialists through mechanisation and non-wage labour.

In general, the agricultural sector was characterised by a dualistic structure: on one hand, a sector with 4,700 agricultural properties, in which hundreds of thousands of Mozambicans worked for the colonists, whose production was destined for market (e.g. sugar, sisal and tea) (Chichava, 2010). These properties relied on wage labour that was using relatively advanced cultivation techniques provided by the colonists and devoting themselves to market production. On the other hand, there was another economic sector with around 1,700,000 small family and subsistence farmers relying on family labour and ancestral techniques – 80% of their production was for self-consumption. However, the colonists (Portuguese) acquired the surplus and sent it to foreign markets and Portugal to serve the national industry (e.g. cotton, cashew nuts, and oilseeds).

After independence, as analysed by Dinerman (2001) and Mosca (2011b), the agricultural sector was dominated by the public sector, represented by state companies such as Inter-Química E.E and Mecanagro[16], cooperatives of production and small-scale farmers. During this period, the public sector aimed to keep the industry operational in order to ensure employment and avoid robbery or vandalism of agricultural equipment or assets. The

[16] Inter-Quimica was a state-established company whose mandate was to manage the importation and distribution of seeds and fertiliser to the companies. Mecanagro was also a state-owned company mandated to manage agrarian equipment. Both companies were established post-independence and fell under the Ministry of Agriculture.

cooperative of production was considered to be a collective mode of production. Furthermore, it was a way to socialise rural areas towards the proletarianisation of small-scale farmers. Both state companies and cooperatives of production had access to agricultural inputs such as seeds, pesticides, productive infrastructure like tractors and good quality land, as both arrangements were regarded by the government as effective productive units to feed the population and boost the economy through exportation.

The same support was also evidenced in the period of reforms (1983-1987) that were constitutionally amended in 1990. During this period, 90% of total agricultural investments in inputs or technology went to the state sector (companies), 2% to the cooperatives and the small-scale farmers' households received none (Wuyts, 2001). Moreover, the period was marked by the transformation of the economic system, from the central planning systems to market-oriented planning system. Within this period, the private sector and small-scale farmers were factors of production, in the sense that they dominated agricultural activities.

The next period of the post-structural reforms which begun in the 90s, was characterised by the intensification of neoliberalism, which arose with a wider scramble for mineral, energy and biogenetic resources (Bruna, 2019). Agricultural technologies were centred on the new Green Revolution for Africa, which relied on the provision of modern technologies and inputs such as certified seeds, a wider variety of pesticides, cropping techniques, agricultural infrastructures and trade markets (African Centre for Biosafety, 2015). However, these technologies and inputs seems not to have been easily accessible by poor small-scale farmers, as few small-scale farmers had access to them were better off, while the majority of the poor appear to not have had many options.

As it can be observed above, during the first and second periods agricultural technologies or inputs were controlled by governmental units, which were the colonial government (before independence) and the transition government under the Ministry of Agriculture (after independence). However, in the post-independence period and with the advance of neoliberal policies, the role of the state is merely limited to setting up policies and regulating inputs and technologies through the Ministry of Agriculture. Multinational cooperation appears to wield great control over the farming technologies or inputs and still play an influential role on government policies and regulations regarding agricultural inputs and technologies.

From this perspective, small-scale farmers have been marginalised in the three periods described above. In the first period for example, the priority was to produce cash crops under Portuguese bourgeoisie surveillance. During this period small-scale farmers had to apply all received inputs in the capitalist farmlands. Relatively, in the second period, the priority was centred on state companies and cooperatives (post-independence period) and private companies like big agro-investors (from 1983). Owing to these political dynamics, small-scale farmers have always been using their ancestral technologies based on agroecology. In the current period (neoliberalism), small-scale farmers can witness support, although not effectively, through public agricultural programmes like *Sustenta* and *Fome Zero* (Zero Hungry) programmes which provide inputs (tractors, seeds and markets) to some better-off small-scale farmers. However, the priority of the government remains on the attraction of big agro-investors for the effectiveness of food production.

3.5.2 The prevailing consumable agriculture inputs

As described throughout the research, Mozambique has predominantly a subsistence agricultural system, characterised by low productivity as compared to other southeast African countries (USAID, 2007). This is due to a number of indigenous combined factors such as: (i) the use of traditional farming techniques and practices, (ii) the low level of use of improved inputs such as improved seeds (10% in the case of maize and 1.8 % of rice), fertiliser and pesticides (iii) poor soil preparation due to the use of manual or traditional tools; (iv) the lack of storage infrastructures; (v) high post-harvest loss; (vi) poor transport facilities; (vii) higher transaction costs and poor access to financial services; and (viii) low coverage of extension services. Currently, the extension services cover 11% of the 4.9 million of small-scale farmers existing in the country. These services are largely covered by national and international NGOs through rural development programmes.

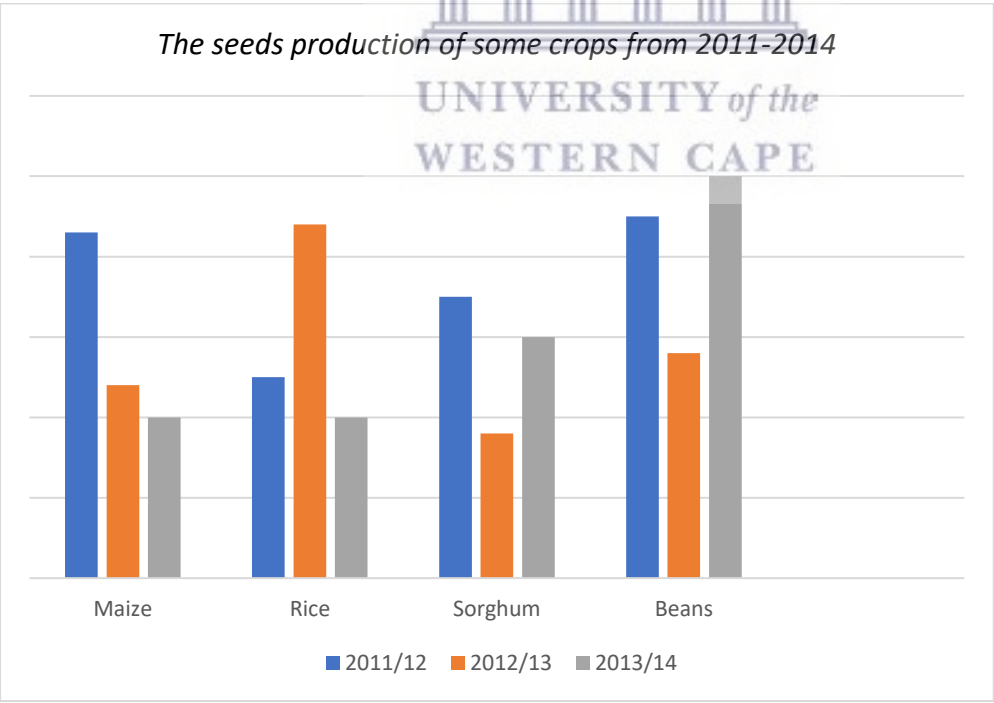
A study conducted by the Ministry of Agriculture in 2014 indicated that the agricultural sector in Mozambique suffers a lack of inputs such as seeds and fertiliser. Other reasons are: (i) weak national production of improved seeds, (ii) weak level of production and use of improved seeds by small-scale farmers due to weak dissemination and, (iv) a weak distribution network of seeds in rural areas.

Table 4

The production of seeds during the agricultural campaign of 2011/12 to 2013/14

Crop	2011/12	2012/13	2013/14	Total
Maize	2,030.00	157.68	155.80	2,343.48
Rice	3,062.90	726.50	784.00	4,573.40
Sorghum	9.50	21.00	52.00	82.50
Beans	1,720.00	24.38	128.00	1,872.38
Soya	1.10	290.60	687.27	978.97
Peanuts	10.10	99.75	151.65	261.50
Sesame	7.70	400.00	309.90	717.60
Cotton	-	1,384.00	255.00	1,639.00
Total	6,841.30	3,103.91	2,523.62	12,468.83

Source: Ministry of Agriculture, 2014



Graph 3: the seeds production of some crops from 2011-2014

Table 6 and Graph 4 show that from the 2011/12 to 2013/14 agricultural campaign, there has been a decrease of seed production in the country due to the factors mentioned above. This entails the need to intensify seed production in the country. On the contrary, as Mosca, (2011) opined, the bulk agrochemicals business has increased exponentially in the country due to higher demand from sugar, cotton and tobacco companies. These companies constitute 80% of agrochemicals imported in the country. These imports enter primarily through Beira and Nacala port from Middle East, East Asia, Europe and other parts of Africa.

A countrywide analysis shows that from 2002 to 2009, the use of agrochemicals was averaged at just 4.4kg per hectare, compared to the 50kg target set in the Abuja declaration (African Centre for Biodiversity, 2019). So far, a number of national and international NGOs are promoting seeds and agrochemicals, mostly associated with vegetables, rice and sorghum and grain production. These seeds are being promoted through rural development or tie-bound programmes and projects, which are taking place in accordance with the Ministry of Agriculture and Rural Development as depicted in Table 7 below. The current criticisms are of the accessibility and sustainability of these inputs to small-scale farmers, which is developed in the upcoming sections.

Table 5

Overview of selected recent input subsidy programmes in Mozambique

Programme	Dates	Donors and implementing agents	Aid amount	Package contents	Selection criteria and numbers	Value of package and own contribution	Location
Fertiliser Supply Programme Pilot	2009 -11	EU / FAO / IFDC / MASA	US$20m	Voucher: 100kg of fertiliser (50kg of urea and 50kg of NPK 12-24-12) and 12.5kg of improved maize or rice seed.	Farming between 0.5 and 5ha of maize. 'Progressive farmer' -aiming for modernisation of production methods and commercial farming. Access to agricultural extension and to input and output markets Ability and willingness to pay for the remaining 30% of the package cost. Target 25,000	US$ 117 total Farmer contribution US$ 32 (27%)	Manica, Sofala, Tete, Zambezia and Nampula

Fertiliser Supply Programme extension	2013 –18	EU / FAO / IFAD / WFP / MASA	EUR 67 million plus EUR 10 million from Mozam-bique Govern-ment	Paper voucher 12.5 kg hybrid/OPV maize or 40 kg rice seed 100 kg fertiliser (50 kg urea, 50 kg NPK 12-24-12)	0.5-5ha of maize or rice. Financial contribution Access to extension services Access to input and output markets Lottery to randomly select 25 000 beneficiaries from a larger list of qualifying beneficiaries Selected by SDAE, extension officers, local leaders and agro-input retailers	US$ 117 total Farmer contribution US$ 32 (27%)	Manica, Sofala, Zambezia, Nampula
E-voucher pilot	Launc hed 2015	FAO / ADM	Extension from previous program-me	Package A Subsistence and Package B Emerging (both): OPV maize, cowpea, common bean, pigeon pea, sorghum, soya, peanut, rice Inoculant Field and post-harvest insecticide	Target: 23 000 farmers 25 agro-dealers Package A: 0.5-1 ha, women-headed households a priority Package B: >1 ha, labour, markets	Package A: US$ 35 total Farmer contribution US$ 8.75 (25%) Package B: US$ 130 total Farmer contribution US$ 52 (40%) Farmer can stagger contributions and purchases	Manica, Sofala, Zambezia, Nampula

				Package B: Emerging additional: Hybrid maize Fertiliser (urea, NPK) Flexibility based on what is available at agro-dealers			
SUSTENTA	2016 -21	World Bank / FNDS	US$ 40m (20–30% for input package)	Seed, fertilisers and pesticides and other support Crop choice including poultry, maize, soya, sesame, cashew nuts, beans, oilseeds, horticulture, and nontimber forest products (NTFP) such as honey	Target directly 100 emerging farmers, 25 small agribusinesses; indirectly 20 000 subsistence farmers Commercial farmer Has received training >2 ha Financial contribution	10% of business plan	Nacala Develop-ment Corridor - Zambezia, Nampula

Source: author's own based on fieldwork data

In Mozambique, the seed sector can be divided into three categories as follows: (i) the informal system, which is dominated by small-scale farmers, mainly produce and circulate local varieties of food crops; (ii) the semi-formal system which covers mainly food crops but also some vegetative propagated crops and emerging cash crops. It incorporates community-based activities organised by NGOs in cases of emergency aid; and (iii) the formal or commercial system, which mainly targets cash crops and is dominated by the private sector, the public sector, and a closed value chain for specific crops such as cotton, sugar cane, tobacco and cashew nuts (African Centre for Biodiversity, 2019; African Centre for Biosafety; UNAC; Kaleidoscopio, 2016).

Most of the seed is produced through the informal system which is dominated by small-scale farmers, covering more than 70%, the remainder divided between the formal sector, which holds 15% and 5% corresponding to the intermediate sector. The informal sector dominates the production of seeds for food crops and the reproduction of local varieties such as corn, potatoes, rice, cassava, beans, etc., ensuring food security for Mozambican families and the continuity of the production and conservation of the national agricultural biodiversity. The intermediate sector distributes seeds for food crops and emerging cash crops, such as sesame seeds, soybeans and pigeon peas and uses the improved national and imported seed varieties, with the aim of increasing agricultural productivity and encouraging the practice of commercial agriculture in the country. The formal sector, which brings together the public sector, the private sector and closed value chains, dominates certified seeds of improved national and imported varieties, and includes crops such as rice, potatoes, corn, soybeans, peanuts, beans, vegetables, sesame, cotton, tobacco, cashew and cane, (Pereira & Heemskerk, 2012).

From this perspective, the seed production system for food crops is dominated by small-scale farmers, producing 90% of the products consumed at the national level, using native seeds, collected, stored, conserved, multiplied and passed on from generation to generation. However, due to the occurrence of natural disasters, civil wars, or events that imply the displacement of small-scale farmers from one area to another, as well as the recent trend in the use of hybrid seeds, there has been a disappearance or reduction of native seeds. For example, the recent climatic

events, cyclone IDAI and Kenneth in central and northern Mozambique, contributed to the loss of native seeds by small-scale farmers (Ntauazi, 2020). According to FAO, as result of Cyclone IDAI in 2019, about 75% of small-scale farmers are subject to using hybrid seeds to recover livelihoods. As the country advances on seed production on one hand, on the other, the fertiliser industry is growing and it is destined for domestic and external market. For instance, Green Belt, a fertiliser-producing company based in Beira, in the Sofala province and Moz Fertiliser Company (MOZFER) based in Gondola in the Manica province hold a production capacity of 15,000 tons and 40,000 tons per year, respectively. Ninety per cent of MOZFER fertiliser production is destined for the domestic market, whilst 10% of Green Belt goes to the domestic market and 90% goes to Zimbabwe, Malawi and Zambia (MASA, 2016).

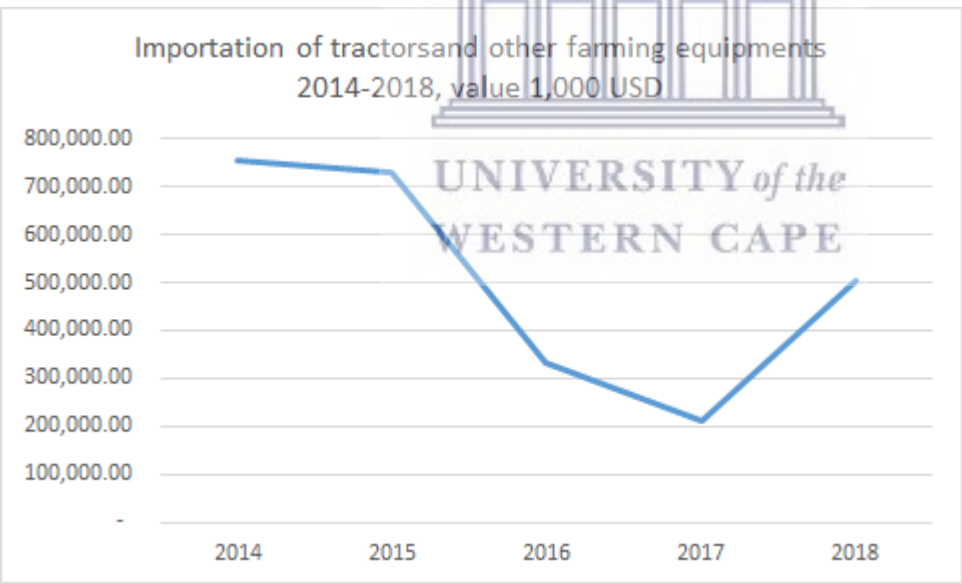
3.5.3 The prevailing capital agricultural inputs

The agricultural technologies in Mozambique have come a long way. Before independence, Portuguese plantations were mechanised. After independence was attained, these farms were nationalised and turned into state companies that inherited colonial machinery stocks. However, in those earlier years, importation of new machinery declined (Chichava, 2015; Mosca, 2011a). With the support of Italy and Sweden and other international governments in 1970, the country imported a batch of machinery which was destined for state farms. The process of importating the machinery was overseen by a state-created company – Mecanagro (Cabral, 2019). This company operated machinery parks throughout the country and provided services to state and private companies. The plan and strategy ended in the 1980s due to poor management of Mecanagro and the widespread collapse of state companies in a time of war (Cabral, 2019; Mosca, 2011).

Under this perspective, during the colonial era and some years after independence, mechanisation was granted to state companies and already established capitalists. The predominant class of subsistence small-scale farmers continued to use the short hand hoe. Mechanisation was largely used by capitalists (investors) and the small bourgeois (middle-scale farmers). The 2009-2010 National Agriculture Census, indicates that only 1.6% of farmers in Mozambique used tractors and less than 0.5% had access to trailers or motorised water pumps. Animal attraction is under 10%, a

figure generally low in the country and this has compromised the production and productivity in the agricultural sector.

In order to increase production and productivity in line with PEDSA and CAADP, mechanisation was reinstated as the strategy to unlock and trigger transformative agriculture to eliminate hunger. At international level, several international organisations such as the African Union (AU), the African Development Bank (ADB), the United Nations Economic Commission for Africa (UNECA) and the Food and Agriculture Organisation (FAO) renewed commitments towards mechanisation (African centre for Biosafety, 2016 and FAO, 2016). At domestic level the government renewed the emphasis on agriculture mechanisation by emphasising that mechanisation is a part of strategy to modernise agriculture and transform small-scale farmers into commercial farmers and be able to invest in agro processing to ensure the future of industry in Mozambique.(. The next graph shows the evolution of importation of tractors and other farming equipment from 2014 to 2018. It shows an existing interest in deploying machinery for agricultural activities in the country.



Source: INE, Mozambique. Author's own creation, based on data provided to the author by the Institute Nacional de Estatística de Moçambique.

Graph 4: Importation of tractor and other faming equipment's, 2014-2018

Mechanisation in Mozambique, is being delivered by the private sector and public sector through input and technology support programmes as demonstrated in the graph above. To achieve more, the government introduced the National Agriculture Mechanisation Programme (NAMP) in 2015 and in 2017, it introduced the Sustenta Programme. Both these and other input programmes aim to increase current levels of agricultural production and productivity and raise small-scale farmers' income. The NAMP is being implemented through the establishment of Agricultural Service Delivery Centres (ASDC), along with the Agrarian Development Corridors across the country.

The CSDC programme is financed by a special credit line for Africa, launched during the *Brazil-Africa Dialogue on Food Security, Combating Hunger and Rural Development*, which took place in Brasília, in 2010 where the main discussion was around food security in the context of food crisis. The programme has the support (technical) of the Food and Agriculture Organization of the United Nations (FAO), within the scope of South-South Cooperation. The ASDC machinery was financed through this external financing line to Mozambique, for a total of US$97.6 million, at an annual interest rate of 2% and amortisation of over 25 years (Cabral, 2019; Nova et al., 2019).

Under the NAMP, by 2018 the government of Mozambique had established 96 ASDCs across the country for the provision of mechanisation services managed by the public and private sector. The ASDCs were equipped with newly imported machinery, mainly tractors and tractors' complement for ploughs, which had been bought from Brazil (Cabral, 2019; Nova et al., 2019). In 2018 the government provided 513 tractors and various equipment to 47 districts, which benefited 13,000 producers (both small-scale farmers and middle-scale farmers) from all over the country. This figure, according to the Ministry of Agriculture and Rural Development, represented an increase of 31%, compared to the 2016/2017 season, but even so, according to the same Ministry, the level of mechanisation by tractor for small-scale farmers until 2018 was below 2%. Tractors were mainly and easily used by capitalists (who acquired the machineries) and small bourgeoise (who rented from the capitalists).

Drawing from the description above, it can be narrowed down to observe that consumable and capital inputs are important factors for production and productivity. Although there is wide availability of these assets countrywide, there has been criticism of their accessibility, affordability

and sustainability. Researchers like Mosca (2011) and NGOs UNAC, ACB and *Forum Moçambicano das Mulheres Rurais* (FOMMUR) argue that small-scale farmers do not have capacity to buy inputs or are able to sustain them in the long term. Therefore, the largely poor small-scale farmers have access to modern inputs through relief interventions (freely distributed to small-scale farmers in the case of emergency such as cyclone IDAI and Kenneth that hit the centre and north of Mozambique in 2019) or arrangements with agro-dealers or commercial investors rather than subsidised input programmes (Sustenta programme), as the former is prioritised by the better off small-scale farmers.

Chapter 4: RESEARCH DESIGN AND METHODOLOGY

The study was carried out in the Gurué District, north of Zambezia province and in the centre of Mozambique. In order to understand changes of the food production systems of small-scale farmers as a result of large-scale investments, Agromoz Agribusiness Company was selected as a case study.

4.1 Background of the Study Site and the Investment Project

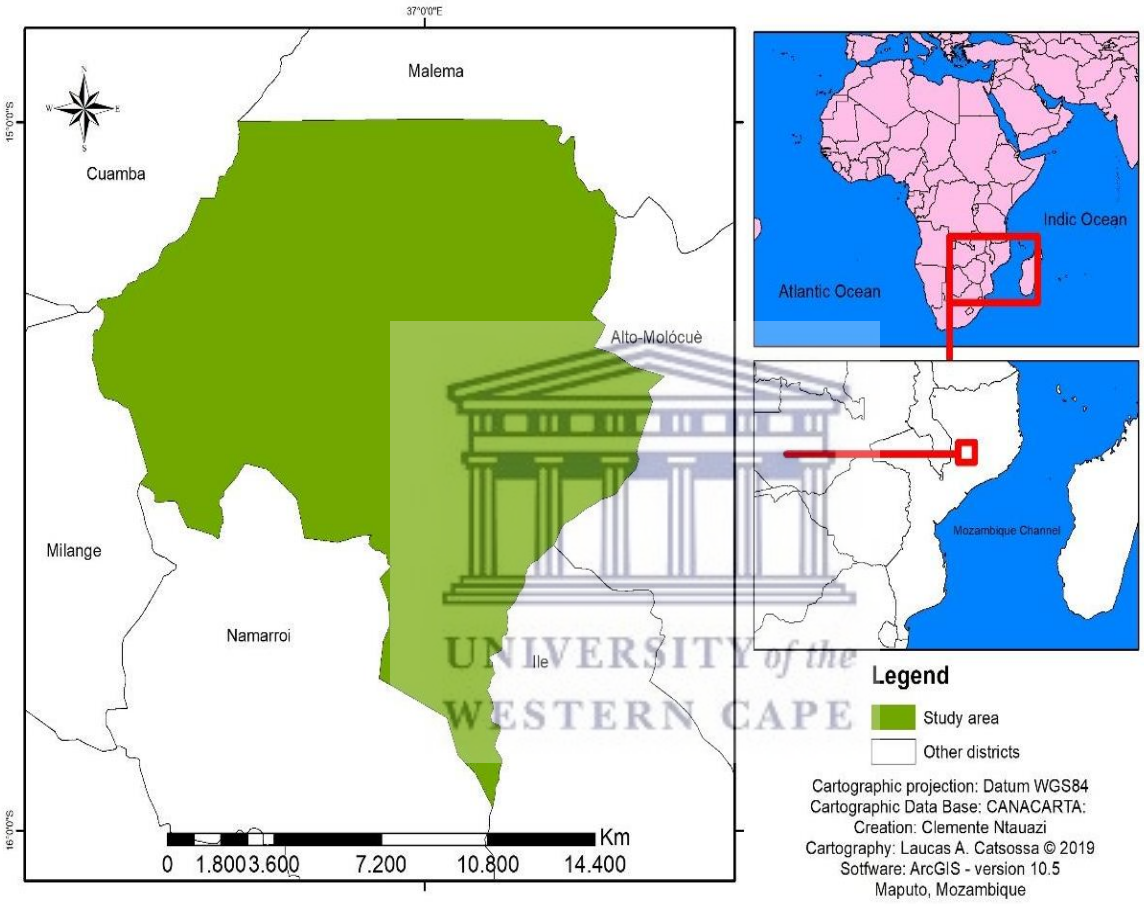


Figure 6: Map of the Gurue District

Gurué is a district is located in the north of Zambezia province, in the higher regions of Zambezia bordering with Milange, Namoroi, and Alto Molocue districts in the same province, and in the north with Malema, in Nampula province and Mecanhelas in Niassa province (Ministério de Administração Estatal, 2012). In Zambezia province, out of Alto Molocue district, Gurué is the

second district making part of the Nacala Corridor, which is the largest and most populated development corridor among the six existing corridors (Selemane, 2017).

With a landlocked area of 5, 664 km^2 and with 441 706 people, 56% of them living in *palhotas* (huts) (small houses with roofs covered with grass and walls made of adobe (Ministério de Administração Estatal, 2012). The district has humid climate, and it experiences water shortages in winter. The rainy season starts at the end of October and extends to July/August of the following year. Moreover, it is dominated by mountains with altitudes ranging from 500 to 700 meters. For example, Monte Namuli, the second highest mountain in Mozambique and part of national cultural and historic heritage, divides the district into the high- and low-veld (Joala et al., 2016). Nevertheless, there are numerous water sources such as streams in the rain season which offer natural conditions for irrigation schemes.

With a geographical area covering 107 km^2, the town, which has become a municipality in 1998, is in the higher part of the district, surrounded by tea plantations on the slop of the hill (Ministério de Administração Estatal, 2012. Wedged between the mountain slopes and the natural streams from the mountain, the local villages are spread across the district covered with dense forests and swamps. The district possesses different types of soil and, because of that; crop production across the district differs from region to region. For instance, in Lioma administrative post (an administrative division under a district), the case study area, the soils have higher fertility and are profitable for crop production like soya, maize and beans. This explains the higher concentration of large-scale commercial agriculture in the past and now in the Lioma post administration. In Mepwanjiwa administrative post, the soils are fertile for pigeon pea production locally known as *feijão buere*[17].

[17] Interview with Jose Macunja, Director of Gurué District Services of Economic Activities, conducted in July 2019 in Gurué

Table 6

The land coverage in Gurué district.

Class	Area (ha)	%
Cultivated dry land	73,687.44	13.01
Plantation	2,653.6	0.47
Semi-urban housing area	598.31	0.11
Soil without vegetation	33,559.13	5.93
Herbaceous plants	70,582.56	12.46
Clump	5,673.56	9.9
Medium shrubbery plants	43,468.12	7.68
High shrubbery plants	2,597.25	0.46
Open shrubbery plants	159,210.99	28.11
Wooden herbaceous plants	88,879.98	15.69
Herbaceous with undersized immigrant trees	7,181.49 1.27	1.27
Open forest with lower altitude	25,826.07	4.56
Closed forest with lower altitude	193.53	0.03
Evergreen forest	1,855.78	0.33
Total	**566358.78**	**100.00**

Source: Ministério de Administração Estatal, (2012).

The table above shows that Gurué has a total of 56,6358.78 hectares of land of which 28.11% is covered with open shrubbery plants and 13% is cultivated dry land, thus this is why the district is agrarian and attractive for different types of land-based investments. In fact, agriculture is the dominant activity. For instance, 85% of the economically active people work in agriculture, mainly small-scale farmers, most of them being women, possessing 54% of the existing agriculture exploitation with an average of 1.5ha producing 97% of the local production pattern[18].

The main subsistence crops grown are beans and maize. In addition, cash crops such as soya, tobacco, cotton, tea, sesame seeds, sunflowers and horticulture are the most common in the district[19]. The district is known to be the capital of soya with a production reaching 8000 tonnes per year with a minimum production of 2 tonnes per hectares. Small-scale farmers and some

[18] Interview, Jose Macuinja, Director of Gurué District Service of Economic Activities, 4th July 2019, Gurué
[19] Interview, Jose Macuinja, Director of Gurué District Economic Activities Services, 4th July 2019, Gurué.

investors such as Agromoz and Hoyo-Hoyo are behind the soya production in the locality of Tetete, Ruace village and the administrative post of Lioma in Wakuwa village[20]. Apart from crop production, small-scale farmers keep livestock such as chickens, goats and pork in a small quantity for family consumption and market purposes (Ministério de Administração Estatal, 2012).).

In general, agriculture is practiced manually in small family exploitation through intercropping using local varieties and methods. This activity is mostly carried out in the rainy season. However, low productivity and post-harvest losses are experienced due to several prevailing challenges facing small-scale farmers. As a solution to this, small-scale farmers use traditional techniques such as 'fallow land use techniques' to improve soil fertility. With the support of some NGOs, some smallholders tend to use a conservation agriculture technique.

4.2 Agromoz Agribusiness Company: The Profile and Business Model

Source: Google maps[21]

Figure 7: Satellite view of AgroMoz Agribusiness Company facilities.

[20] An administrative post is an administrative division which falls under the district.

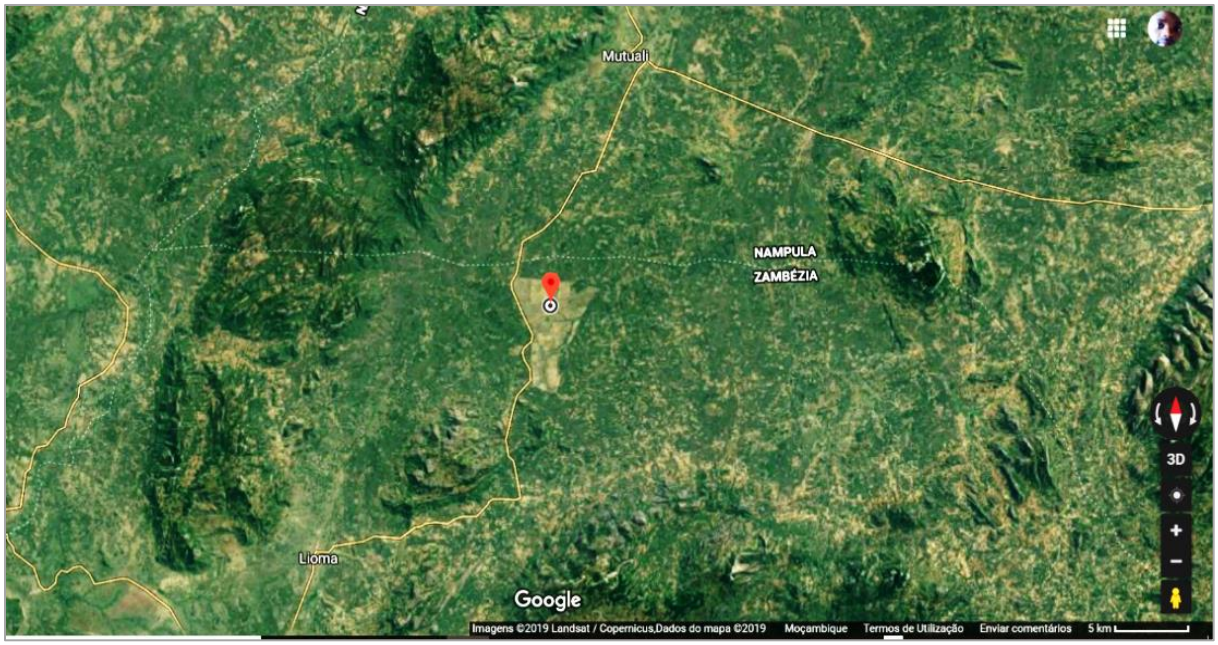
[21] https://www.google.co.mz/maps/dir/Agromoz+Agribusiness/-15.0255095,36.9542956/@-15.0314264,36.9527909,682m/data=!3m1!1e3!4m2!4m1!3e0?hl=pt-PT&authuser=0

Agromoz Agribusiness Company (Agromoz) is a large-scale agricultural farm, a joint venture between the Américo Amorim Group and Intelec. Intelec is reportedly owned by former Mozambican president Armando Guebuza (UNAC and Grain, 2015). According to the company's website, the Américo Amorim Group is the largest wine cork producer in the world, with interests in several other sectors, including the forestry, energy, luxury and financial sectors (Joala et al., 2016).

Agromoz is in the Gurué District, Lioma administrative post in Zambezia province. The company is on the border with Nampula Province through Malema District. Its operations were set up in Wakuwa village. However, the impact can be evidenced in three neighbouring villages, namely Escubera (in Zambezia) and Nankoka and Nacarari (on the Nampula side). In Wakua, as the representative of the company testified,

> We requested a DUAT for 1,000 hectares from Mozambican authorities in 2011 and in 2012 the company submitted a request for 9 thousand hectares, which made it a total of 10 thousand. In the same year, we obtained 1,029 hectares. Currently, we are investing in 3,500 hectares with a perspective to increase towards 10 thousand hectares[22].

[22] Interview, Heinrich Van Der Merwe, Manager at AgroMoz Agribusiness company, 23 August 2014, Gurué



Source: Google maps[23]

Figure 8: A snapshot showing the location of Agromoz in Zambezia boarding with Nampula province.

The company arrived in Gurué in the period when the government of Mozambique was much focussed on international capital and yet had proceeded to transform policies and agricultural programmes to ensure domestic food security and respond to the global crises faced by capitalism with the outbreak of triple F crisis. During this period, the government of Mozambique, through the then Ministry of Agriculture, had made thousands of hectares available and launched an invitation for investments in so-called marginal lands (Funada-Classen, 2013). This led to Agromoz and other investors setting up private agrarian capital in Gurué District.

4.2.1 The business models

The company has applied different models since commencing its operations. For instance, it started with contracting farming in 2012. The company ventured into contracts with local peasants, whereby the company would provide (on credit) soya and maize seed to the local peasants and peasants, in turn, would sell all intended output to the company. However, this arrangement failed

[23] https://www.google.co.mz/maps/dir/Agromoz+Agribusiness/-15.0255095,36.9542956/@-15.0314264,36.9527909,42515m/data=!3m1!1e3!4m2!4m1!3e0?hl=pt-PT&authuser=0

due to the side-selling practiced by small-scale farmers – in other words, the model failed. For example, 90% of soya and maize outgrowers failed to fulfil their contractual obligations. This ground-level reality forced the company to opt for self-cultivation. Under this model, the company is producing on 3.5 thousand hectares with soya the primary crop. The output is sold to chicken national companies such as Abilio Antunes in Chimoio, Manica Province and Kind Frango Company in Nampula province.

The changes to the production model of the company are evidence that local peasants are not using their ancestral land or can voluntarily rent to the investor or even negotiate contractual arrangements – which may take the form of joint ventures – and gain various benefits, including cash payments, contribution of employment in kind or a combination of all the above. Furthermore, the Agromoz model is not new in Mozambique, especially in the 21st century era. Therefore, it is crucial to examine changes driven by the company on landholding of peasants, capital, labour and livelihoods assets.

4.2.2 Research design

The study was conducted in the Gurué district over the period of 2017 to 2020 in different seasons of the years and the analysis covers the period from 2012 to 2020. Geographically, field data collection was carried out in five villages, namely: Wakua, Escubera, Nankoka, Nacarari and Lioma village – the former is the headquarters of the administrative post (a denomination of a sub-administrative division under a district) under the same name (Lioma administrative post/*Posto Administraitivo de Lioma-sede*). For this study, 'village', as defined in the Land Law of 1997, is "a grouping of families and individuals, living in a territorial constituency of local or lower level, which aims to safeguard common interests by protecting housing areas, agricultural areas, whether cultivated or fallow, forests, and sites of cultural importance, pastures, water sources and areas of expansion" (Assembleia da Republica, 1997, p. 16). The five villages were selected based on their proximity with Agromoz (the case study) and for being economic centres. This is the case of Lioma, which is the nearest economic centre for most of the rural villages in Lioma and Mutuali Administrative Post, in Zambezia and Nampula provinces respectively. In total, Lioma has 56 villages, however, the five selected villages, have been affected by Agromoz. Since they are near

the company (surrounded by the company), it might be easier to analyse the impacts of the company on the surrounding small-scale farmers.

The five selected villages for data collection were dived into two groups, which are: (i) the villages directly affected and (ii) indirectly affected villages. In general, the Agromoz investment has affected households differently. Some households in the selected villages have been affected in tangible and visible ways that are even quantifiable. These villages are referred to in this study as the directly affected villages; they are Wakua and Escubera. These villages are in Lioma Administrative Post in the Gurué District, Zambezia province. Both villages are located less than 100 to 200 metres away from the Agromoz. Small-scale farmers who are in these villages have lost cropping land as result of Agromoz investments. The dominant characteristic of these villages is land eviction, therefore, directly affected villages refers to those who have been evicted from their land so as to give it to Agromoz investment.

The second of those groups have been affected in less and unnoticeable ways, and they are Nankoka, Nacarari and Lioma village. The dominant characteristics of these villages is the reconfiguration of economy, livelihoods and access to natural resources as result of the Agromoz investment. Small-scale farmers who are in these villages were not evicted but nevertheless face economic and livelihood upheavals. Lioma is in the Gurué District, less than 30 kilometres away from Agromoz farmland, while Nankoka and Nacarari are in Mutuali Administrative Post, Nampula Province. The two villages border Agromoz with two provinces, Zambezia and Nampula. In practice, Nacarari village is less than 50 metres away from Agromoz' farmland, while Nankoka is 5 kilometres away from Agromoz' farmland. The average number of households in both groups of villages is 550 households, corresponding to an average population of 2,750. However, while the villages directly affected provided in-depth insight of changes at village level, the indirectly-affected villages provided changes at local (at village level) or regional level.

The Gurué district, as the location for the research, was selected because it has become a favourable destiny for large-scale agricultural investors over the past five years, evidenced by the increase of investors in the region. Moreover, in other unlikely regions large-scale agricultural investments in these areas have failed. However, Agromoz is one of the prevailing investments; it is one of the

few investors producing similar crops to those of local farmers, differently from other investors that are producing forests or eucalyptus and pine trees in the region. Relative to the period of the research, the year 2012 was selected as the commencement point of the research due to the fact that many large-scale agricultural investments in Gurué, like Agromoz, started their operations in this period. However, from 2012 to 2020 is a sufficient period to gather data on the likely effects of the outcomes of these investments on food production systems of small-scale farmers in the region. In other words, the timing enabled the researcher to investigate the current real-life contexts in Gurué since the arrival of Agromoz.

4.2.3 Methods

In order to investigate how large-scale agricultural investments are restructuring food production systems of small-scale farmers, the study used a combination of qualitative and quantitative research methods – mixed research methods – both during a desk review and the fieldwork period (empirical data collection). Qualitative methods included field observations, qualitative in-depth interviews, focus group discussions and gathering of personal and official information. These methods were aligned with the circumspective or retrospective and case study approaches (Murray, 2002). The circumspective approach enabled the researcher to empirically investigate changes in food production systems over the previous five years – after the arrival of Agromoz. One of the critics of the retrospective approache is that it relies on memories of the respondents (which can be limited) in order to understand life histories of farmers over a timescale. This was avoided by double-checking the same response or information with many respondents. In the end, the method enabled a generation of understanding the changes in the production systems that have taken place over time.

Qualitative research methods differ from quantitative methods, in the sense that these types of methods concentrate on the *how* and *why* whilst the quantitative methods provide adequate data for observing trends and describing *what* is happening or being observed (Craswell, 2014). For instance, through qualitative research methods the researcher was able to analyse the changes over time in the agrarian terrain of Mozambique and Gurué. Specifically, it provided explanations for the reduction of small-scale farmer's crop land, introduction of new crops and use of modern

technologies like fertilisers for small-scale farmers. The quantitative method enabled the researcher to provide figures relating to land that people are cultivating and the production output thereof. Moreover, it was possible to provide the number of villages who are directly and indirectly affected by Agromoz and, including the percentage of small-scale farmers that have reduced the area of production, a reduction in the number of labourers per household because of the arrival of the company and then analyse what it means for their daily life. Therefore, while qualitative methods were able to provide an analysis and description of changes experienced, the quantitative method provided figures which illustrate quantified changes.

The research was carried out in two phases. The first one consisted of desk research, followed by fieldwork conducted over two periods. The first was for qualitative data collection and the second for quantitative data collection. Desk research aimed to provide the necessary literature to understand changes experienced in food production systems of small-scale farmers. Desk research was conducted with planning, amounting to 20.5 weeks, whereas the fieldwork took 8 weeks, specifically, in December 2018 and July 2019 and the general data collection period took place over 12 months.

Qualitative data was collected through primary and secondary data sources. The secondary data sources included maps, historical records, communication records, published and unpublished scientific and popular papers, research reports, statistical survey reports, documents compiled by government institutions, private sectors, NGOs and other identified stakeholders. Primary data sources were in the form of in-depth and semi-structured interviews with members of households, directly- and indirectly-affected small-scale farmers by Agromoz, key informant interviews with government institutions in the Ministry of Agriculture and Rural Development, the Ministry of Land and Environment, the Agriculture Development Fund and Bureau of Statistics at the national level and District Services of Economic Activities at district level' additionally, the private company Agromoz Agribusiness Company. A total of 141 interviews, among them in-depth, semi-structured interviews, key informal interviews, and household surveys, were conducted in Maputo, Quelimane (capital city of Zambezia province), Gurue district, Lioma Administrative Post and in the studied communities (Wakua, Escubera, Nankoka and Nacarari). Of the total respondents, 58% were male and 42% were women.

Quantitative data was collected through 52 household surveys from heads of families, both male and female, aged from 20 to 63 years old. This is further detailed in the section of quantitative data. The table below shows the gendered total number of qualitative and quantitative respondents.

Table 7

Number of respondents by gender

Directly-affected communities	**Male**	**%**	**Female**	**%**	**Total**
Structured in-depth interviews	20	57%	15	43%	35
Semi-structured interviews	6	55%	5	45%	11
Focus group discussion	1	50%	1	50%	2
Household surveys	16	50%	16	50%	32
Indirectly-affected communities	**Male**	**%**	**Female**	**%**	**Total**
Structured in-depth interviews	20	57%	15	43%	35
Semi-structured in-depth interviews	2	50%	2	50%	4
Focus group discussion	1	50%	1	50%	2
Household surveys	16	80%	4	20%	20
Key informants	17	65%	9	35%	26
Grand Total	**Male**	**%**	**Female**	**%**	**Total**
Structured in-depth interviews	40	57%	30	43%	70
Semi-structured in-depth interviews	8	53%	7	47%	15
Focus group discussion	2	50%	2	50%	4
Household surveys	32	62%	20	38%	52
Total	**82**	**58%**	**59**	**42%**	**141**

4.2.3.1 ***Qualitative methods.*** The qualitative research methods focus on obtaining data through open-ended and conversational communication. Additionally, the methods focus on the *what* and *why* elements of research. Answering these questions enabled the researcher to generate culturally-specific information about values, opinions, behaviours and social dynamics of the research objects (Cropley, 2019). As outlined above, the study used the following qualitative research methods: field observation, semi-structured interviews, key informant interviews, qualitative in-depth interviews, focus group discussions and gathering of personal and official information.

4.2.3.2 ***Field observation.*** The field observation consists of taking notes on the behaviour and ongoing activities[24] in the study site (Creswell, 2014). It was possible to observe the agro-scenic view of Gurué covered by tea plantations at the headquarters, pigeon pea and maize in the study villages. Moreover, the method enabled the researcher to observe the land used by small-scale farmers in Gurué in terms of the size and location, the type of crops produced by small-scale farmers, the kind of technology applied and what the more dominant labour force was, whether family members or a hired labour. It also enabled the identification of communities directly and indirectly affected by Agromoz, as well as to observe Agromoz activities in terms of crop productions, used land, technology and labour force. Using these methods it was possible to get a general picture of changes in food production systems and farming activities in Gurué. The evidenced limitation of the method was that it was not possible to report every observed element, however essential to respond to the research questions.

4.2.3.3 ***Structured in-depth interviews.*** The structured in-depth interview method consists of face-to-face interviews with the respondents. These interviews involve unstructured and generally open-ended questions to elicit views and opinions from the respondents (Creswell, 2014). With regard to the research, in-depth interviews were conducted through semi-structured questionnaires with individual small-scale farmers, both directly and indirectly affected by Agromoz. As is acceptable procedure, the respondents were briefed about the study before the interviews started

[24] Activities related to food production systems. This includes types of crops, technology used, hectares of land used, rural employment, etc.

so that they could be informed about the research theme. Then in order to ensure ethical clearance, a consent form was completed and signed by each respondent. Later, the respondents were asked to introduce themselves. For instance, small-scale farmers were asked to provide information about household background, including, age, number of household members, number of children, main income and livelihood-generating activities. This enabled the researcher to understand the interviewees' personal and family background. Private company, public institutions and NGO staff were asked to provide brief information about their education background, current position and length of or work experience in land and agrarian issues. This helped the researcher to understand the interviewees' personal and professional background.

These methods were employed throughout the 8 weeks of fieldwork. During this period, a total of 70 household interviews from Wakua, Escubera, Lioma, Nankoka and Nakarari villages were conducted, where 40 interviews were conducted in Wakua, Lioma and Escubera villages and, 30 interviews in Nankoka and Nacarari villages. In both directly- and indirectly-affected villages were selected male and female respondents aged from 20 to 63, where 29% of respondents were male and 21% female in each village grouping. The time spent with respondent varied between 90 and 120 minutes. Under the qualitative in-depth interviews, small-scale farmers provided individual profiles, testimonies and perspectives on the most significant changes in agrarian space. Moreover, data was additionally collected from other key informants such as private sector and development agents like Agromoz and NGOs, public institutions such as District Services of Economic Activities, and other relevant actors. These interviews elucidated perceptions and experiences of respondents on the changes underway in food production systems of farmers in Gurué.

During the structured in-depth interviews, different challenges emerged. Firstly, respondents were uneasy and unwilling to disclose information without understanding how it might affect them. However, clarity was obtained later when sufficient trust had been built between the respondent and the researcher. A second challenge concerned the deviation or re-elaboration of the questionnaire for the interviews while in the field in order to accommodate the context. This was rationally observed as it is prescribed during the preparation of a questionnaire plan.

4.2.3.4 ***Semi-structured interviews.*** The semi-structured interviews enabled the interviewer or researcher to talk with people in the field without using a structured interview guide of any kind (Cohen & Crabtree, 2008). Through an ethnographic research approach, immersive observation and one-on-one interviews were carried out. This enabled the researcher to understand specific characteristics, dynamics and realities of small-scale farmers in the Gurué District over a specific period. By using this method, it was possible to elicit views and experiences from different stakeholders regarding food production systems with a focus on land access, technology and labour dynamics, as well as relations in the event of large-scale agricultural investments. Interviews generally lasted 30 to 60 minutes and took place in open spaces such as pubs, markets or farmland in a form of semi-structured conversation or casual conversation with smallholders, academics and activists. The method was employed throughout the data collection time, which was over 12 months.

When investigating land access or labour relations, small-scale farmers sometimes tended to be reserved when answering critical questions such as "*do you still want the investor in your village*?" as they were avoiding being blackmailed in the village by local authorities or a village leader. However, the less structured the interview conducted was, the more open and comfortable were the respondents. There were conducted over 15 semi-structured interviews to directly- and indirectly-affected small-scale farmers, employees of Agromoz and local leaders and employers at the local government agriculture institution. Of the total number of respondents, 53% were male and 47% female, aged from 20 to 63. The challenge of this method stems from the fact that all information was provided on an informal basis. This generates difficulties in triangulating or analysing information or verifying the authenticity of the information.

4.2.3.5 ***Focus group discussions.*** A focus group discussion consists of holding discussions in an organised group. During this research, four focus group discussions were held in Nakarari and Wakua villages in Lioma and Mutuali Administrative Post in Gurué and Malema districts respectively. Two gendered groups (one male and one female group) were held between November and December 2019 in each village. In each group, at least ten to fifteen respondents were involved. Observing ethical clearance, before the focus group began, the respondents were briefed

about the study in *Emakhuwa* and *Elomwe* (the local languages in Wakua and Nacarari respectively) so that they could be informed about the research theme, objectives and focus group discussion procedures. Then two gendered groups were created and a consent form was filled and signed by each representative of each group. Then the respondents were asked listed questions; the time spent in focus group discussion was 120 minutes. This method was used during the fieldwork which took place between November 2018 and July 2019.

Figure 9: Focus group discussion held in Wakuwa village, Gurué district

In the focus group discussion, the respondents provided broad context data. Both male and female groups shared their experiences on food production activities amidst large-scale agriculture investments (Babbier & Mouton, 2007; Murray, 2002). Essentially, the method made it possible to capture the local context of farmers' access to land, technology, labour dynamics and relations and changes in farmers' livelihoods over time. Amongst other issues, farmers narrated their realities on land access – for example, how the land was acquired and what the land is being used for; dynamics around labour – whether there is member of the village employed by the Agromoz and the type of labour force used by village members on a daily farming basis; and dynamics around production – what crops and the source of seeds and the market for the outputs. Prior to

the focus group discussions, a consent form was provided, and the research purpose explained to the participants. Several findings and issues from the villages arose during the focus group discussion, sections provided an outline and structure to develop other questionnaires for small-scale farmers, investors and the government, which was accomplished through key informant interviews, in-depth interviews and collecting life histores and informal interviews.

4.2.3.6 ***Key informant interviews.*** The key informant interview is a qualitative research method that consists of interviewing a selected group of individuals who are likely to provide the required information, ideas, and insights on the subject (Mumtaz & David, 2014). In this research, 26 interviews with key informants were carried out, where 17 respondents were male and 9 female from different institutions, mostly public institutions, such as the Ministry of Agriculture and Rural Development, the Ministry of Land and Environment, the Agriculture Development Fund and Bureau of Statistics at the national level and District Services of Economic Activities at district level; additionally, respondents from a private company – Agromoz Agribusiness Company, as well as NGOs such as UNAC, Forum Mulher, Fórum Moçambicano das Mulheres Rurais, LIVANINGO and ORAM, were interviewed.

The key informants' interviewees were selected on the basis of their working positions and experience of the issues pertaining to the agriculture sector in Mozambique, specifically food productions patterns, land governance and social dynamics resulting from agrarian capital penetration. During the interviews, the respondents were initially briefed about the study so that they could be informed about the research theme. Then in order to ensure ethical clearance, a consent form was completed and signed by each respondent. Later the respondents were asked to introduce themselves and provide brief information about their education background, current position and length of employment or work experience in land and agrarian issues. This contributed to understanding the interviewees' personal and professional backgrounds. Then the respondents were asked listed questions; the time spent with each respondent was between 60 and 90 minutes. The method was employed prior to and during the fieldwork (March 2018 to December 2019) and it enabled the researcher to acquire information and perceptions of different stakeholders about the changes in the agrarian terrain, particular the impact of large-scale agricultural

investments on food production of small-scale farmers in Mozambique as whole. The different perceptions drawn from these interviewees helped the researcher to revise the in-depth interviews.

4.2.3.7 ***Collecting life histories.*** The life history method, also known as the life history approach, essentially consists of interviewees telling or recounting a string of events. It is the account of life narratives and social experiences (Abakar and Abdullah, 2008). Life histories were collected from small-scale farmers in Wakua, Escubera, Lioma, Nankoka and Nacarari villages. In the beginning, the respondents were briefed about the study in *Emakhuwa* and *Elomwe* (local languages) so that they could be informed about the research theme and objectives. Then in order to ensure ethical clearance, a consent form was completed and signed by each respondent. Later the respondents were asked to introduce themselves and provide brief information about their household background including, age, number of household members, number of children, main source of income and livelihood-generating activities. This contributed to an understanding of interviewees' personal and family background. Then the respondents were asked to recount their history. The time spent with this group ranged between 90 minutes and 120 minutes. The interviews took place either in the farmland or in the family house. By using this method, it was possible to collect the farmers' life histories regarding land access and land use practices, for instance, where and how they were or are farming over time. This was connected to the question regarding type of labour force and technology used before and upon arrival of the investor. Apart from this, farmers identified different livelihood strategies and expressed their views on the impact of the ongoing changes in their farming activities. The analysis of these changes provided insights into the impact of large-scale land acquisition and the introduction of new farming practices in Mozambique. Alongside this, the method allowed for collecting additional information regarding the Agromoz history, business plan, relationship of the agribusiness with community members and its contribution to local people's lives. For the interview, informant consent forms (see Appendix E) were given to all respondents prior to their interviews and the research purposes were explained.

4.2.3.8 ***Gathering personal and official documents.*** According to Creswell (2014), during the process of research, the investigator may collect qualitative documents that may be public or private documents. In this study, public documents such as newspapers, minutes of the meetings

and official reports were collected from government institutions such as the Ministry of Agriculture and Rural Development and the Gurué District Services of Economic Activities; research institutions such as the Institute of Social and Economic Studies (IESE) and *Observatório do Meio Rural* (OMR); non-governmental organisation such as UNAC and Justiça Ambiental, amongst others. Information such as reports or minutes from agribusiness investors were some intended sources, but it was not possible as these documents are regarded as confidential by the investors. In addition, secondary data were collected from private documents such as personal journals, letters, e-mails, etc. The merit of this method is the fact that it provided additional information or data (from secondary sources) such as the trends of agricultural investments in Mozambique and in Gurué and the impact of these investments on local food production systems. Moreover, the researcher examined other relevant or similar research that has been conducted in Mozambique or in the region in order to learn from the findings. The methods enabled the description of a theoretical contribution to this research of a body of scholars, such as Borras and Franco (2012), Bernstein (2010), Wallerstein (1987) and Scoones (2015), to mention a few. The intention was to describe what each scholar says about the factors of food production systems, such as land, labour, capital and livelihood strategies. However, with these descriptions, it might be clear that large-scale investments contribute to a reshaping of food production systems of small-scale farmers in Mozambique. Small-scale farmers have poor access to land, which may spill over to poor crop production, use of modern agriculture inputs and concentrates on the production of market-oriented crops.

4.2.3.9 ***Quantitative Methods.*** Quantitative methods generate statistics through surveys and by using tools like questionnaires. Data are analysed through percentages and the number of the respondents (Dawson, 2002). For this study a questionnaire was used to elicit information from the respondent on the impact of large-scale agricultural investments on food production systems. The questionnaire was useful for gathering numeric data, for instance, the number of hectares per family, crop production output, household employment before and after the arrival of Agromoz and the number of affected farmers. Moreover, other statistical data was gathered by accessing personal and official documents such as official government reports, working papers or study reports from research institutions and online journals. These data were used to draw conclusion as

to how large-scale agricultural investments are restructuring food production systems of small-scale farmers.

4.2.3.10 ***Surveys.*** According to Creswell (2014), surveys provide a quantitative or numeric description of the trends, attitudes or opinions of a population by studying a sample of that population. For this study, a total of 52 household surveys with the heads of families who were identified by the interviewer based on their age, was conducted in the Wakua, Escubera, Nankoka and Nakarari villages. Of 52 computed household survey samples, 32 are from the Wakua and Escubera villages, the directly-affected villages, while 20 households are from Nankoka and Nacarari, the indirectly-affected villages. Table 8 indicates the household survey sample aggregated by gender. The respondents were aged between 20 and 63 years old, as demonstrated in Table 9 below. Microsoft Excel was the programme used for data processing.

Table 8

The household survey sample

Number of Sample		
Sex	**Score**	**%**
Male	32	62%
Female	20	38%
Total	**52**	**100%**

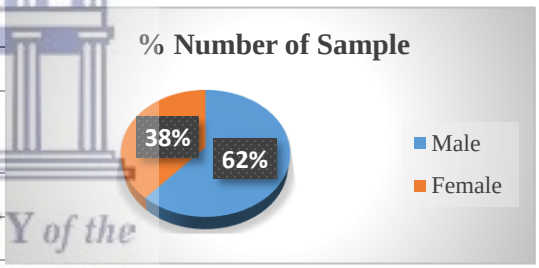
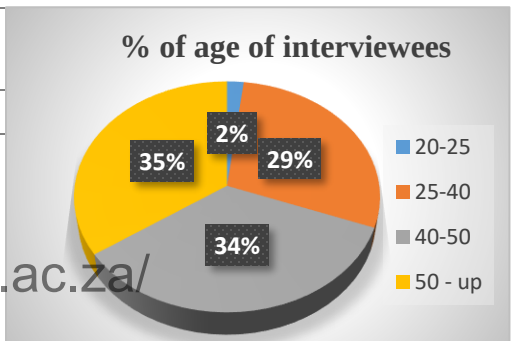


Table 8 above shows the total number of samples from a survey administrated to households. Additionally, the table shows the percentage of males and females who responded to the survey. Of the 52 computed survey samples, 38% of respondents were male and 62% were female heads of households who responded on the survey in both directly- and indirectly-affected villages.

Table 9

The age of survey respondents

Age of interviewees		
Age	**Score**	**%**



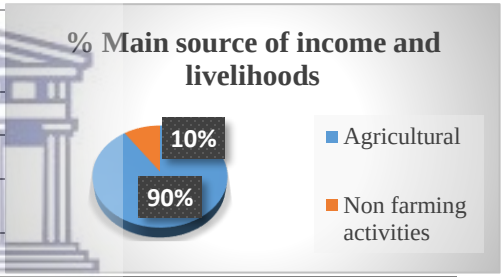
20-25	1	2%
25-40	15	29%
40-50	18	35%
50 and over	18	35%
Total	**52**	**100%**

The table above shows that of 52 heads of households from the directly- and indirectly-affected households who responded to the survey, they aged from 20 to 63 years old, where the majority 35% of respondents – were aged from 40 to 63 years old, followed by 29% who were aged from 25 to 40 years and 2% who were aged from 20 to 25 years old. The table below shows the main source of income for household survey respondents.

Table 10

The main source of income and livelihoods for survey respondents

Main source of income and livelihoods		
Activities	**Score**	**%**
Agricultural	47	90%
Non-farming activities	5	10%
Total	52	100%



The table above shows that of 52 heads of households from the directly- and indirectly-affected heads of households who responded to the survey, 90% of households have agricultural activity as the main source of income, while 10% relies on non-agricultural activities. The former percentage is shared among those engaged in local business and those who are employed by a private company or rely on a retirement allowance.

The survey was a complementary tool to gather data on land access, labour dynamics and relations and technology or capital. The survey collected the household characteristics, specifically, the total hectares of land that people have been using over time and the percentage total of labour applied per family production output, before and after the arrival of the investor. These figures provided a real picture of the dynamics and changes in the agrarian terrain.

Conceptually, the study used a range of methods that are summarised in the figure presented below.

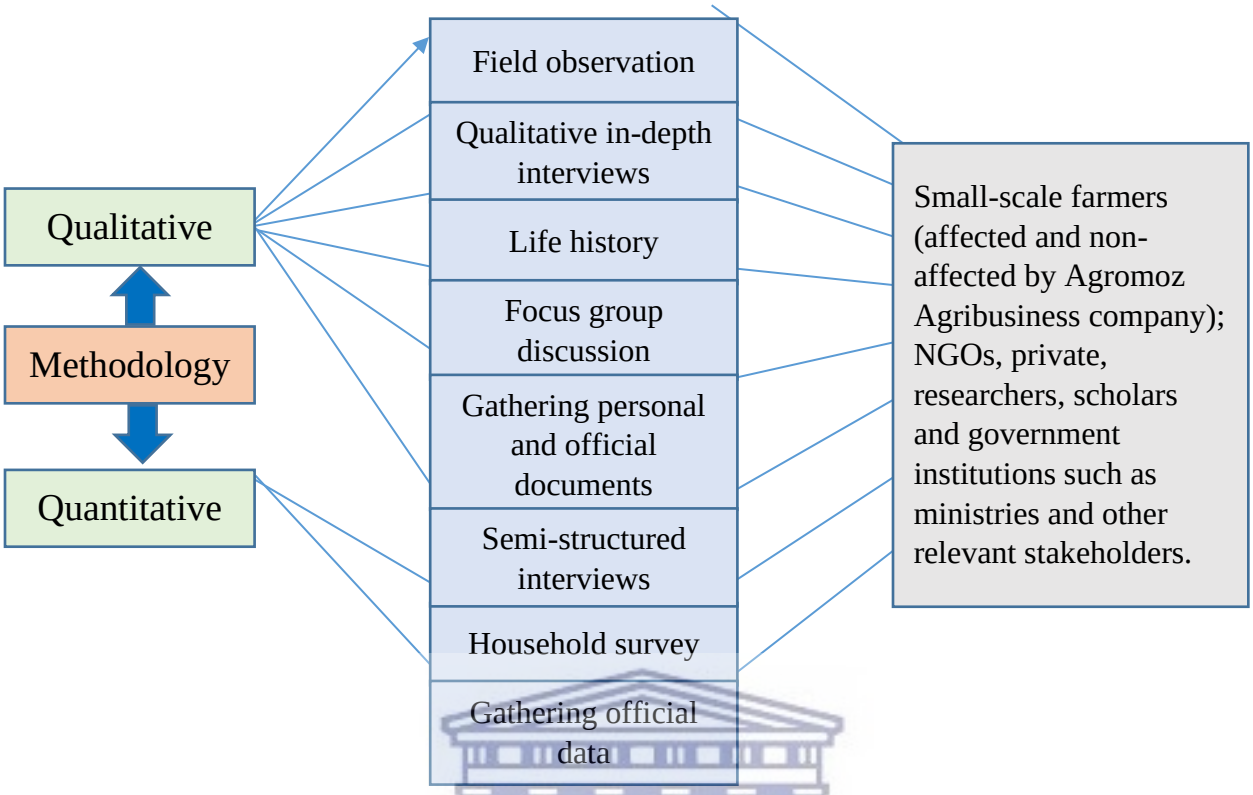


Figure 10: Summary of applied methods

A combination of these methods and several fieldwork techniques such as working and spending time with local informants in the study site enabled the researcher to get information and from an analysis of answers and statistic data-generated knowledge on the impact of large-scale agricultural investments on food production systems of small-scale farmers.

In conducting the study, the researcher encountered several challenges from a methodological aspect (described above) to the bureaucratic implications. For instance, government officials often required the researcher to submit prior formal requests for information and wait for superiors to authorise them to provide it. Consequently, certain key documents were either delayed or inaccessible to research for reasons that were sometimes unclear. In addition, some government officials were helpful but others did not support the researcher. Another challenge had to do with the funding for the research. Without a fieldwork bursary, it was difficult to conduct fieldwork as scheduled in the study plan.

Chapter 5: LAND ACCESS AND USE: ANALYSING THE IMPACT OF LARGE-SCALE AGRICULTURAL INVESTMENTS ON SMALL-SCALE FARMERS

This chapter argues that the Agromoz investment in Gurué has led to land dispossession among local small-scale farmers and generated differentiated impacts and outcomes for small-scale farmers. These include different mechanism for land access among affected small-scale farmers, such as access to land through kinship, informal allocation, self-allocation rental and purchase. Moreover, Agromoz has led to a reduction of production areas and emergencies in the informal land market which spill over into complex changes in food production systems. This argument was achieved by centring the analysis on the dynamics of land deals in Gurué district, specifically, on the impact of large-scale agricultural investments on access and use and control of land, in order to answer the core questions of the chapter, which are 'how do large-scale agricultural investments affect small-scale farmers' access to, use and control of land?' and 'what are the implications for small-scale farmers?' To this end, by using qualitative and quantitative methodological tools, the chapter illustrates why and how large-scale agricultural investments have contributed to reshaping land access and use for small-scale farmers.

The above questions were addressed through evidence from research supported by analysis hinged on the political economy theory. To better understand the changes in land access and use for small-scale farmers, this chapter explores a range of different issues such as: the dynamics of land deals in Gurué; land access and land politics; changes in land holding and property; the outcome of induced displacement; reduction of production areas and; land pressure and the growth of an informal land market.

5.1 The Dynamics of Land Deals in Gurué District

Gurué has fertile land and different water sources that fuel investments. According to Joala et al. (2016), Gurué has attracted different types of agri-investors since 2008. There are private agribusiness investors such as Agromoz, Hoyo-Hoyo, Muririmo Macadamia, Cargill and Phoenix seeds, and others. The first company is the case study for the current research. There are also international Non-Governmental Organisations (NGOs) mainly from the United States of America, investing heavily in agriculture, sometimes in partnership with the private sector actors

and the government. These are the United States Agency for International Development (USAID), Techno Serve, Cooperative League of the United States (CULSA) and the World Food Programme (WFP). The final group consists of public investors through the local development funds or sectorial projects like the Sustenta project, Terra Segura Project and others. In some instances, the NGOs and public and private sector actors are engaged in agro-investment partnerships (Joala et al., 2016).

These investors are backed by national and international financial actors that are channelling huge amounts of capital into the land business in different parts of the country. In the case of Gurué, pension funds from the USA and Europe are big players. These funds are used directly to acquire more land and sustain their business portfolios (Grain, 2016). Some studies already conducted in the region have argued that the expansion of agribusiness into Gurué district is closely linked to the deregulation of the global financial markets and the increasing interest of financial actors (pension funds, investment funds, banks, insurance companies, etc.) in land (Grain, 2016). These linkages add to global linkages highlighted from other studies which put forward the triple 'F' crisis and a narrative of scarcity as reasons that large-scale investments are taking place (Akram-Lodhi, 2012; Scoones et al., 2014); Mengoub 2018; Stevano, 2021). Moreover, the expansion of agribusiness in Gurué, is also related to the political discourse set by the government of Mozambique that can be found in agricultural policies and strategies. The main argument found in these agrarian instruments lies in the promotion of agribusiness in order to improve productivity, production, food security, reduce poverty and contribute to the local economy (Ministério de Administração Estatal, 2012; MADER, 2021). This argument was confirmed by the Gurué District Services of Economic Activities (SDAE) who stated,

> The agrarian policies of the Mozambican government are clear. They seek to improve productivity, production, stimulate the market and reduce poverty through investments in small-, middle- and large-scale agricultural investments. Therefore, the government mobilises private investors and NGOs to invest in Gurué mainly in cash and food crops. Besides, Gurué is endowed with fertile land and water sources[25].

[25] Interview, Jose Manuel Macuinja, Director of SDAE, 04th July 2019, Gurué

This argument justifies the presence of different types of large-scale agricultural investments in Gurué. However, ongoing arrivals of these type of investments and the expansion of agribusiness in Gurué has driven scepticisms of some local organisations such as the National Union of Peasants (União Nacional dos Camponeses -UNAC) as it was elaborated below:

> The quest for new areas (land) for national and international investments in Mozambique, including in Gurué, are taking place in the same period that we are witnessing a boom of commodity with more emphasis on soya beans. For us, as a peasant movement, we think that all the efforts being made by the government are to allow agribusiness companies to enter in Gurué, acquire land on a large scale, mostly used by peasants [small-scale farmers], without consulting them, and then use it to produce commodities and ship them out of the country.[26]

According to Grain (2019), prioritisation on commodity production can fuel the territorial expansion of monoculture and agribusiness. A study conducted by Filho and Costa (2016) in Brazil evidenced how soya bean production accelerated the expansion of agrobusiness in the Cerrado region. Nevertheless, Gurué seems not to be running away from this mode, as according to the SDAE, the area planted with monoculture like soya bean have increased by 25.3% as many investors and small-scale farmers are dedicated to soya production. For instance, companies produce soya as a core business while small-scale farmers produce it to increase household income.

Table 6

Realities in terms of land access and type of crops of some investors in Gurué

Name	Acquired land (ha)	Used land (ha)	Type of Crop
Agromoz Agribuiness, Lda	10,000.00	3500	Soya
Hoyo – Hoyo Agribusiness, Lda	10,000.00	2500	Soya
Murrimo Macademia, Lda	3,200.00	646	Macademia

[26] Interview, Luis Muchanga, 12th September, 2018, Gurué

Source Joala et al. (2016)

The table 6 shows some investors in Gurué. It is noted from the above table that these investors acquired more than 20 thousand hectares for commodities production. However, a few companies such as Murimo Macadamia, Lda, combined both production of macadamia, on 646 ha, merely for exportation to Asia, North America and Europe, with beans and maize on 240 ha for local consumption. The SDAE of Gurué reported that many investors in Gurué have not yet started operations. However, 92 DUATs (*Direito de Uso e Aproveitamento de Terra* – a land certificate given to investors) in favour of commercial agriculture are being processed. This may intensify the rush of investors to access key natural resources or simply, as Bernstein (2010) calls it, a means of reproduction in Gurué. The major concerns raised by local small-scale farmers has to do with the land that the government may grant the new investors, as the current investors were granted land in communal land that was already used by local people (as voiced by a small-scale farmer).

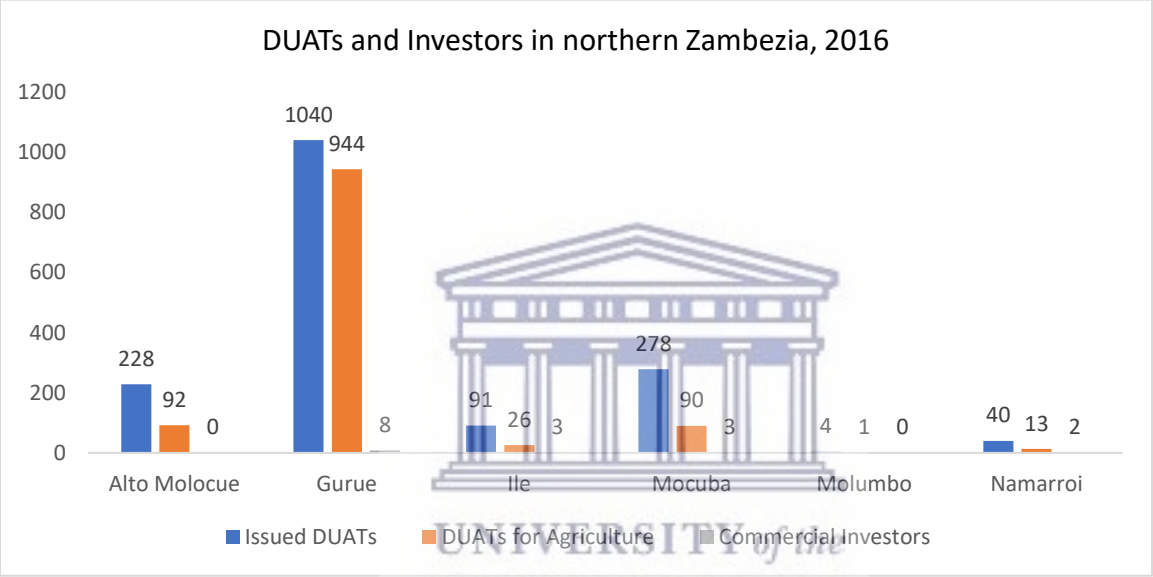
> Our major fear is that when the investors come here, they don't open new farmlands on idle land for themselves. They want to occupy the land that we are already farming. Sometimes we just don't have choice because they come with our local leader or with the chief of the administrative post. Although we are compensated, it still a big loss for us. It happened with Agromoz in Wakua village, Hoyo-Hoyo in Ruace village, Murimo in Murimo village and Green Resources in Mecuburi district.[27].

This *modus operandum* of large-scale agricultural investments described by the above small-scale farmer reveals that land deals in Gurué are taking place without respecting local practices and dynamics and disrespecting international guidelines that emphasise the principle of free, prior, informant consent developed by the Food and Agriculture Organization of the United Nation (FAO) and adopted universally. This aspect is developed in the next section. This aspect was also found by Mosca (2011) in his study in Mozambique, where he argued that the arrival of large-scale investments in rural areas ends up in the reconfiguration of the social layer which was developed by the village members.

[27] Interview, Lucia Nassongole, small-scale farmer, 21 December, 2018, Gurue

5.2 Land Access and Land Politics

In Zambezia province, Gurué is one of the districts with a higher number of DUATs issued for companies over the past 10 years. Companies or investors acquire DUATs under certain guidelines, which include public consultation in the target areas and disposal of business plans to the authorities. Depending on the quantity of hectares to be acquired, as stated in the 1997 Land Law, the DUAT is issued at provincial (by the governor) or national level (by the Minister of Land and Environment or Council of Ministries). It is then important to understand land politics in Gurué, which is represented in the graph below.



Source: Direção Nacional de Terras (2016)

Graph 5: The number of DUATs issued in the district for agriculture, disaggregated according to the main areas in Gurué district.

The graph above shows that the Gurué district takes the lead in the number of DUATs issued for multiple purposes. This means that the district is ahead of others districts (north of Zambezia province) in the number of DUATs issued for agriculture purposes and DUATs already issued for commercial investors. Data from the National Directorate of Land (DNT) indicate that in 2016, over 1,000 hectares were transferred in land concessions to eight big commercial agriculture investors in Gurué. According to the SDAE in Gurué, between 2016 and 2020, even more investors have applied DUATs for agricultural purposes. The SDAE explained that "applying [for a] DUAT is not an insurance of having [a] DUAT certificate, in other words, it does not translate into having

a direct access to land[28].” However, based on the findings from other studies conducted along the Nacala Development Corridor such as Grain and UNAC, (2015) and; Joala et al. (2016), which point out how easily private companies get DUATs and crossing that with interviews conducted with key informants, one can make a projection of a possible renewed and continuous land rush by agrarian capital on communal land in the next few years in Gurué. Moreover, drawing from Bernstein (2010), village land is slowing being converted for large-scale agricultural investors as the land rights holders, paving a reproduction of the capitalist model through land and labour commodification.

The growing risks and increasing pressure of large-scale agricultural investments have led many individuals and villages to turn to the formal DUAT titling process to obtain documentation for their land in Gurué. Moreover, Zamchiya et al. (2020) argued that the land titling process is one of the post-colonialism developments in Africa, strongly supported by states and ‘developmentist’ agencies such the World Bank. Therefore, small-scale farmers capitalise it through, as coined by Jessop, (2002), a ‘flanking mechanism’, which constitutes “programmes that advocate for registration of land rights” (Zamchiya et al., 2021, p. 1), because those who don’t have financial resources needed to apply for and receive a formal title.

> I went to SDAE to seek information about the DUAT. I wanted to know how I can have a DUAT for my plots. After arriving there, the technician explained to me that there are fees which I must pay to get a DUAT. He said that there are some fees for the technician to come to measure my plots and other fees for the DUAT [to support the bureaucracy]. In terms of total coasts, he mentioned something like 20,000 MZN (USD 300). I can’t afford to pay this amount of money[29].

In fact, the process is cumbersome, time-consuming and prohibitively costly for many. It involves high application fees, depending on the number of hectares, the use of land and location of land. The DUAT handling and travel costs for recognition and consultation can amount up to MZN7000

[28] Interviews, Jose Manual Mancuinja, Director of SDAE, 4, July, 2019, Gurué.
[29] Interview, Adelino Paulino, small-scale farmer, 20 December, 2018, Gurué.

(USD 93.22) and the annual fees can be up to MZN1500 (USD0.20) per hectare; costs of authorisation are also applicable, which are MZN600 (USD8) for a temporary DUAT and MZN300 (USD4) for a permanent DUAT renewable for 50 years. This is among other reasons that most land in Gurué remains unregistered and customary tenure holders are invisible on official maps and land registries. This is why the government of Mozambique introduced the programme *Terra Segura* (a flanking mechanism) as a way to accelerate the distribution of formal DUATs to individuals. Additionally, however, as argued by Mandamule (2016) and Zamchiya et al. (2021), there is a need to reduce conflicts among villages or villagers with investors, to allow responsible investments, and yet protect ordinary people from land seizures by agrarian capital.

The programme was set out to register five million (individual) DUATs, delimit 4,000 villages' land and issue DUATs in seven years – "a target that was never met" (Zamchiya, et al., 2021, p. 1). In 2018 the World Bank Group approved 100 million USD to support the programme. The objective was to regularise two million DUATs, delimit and register 1,200 villages' delimitation certificates occupied by local villages in 71 selected districts (45% of the 157 districts in Mozambique), Gurué being one of the districts among others in the Zambezia province, until 2024 (World Bank Group, 2018).

Land titling programmes are praised for their positive impacts such as clearance of boundaries, which also contributed to the reduction of disputes related to the uncertainty of ownership of land in their villages, and attribution of power to lease and transfer it as reported by the Women Legal Resources Centre of Malawi[30] and LANDnet Uganda (2021)[31]. However, critiques prevail regarding the facts that these programmes are embedded in models of land tenure rights that undermine local dynamics (Glover & Jones, 2019; Mandamule, 2016; Zamchiya, et al., 2021). This was evidenced in Nampula and Zambezia provinces where some small-scale farmers already hold DUATs under the *Terra Segura* programme. Through in-depth interviews and focus group discussion, small-scale farmers revealed that they do not have detailed information about the programme. Those who have a DUAT, only have it for residential land and even fewer small-scale farmers have one for farmland. This is an example of the Mutuali Administrative Post in Nampula

[30] Interview, Kate Chimwana, Women Legal Resources Centre of Malawi
[31] Interview, Judith Atukunda, LANDnet Uganda

province, Nacala Corridor, on the border with the study site. Small-scale farmers have DUATs for residential land (which is not more than 1.5 hectare) instead of farmlands.
Here in Mutuali we all have a DUAT for our houses, no one has a DUAT for farmlands"[32].

Another small-scale farmer explained that "in Gurué some small-scale farmers were given a DUAT but it was in those villages that did not have conflicts with Agromoz, such as Lioma [villages that have not been directly affected by Agromoz]. Some have been given a DUAT for their houses but others were given one for their farmlands. They said those with DUATs will receive credit from the Sustenta programme"[33].

The realities recounted above reveal, on one hand, lack of proper consultation and information dissemination. On the other hand, they pose the question of land rights security, as by giving a DUAT only for residential land, it contradicts land governance principles that echoe tenure security to avoid intra-village, inter-villages conflicts and conflicts with investors. According to Mandamule (2016), the intra-village conflict happens within the same community, whilst inter-village conflict happens between different communities. Moreover, considering the undermining of local dynamics or practices as pointed out by Glover and Jones (2019), Mandamule (2016) and Zamchiya et al. (2021), it seems that these programmes simply pave another road for the investors to invest more in communal land.

By not having a DUAT for farmlands, insecurity in terms of losing land to investors who might have title for the land emerges. This was evidenced in the case of Agromoz when it was occupying communal farmlands. Through an in-depth interview with the representatives of Agromoz and the SDAE of Gurué and by using household interviews and focus group discussions with village members, respondents elaborated contradictorily. For instance, the company stated that the land it used was idle and that when it occupied it, no one was farming as below elaborated by the representative of Agromoz.

[32] Interview, Dionisio Mepoteia, 20 December, 2018, Gurué
[33] Interview, Alberto Alfredo, 20 December, 2018, Gurué

> The nice thing about this area [that Agromoz occupies] is that there were not many houses. It was mostly bush, unused land"[34].

The local government confirmed the statement. "Agromoz relocated a few people because fewer people were farming and dwelling on the land that it occupies"[35].

However, village members, civil society organisations such as UNAC and Livaningo and some researchers, Paulino (2014) and (Joala et al. (2016), stated that the land used by the company was not marginal or empty bush. Rather, it was home to some small-scale farmers, as it was confirmed through interviews: "it was where I was born [the area by Agromoz], and it is where I was living"[36] and prime agricultural land for food production and a source of livelihoods for more than 2 thousand small-scale farmers. "We used to farm in the land that the company is using today. We even used to collect honey there and do hunting"[37]. The land was strategically located with water sources (river and streams) and infrastructures (roads, although unpaved) connecting Zambezia and Nampula province.

[34] Interview, Andre Luft, Director of Agromoz, 24 September 2019, Gurué
[35] Interview, Jose Manuel Mancuinja, 04th July 2019, Gurué
[36] Interview, Joao Nticua, 20 December, 2018, Gurué
[37] Interview, Rui Nacoma, 21 December, 2018, Gurué

Figure 6: Agromoz planted at the expense of small-scale farmers.

Figure 7: Agromoz facilities in Gurué

From the legal lens, investors are required to conduct public consultations before applying for a DUAT. The process of issuing a DUAT requires an opinion statement issued by local administrative authorities, preceded by public consultations in the targeted villages (Mozambican Land Law, 1997). Scholars such as (Tanner et al., (2004) and Tankar (2009) provide good examples where public consultations were conducted observing the required steps such as,

> In the process of village consultation, investors are obliged to conduct two public consultations, whereby the first one happens after the topographic demarcation of the area. This consists of public meetings aiming to inform local village[s] about the requested DUAT and the delimitation of the requested area. The second consultation should take place no longer than 30 days after the first. This is intended to obtain the responses of the local people about the availability of the area for the proposed investment. (Tankar, 2009, p. 34)

Tankar (2009), highlights the importance of the participation of villages in the decision-making processes related to the management of natural resources. However, it evidenced that Agromoz is not one of the good examples. It has skipped all of the requirements highlighted by Tankar (2009), as testified by the company representative:

> After successfully attaining 1000 DUATs from the government, I had to come up here [from Maputo to Wakua village in Gurué] to start negotiations with local villages. I had chosen 10 influential people from the village – members of the so-called Decision Committee, [a village-established group with mandate to deal with issues, which match with local village interests] to help in mapping out the entry points in the targeted villages. Later, I sat with the traditional leader [*regulo*], vice-local leader, secretary [there were at least four of them] and representatives of the RENAMO and FRELIMO parties to explain about the project and negotiate the implementation terms. The negotiations took place in Lioma, 20 km away from the target villages. The negotiation took us 1 month. So, I had to be there to eat with them, stay with them and sleep with them. Also, there were different people, it was not only one, this tribe that tribe…you needed to talk. I can say that you go according to *regulado* [chiefdom] under different *regulo*[38].

However, through a focus discussion, a village member explained, while others agreed, how the Agromoz acquired land.

[38] Representative of AgroMoz Agribusiness company (anonymous), interview conducted in August 2014, Gurué

> First of all, a group of people from Agromoz went to the local *regulo's* house [local leader]. They said that they wanted 500ha. The *regulo* assembled people and asked the representative of the company to present the project. People accepted to give 500ha of land to the company. After a few days, they [the company] went again to the *regulo's* but this time with a document which said that the leader accepts Agromoz to use 16 thousand hectares in the village. The company asked him to sign it. The *regulo* can read Portuguese. He did not consult anyone in the village. He signed the document without knowing the content. Later on, they started cutting down trees and clearing everything.[39].

When asked what the *regulo* had signed, "it was a minute of a village meeting which did not happen properly."[40]. He further explained that "the minutes are a requirement for companies to acquire a DUAT". One respondent explained that the local leader used their power and allowed the company to install in the village. Eventually, the company started evicting people from their ancestral land, pressuring them to make the way for commodity production. Based on the data provided by the local government confronted with the interview notes from the affected villages, it was revealed that there were compensations although not to all small-scale farmers. Some evicted small-scale farmers received a minimal compensation, ranging from 2000 to 6500 MZN (less than 200 U$). This showed that, as Mosca (2011) argued, investors don't have a calculation guideline to justify their compensation money.

The above evidence demonstrates that in Wakua and Escobera villages, although some people gave consent, land was acquired through an extra-legal and a non-voluntary process which was not in line with the Land Law and international principles for responsible investments. More clearly, Agromoz has disregarded the Land Law and maximised its business model. This is similar to what Zamchiya (2019) found in his study carried out in Limpopo, South Africa. For instance, Ivanplants Platinum, which is mining venture, acquired land through extra-judicial means. It also similar to a study conducted by Baffoni and Maggiht (2017), which evidenced that in Manica

[39] Interview, Alberto Jackson, small-scale farmer, 20th December, 2018, Gurué
[40] Interview, Alberto Jackson, small-scale farmer, 20th December, 2018, Gurué

province in Mozambique, eucalyptus Portuguese company, Portucel, was implemented without proper consultation. While in Gurué, Agromoz has deceived local people and used non-ethical strategies to get land at the expense of people too ignorant to know better; in South Africa, the mining company bribed local leaders to satisfy the requirement for consultation. The above evidences also show that international capital applies different tricks depending on the context of the geographical space to penetrate in the rural areas and acquire resources (land).

Figure 8: Land taken by Agromoz

Many researchers and NGOs have criticised how Agromoz has handled public consultations in Gurué. Exploratory research conducted by an environmentalist and peasant's organisation, Justiça Ambiental and UNAC (2012), revealed that the nature of public consultation by Agromoz in Gurué was distorted, such that there was an absence of dialogue during the consultation process. This did not allow village members to raise questions about the potential impact or long-term disadvantages of the project but let themselves be convinced by short-term benefits presented by the investor, for example the prospects of employment.

Drawing from the research findings and findings highlighted by Justiça Ambiental and UNAC (2012), Baffoni and Maggiht (2017) and Zamchiya (2021), the study argues that persuasion and

coaxing are prevailing inputs used by the capitalists to acquire land. This process takes any from, including undermining local people's dynamics, relations and modes *vivendus* (production and reproduction means). Consequently, changes in landholding and a crisis in livelihoods amongst the people are created. This is developed in the upcoming sections of this work.

5.3 Changes in Land Holding and Property Relations

Agromoz is among other large-scale agricultural investments in Zambezia province that were allocated in Gurué district because of good soil productivity. This concentration of investors has created pressure on the small-scale farmers' land rights. For instance, before the arrival of Agromoz most of the small-scale farmers subsisted on customary land without a DUAT. Small-scale farmers in Gurué perceived that the land they were using had been inherited from their ancestors. State ownership of land was not known and therefore not recognised by village members. At that time, local leaders, in some cases, were the ones responsible for allocating lands, or in other cases, elderly members of the family. Therefore, it was easier for most small-scale farmers to expand their farmlands or even open new ones because the government protocols or bureaucracies were not observed. Most of the small-scale farmers interviewed in directly-affected villages explained that they used to have more than 5 hectares where they produced both food and cash crops, as explained by a small-scale farmer.

> Before the arrival of Agromoz, I had 6 hectares. I produced different crops such as maize, cassava, sorghum, potatoes, beans, cotton and tobacco"[41].

Another small-scale farmer explained how, "In Wakua I had 10 hectares but here I am confined to 4 hectares[42].

Yet other small-scale farmers considered that they were producing in soil of good quality, which was evidenced by an increase of production in every agricultural season as an outcome of using different local agricultural techniques, including the use of fallow land.

[41] Interview, Veronica Cashone, small-scale farmer, 21 December, 2018, Gurué
[42] Interview, Alberto Jackson, small-scale farmer, 20th December, 2018, Gurué

> Before this company [Agromoz] came to Wakua village I was able to produce in wetland (swamp area) and dry land. In the wetland I was producing greeneries mostly cabbage, onion, tomatoes and carrots. On the dry land, I had diversified crops; even now I do in the dry land but I don't produce in the wetland anymore because it has been taken by Agromoz"[43].

Another small-scale farmer explained, "With the 10 hectares that I had, I was not using all of them in every agricultural season, I could keep some as fallow land. This was a good quality land because it allowed me to produce enough food for my family"[44].

Upon the arrival of Agromoz, the immediate outcome was rampant displacement and dispossession. Small-scale farmers consequently lost their means of reproduction (land) and most of them, especially in the villages directly affected, were not able to continue producing in more than one hectare.

> I was evicted by Agromoz in Wakua village [this is where Agromoz occupies land]. I had 3 hectares there but, look here I only have 0.5 hectare"[45].

Another small-scale farmer who had also been displaced, explained that he had 5 hectares but, "of these five, per year depending on family labour availability, I was using 3 to 2 hectares. But I left this in the past, as now I am farming and dwelling on a piece of 1.5 hectares."[46]

This situation has forced some small-scale farmers to depend on renting in land and yet others to sell out their labour power to gain a piece of land. Of the 52-household survey administrated to the heads of households, 23% were renting in land and 32% depended on selling their labour power to land. These figures indicate that there is a significant and visible number of people within the group of affected people who have had their land holding and property relations changed. The

[43] Interview, Francisco Armando, small-scale farmer, 22 December, 2018, Gurué
[44] Interview, Alberto Jackson, small-scale farmer, 20th December, 2018, Gurué
[45] Interview, Lucia Nassongole, small-scale farmer, 21 December, 2018, Gurué
[46] Interview, Antonio Nicua, small-scale farmer, 23 December, 2018, Gurué

selling of labour power is further developed in Chapter 7, however, below is an explanation of how it is done:

> I work at the company. I am a permanent worker. In my first year of work, with the salary I received, I succeeded in buying 1.5 hectares of farmland. It is land with good quality soil"[47].

For another small-scale farmer, "I worked on other people's land throughout the year. The money I got from all these *ganho-ganho* [when someone works on someone's land to earn money or food] I bought a piece of land of 1 hectare"[48]. Yet another small-scale farmer said that,

> I live on a small piece of land of about 0.5 hectares. This is not enough for me to produce different crops and it is not productive, therefore, my neighbour who has 5 hectares asks me every farming season to help him with farming on his land and then he lends me a part of these 5 hectares of land for me to cultivate with my family.[49].

These facts are evidence of the negative effects of large-scale agricultural investments to small-scale farmers as argued by the Mozambican National Peasants Union, UNAC (2011), and the think-tank organisation Grain (2011), in the sense that small-scale farmers had to apply a lot of unusual efforts for their subsistence and reproduction and land access, control and use for them was conditioned and limited. Based on van der Ploeg (2013), without land holding it is difficult for small-scale farmers to improve their livelihoods and participate in the local economy. Nevertheless, the evidence in this research has shown that it is not only a matter of land holding but a matter of holding land with good quality. Without this then, small-scale farmers, as argued by van der Ploeg (2013), are tied into dependency and deprivation relations. "We need to be able to have land, enjoy it and to pass it on to another generation,"[50] was the thinking of one small-scale

[47] Interview, Raimundo Omar, small-scale farmer, 23 September, 2019, Gurué
[48] Interview, Lucia Jose, small-scale farmer, 23 September, 2019, Gurué
[49] Gonçalves Manuel, small-scale farmer, 25 September, 2019, Gurué
[50] Interview, Joana Mussa, small-scale farmer, 24 September, 2019, Gurué

farmer, something that has been coined by van der Ploeg (2013), as the "backbone of the small-scale farmers".

However, the above depicted realities were not noted in the case of every affected small-scale farmer – although being affected, as a differentiation argued by Borras et al. (2011), it was notable that among some directly-affected small-scale farmers or some of the displaced small-scale farmers, some had access to huge and good quality land in a new land or region. Julião Antonio is an example, who after being dispossessed of his native land of 2. 5 hectares, went out and managed to negotiate 6 hectares with village members.

> The land has good quality because I am able to produce cash and food crops and earn a lot compared to my neighbours who are also producing in the same amount of hectares. Per hectare I produce 2 tonnes of maize while others produce 1 or 1.5 tonnes[51].

However, with the arrival of Agromoz local perceptions of the customary tenure system is changing. Said one farmer, "Now I want a DUAT because if I had a DUAT I would have protected my land"[52]. Another small-scale farmer said "When I complained about my land, the government asked me if I had a DUAT to claim my land rights. Even now that I am living on this land [given by a member of the community] I feel insecure because neither I nor the owner has a DUAT."[53]. Some small-scale farmers interviewed had applied for a DUAT and others still wanted to apply or were waiting for the *Terra Segura* programme[54]. Of at least 141 of the people interviewed in four villages, only 11 confirmed that they had their documents submitted at SDAE for a DUAT and other were waiting for the *Terra Segurra* programme. As outlined in previous sections, it is expensive to get a DUAT.

[51] Interview, Juliao Antonio, small-scale farmer, 25 September, 2019, Gurué
[52] Interview, Adelino Paulo, small-scale farmer, 20 December, 2020, Gurué
[53] Interview, Maria Mpacua, small-scale farmer, 20 December, 2020, Gurué
[54] Terra Segura is a government project whose objective is to provide land security to smallholders through registry and attribution of 5 million DUATs (MADER, 2020).in Gurué.

In short, the existing pressure on land by Agromoz has delivered several consequences such as changes in land holding, reduction in the area of production and use of low-quality soil for crop production. At a conceptual level, two models on land dynamics can be suggested to help understand changes in land access in Gurué. However, it is crucial to note that these models do not apply to all small-scale farmers. Nevertheless, based on in the interviews and field observation it was possible to conclude that the majority of small-scale farmers have experienced negative changes.

Table 7

The model of changes in land access and use in Gurué

Model A: Before Agromoz	**Model B: After Agromoz**
Some (not all) small-scale farmers had access to land rights.	Some (not all) small-scale farmers get displaced and dispossessed
Some small-scale farmers do not need any legal documents like a DUAT to prove that they are rights holders, as they were under customary rights.	A DUAT is likely to be compulsory, contradicting the land law.
Most of small-scale famers produced on more than one hectare.	Some small-scale farmers produced in less than 1 hectare; Peasants do not have fallow land.
Some small-scale farmers used soil of good quality.	Some small-scale farmers become dependent on leasing land;
Some small-scale farmers had fallow land.	Other small-scale farmers sell out their labour force to gain a piece of land.
Some small-scale farmers produced less than 5 hectares and used family labour power	Some small-scale farmers increased their areas of production and used hired labour power
Some small-scale farmers used traditional farming inputs and methods	Some small-scale farmers have access to inputs and technology

The above model shows that the arrival of Agromoz in Gurué brought several changes to local small-scale farmers both in the directly- and indirectly-affected villages. In addition, Agromoz has also contributed to a change of perceptions of the social value of land. This has been put forward

by both Bernstein (2010), and van der Ploeg et al. (2015), who argued that in modern times, land has been converted into a commodity. In other countries across the region such as South Africa, Malawi and Zambia it is even more sophisticated; people can get credit through land. However, in Mozambique people do not get credit through land because the Land Law does not allow this (Chinsinga, 2017; Matenga & Hichaambwa, 2017). Furthermore, a big scale of land with good agroecological quality is considered to be more important than small, therefore, more land is bought. In the Gurué district although land is not used as collateral, it is still increasingly losing its role as part of the resource base used for food production. Specifically, more small-scale farmers, on their small plots, tend to combine both food and cash crops such as soya and cotton (this will be further developed in Chapter 6).

5.4 Outcome of Agriculturally Induced Displacement

The number of studies conducted in Mozambique and across the region by Grain & UNAC, (2015), Hall & and Cousins (2015), Joala et al. (2016); Scoones et al. (2014), White (2020) Munoz (2015), Ntauazi (2014) and White et al. (2012) indicate that in most of the cases the arrival of large-scale investments, particularly for commercial agriculture, imply the removal of local people to give way for the development of agribusiness operations. This argument does not contradict the reality of Gurué with the establishment of Agromoz. The land rush or land deal performed by Agromoz resulted in thousands of landless small-scale farmers. Being landless here refers to the point at which village members are without land and all of the resources that were implicit on it. Additionally, it refers to the point at which village members have limited access to tangible and intangible resources such as rivers, forest and the biodiversity in the surrounding land occupied by Agromoz, or people don't have easy access to a better quality of water, forest resources, access to spiritually significant or traditional sites. This is evident in the information shared by Alberto Jackson, a small-scale farmer who has been displaced by Agromoz and went to live another village:

> I came here in Escubera village in 2012 after being displaced by Agromoz in Wakua village where I have lived for ages. My life here is different because I am living and farming my wife's family land. In Wakua I had 10 hectares but here I am confined to 4 hectares. Beyond that, in Wakua I almost had

> everything. We had a forest where we could collect firewood, logs, medicinal plants, honey (horticulture) and water were nearby. But on this land here where I am living it seems to be a desert, it is not of good quality and there are no fruits. We have tried to plant some mango and papaya there but they are not growing. The river is far away now. We use a bicycle to fetch water. There were sitting trees that we cannot cut. The *regulos* use them for traditional ceremonies such as begging rain from ancestors."[55]

The immediate outcome of Agromoz was the displacement of local people from their native or ancestral land. Similar finding has been well documented in researches by Grain & UNAC, (2015), Hall & and Cousins (2015), Joala et al. (2016) when analysing commercial land-based investments like Agromz. Although people are displaced, as evidenced in many researches, In Gurué the displaced local people know the value of their land and the implication of losing it, therefore, some of them right at the beginning of the negotiations refused, as explained by Veronica Cashone:

> During the process of displacement, we launched a campaign but we were not successful. Now that the company is already installed it is going to be very difficult to get back our land unless we have external support then. But I don't think we will stand ourselves to defend it.[56]

The campaign started in 2012 where village members approached the company and local authorities. Demonstrations and letters of demands constituted one of the strategies employed by small-scale farmers[57], apart from making their voices heard at different national forums[58]. The struggle was then intensively supported by local NGOs who joined the campaign by rejecting the development model of Agromoz and another agrobusiness company in the region. These organisations have managed to give voice to the concerns of people affected by Agromoz on different platforms, including national and international forums in Mozambique, Brazil (the country of origin of Agromoz) and in many other countries. They have published many documents

[55] Interview, Alberto Jackson, small-scale farmer, 20th December, 2018, Gurué
[56] Interview, Veronica Cashone, small-scale farmer, 21 December, 2018, Gurué
[57] https://diplomatique.org.br/camponeses-mocambicanos-derrotam-o-agronegocio/
[58] https://docplayer.com.br/142698773-Centenas-de-camponeses-desalojados-das-suas-terras-em-lioma.html

evidencing the negative impact of the company on small-scale farmers and presenting alternative models[59]. However, as Monjane and Bruna, (2020, p. 9), argued "in the current neoliberal period, however, FRELIMO's regime has come to clearly exercise varying and decreasing degrees of populism combined with authoritarianism when it comes to choosing and imposing agrarian policies". None of the demands made by small-scale farmers and NGOs were accommodated.

After the displacement, people got land through differentiated means: "After being evicted by Agromoz I went to my wife's family to ask for land"[60]. Another said that, "When Agromoz evicted me, I took the compensation money and added it to my pension funds and I went to buy 8 hectares of land in Morale"[61]. Another small-scale farmer also said, "When Agromoz took my land I moved out of the village to the mountains, where opened 7 hectares of land."[62] Yet another even said that, "I live approximately 100 metres away from the company. Since my land was taken by the company, I was offered a job at the company as a garden farmer."[63]

The above extract illustrates how, after displacement, small-scale farmers accessed land through different mechanisms. These mechanisms were based on the evidence presented above, which includes: (i) Purchase, (ii) rental, (ii) kinship, (iii) labour tenancy, (iv) informal allocation and (iii) self-allocation. These mechanisms show the different forms that the directly-affected small-scale farmers use to access land. It also shows different degrees of land commodification and social relations to access land after displacement. For a better understanding, some mechanisms such as 'purchase, rental, labour tenancy, informal allocation' were grouped into one category known as *os vientes* (the newcomers), which is explained below alongside other mechanisms.

5.4.1 Kinship

This is a mechanism through which small-scale farmers who lost land to Agromoz went to seek land from their relatives (mostly the husband's family) – they got land through family relation, where, depending on the family relation, the land usage might be permanent or temporary. An

[59] https://www.farmlandgrab.org/24856
[60] Interview, Alberto Jackson, small-scale farmer, 20 December, 2018, Gurué
[61] Interview, Jose Domingos, small-scale farmer, 20 December, 2018, Gurué
[62] Interview, Agostinho Mwanhupo, 21 December, 2018, Gurué
[63] Interview, Jose Zacarias, small-scale farmer, 22 December, 2018, Gurué

example is Alberto Jackson, who after displacement, went to seek land from this wife's family. His wife explained that,

> It was easier to get land because it is my family who gave us. My family was farming on 5 hectares but because of this situation (eviction) they understood and decided to let us use part of their land"[64].

Another example was Adelia Paulo, who said, "Before the displacement we (husband, wife and children) were living on my husband's land but after the displacement we had to move to my husband's family[65].

In Gurué, the society is governed by a matrilineal system, meaning, the land rights belong to the women's male relative, ensuring a better chance for co-titling or inheriting in the event of the death of the husband. This is different from other regions such as in the Nhamatanda district, where according to Zamchiya et al. (2021), the society is governed by patrilineal norms, meaning land belongs to a man. Owing to the displacement by Agromoz, women are no longer land rights holders – their chances to inherit or co-title are reduced if they move to their husband's families or territories, as Adelia explained, "I don't live on my land or my family's land. If the *Terra Segura* programme comes here, the land title will be under the name of my husband". This aspect destroys the social system governing families.

Large numbers of interviewees within this group stated that they are land secure although they do not hold a DUAT, in the sense that they are using family land covered under customary rights, as elaborated by Julia Mateus:

> Here, we feel land secure although we don't have a DUAT. No one from another family will come to expel us because the land belongs to our family.[66]

[64] Interview, Julia Mateus, small-scale farmer, 20 December, 2018, Gurué
[65] Interview, Adelia Paulo, small-scale farmer, 23 December, 2018, Gurué
[66] Interview, Julia Mateus, small-scale farmer, 20 December, 2018, Gurué

However, using family land might be an acceptable way out in the context of involuntary displacement but prolonged use might be considered to be a burden on the rights holder or host family (member of family that lend land). Alberto explained:

> Although we feel land secure here, it is not the same as if we were farming or living on our original land. This land that they gave us, they were using; besides, they have male children that would want this land. This means that sooner or later I must find land for my own family.[67]

Elias is young small-scale farmer:

> I was living with my wife on my own land and in my own house but after being evicted, I had to go back to my parent's house, even though I built a house here but I used to live away from my parents. Somehow, I am not comfortable here, I don't feel myself to be free to build another house or to do some improvement because I am not the only brother. By next year I will move out to another village where I will buy land.[68].

Alberto and Elias' arguments are fundamentally sustained by the fact that, after displacement, the host family members were socially pressurised to cut part of their hectares to support the member of family in need (the dependent) but this consequently implies a reduction of number of hectares used to produce per family member, which may affect the productivity levels as well as the flow of some local techniques, such as the use of fallow land.

Another aspect has to do with land control and a sense of ownership that will allow them to rent out, transfer or make investments on it. Exploring the in-depth interviews, the answers varied among respondents. For example, Alberto said, "Here I can't rent out, transfer or make long-term investments on it such as producing tobacco or cotton. Everything that I need to do I must ask permission for, because is not my land." On the other hand, Elias said that, "I can't rent out but I

[67] Interview, Alberto Alfredo, small-scale farmer, 20 December, 2018, Gurué

[68] Interview, Elias Mepoia, small-scale farmer, 23 December, 2018, Gurué

can invest and transfer to my children but not to other family members because land is our value and wealth. But I don't want to because I want to build my family away from my parents, I am a growing man." This shows that social relations are important in securing or accessing land, however, not everyone can enjoy them equally. This contradicts findings from UNAC and Justicia Ambiental (2011) and Grain (2011) that displaced people often start from the 'ash'. It builds momentum on Kay's (2015), argument that there are often changes in land use and yet, according to Borras et al. (2011), by becoming clear that differentiation is an aspect to consider, it is always on outcome of large-scale agricultural investments on communal land.

5.4.2 *Os vientes*

Os vientes can be literally translated to mean 'newcomers'. In this case, the *vientes* or *Os vientes* are small-scale farmers who lost land rights to Agromoz but went to seek land in the neighbouring villages or in other villages (far away). This is the example of Jose Domingos who lost land and moved to another village where he acquired 8 hectares. There are four different mechanisms of land access within this category. The first one, *purchase*, is when small-scale farmers who after displacement acquired land through purchasing – the example of Jose Domingos. The second, *rental*, which is where small-scale farmers acquired land through rental after displacement. The third, *informal allocation*, which is when small-scale farmers acquired land through concessions or being offered by a village member who is not necessary a member of family, after displacement; and lastly *labour-tenancy* which is the group consisting of those who acquired small pieces of land (only for building a house) but then rely on *ganho-ganho* (working on someone's land to get something in return as payment for the work) to get crop land. Basically, small-scale farmers under labour tenancy get crop land in exchange for supplying their labour. A local leader of Wakua explained:

> When Agromoz displaced people, they went in different directions in order to get land to live and produce on. Some people went to other villages and were able to buy land. Those who had luck, they succeeded in buying more land than they used to have in Agromoz. Other people, they went to ask *chonde-chonde* (begging) to the owner of the land or local leaders to give them land for free.

> Other managed to get land for them to build a house but not cropland; these relied on renting crop land. There are also others who managed to get housing land but failed to get a crop land but rely on doing *ganho-ganho* on other people's land and then the land owner gives them a plot to crop.[69].

In general, interviewees under *informal allocation* and *labour tenancy* explained that it was difficult to get a piece of land as it involved negotiations at village level between the *vientes* and the rights holder, generally a member of the village. In some cases, negotiations also involved the local leader, land rights holder and the *vientes*. Similar to kinship, small-scale farmers under these two mechanisms also accessed land through social relations but for temporary use.

> It was difficult for us to get land here. When we came here to ask for it, they thought that we sold our land to Agromoz. This is because other people in Wakua received money from Agromoz. For us we didn't. So, we had to call other people from the village to be a witness – even the leader helped to convince the owner of this land. After some time, he saw that we didn't have anything. So, he lent us the land.[70]

For these two categories, the land access process was handled under solidarity and compassion as it was clear to the land rights holder that land was lost due to the induced displacement. As Martins (2000) stated, there is always a solidarity in non-capitalist relations among people. Meaning that, if one does not have the means to reproduce, those who do can help. However, these relations change over time and this is why Bernstein (2010), warned that land is being converted into a commodity. This brings the question whether people will continue embracing socialist relations since land is being converted into a commodity but this will eventually require tracking over time. The categories *purchase* and *rental* respectively. prove how fast people can get land when capital (money) is involved in the transactions. The common aspect in these two mechanisms is that land is regarded as a commodity, therefore, access to land is through market transactions. However,

[69] Interview, Rui Nacoma, small-scale farmer, 21 December, 2018, Gurué
[70] Interview, Alberto Alfredo, small-scale farmer, 20 December, 2018, Gurué

while one can have a permanent land right by purchasing, rental means having temporary land rights.

Throughout the research, it was noted that small-scale farmers acquire land through financial or monetary transactions and some of them were able to invest; however, the question is whether they will be able to sustain such a small business. This, similar to the type of social relations, will also require long-term tracking. One would hope of such an accumulation pathway, that it will not end with the lifespan of the investment, as theorised by Ferguson (1999) in Zambia. Moreover, while it was difficult for people from the previous sub-categories (*informal allocation* and *labour tenancy*) to acquire land, here it was not. Land acquisition for sub-categories 'purchase and rental' should be regarded as viable strategies to access resources to cope with their daily challenges or even as Scoones (2015), argued, to address a crisis of social reproduction.

Small-scale farmers who acquired land through transfer (bought) expressed concerns because they don't have a DUAT: "I bought this land, but I don't have a DUAT or document for it. Our agreement was verbal. I am not safe because anyone can come and claim it, especially if the person who sold me dies."[71]

For the small-scale farmers who are renting and for those who were given housing land under solidarity, it is clear that they can't have a DUAT.

> This is not our land; we were given it by Mr. Morale. Neither this land I am on where I built my house, nor the one I am farming on, we cannot have any paper in our name because we are here temporarily. It is not our land."[72]

[71] Interview, Jose Domingos, small-scale farmer, 20 December, 2018, Gurué
[72] Interview, Veronica Cashone, small-scale farmer, 21 December, 2018, Gurué

Figure 9: Veronica Cashone was offered 0.5ha to live and farm on.

The situation is bit more dramatic for those who got land under solidarity because they face challenges to subsist.

> I am confined to small plot of land, producing in half a hectare, which is not enough to produce food for the family household.[73]

According to the SDAE the average family size per household in Gurué is five members per family (in Gurué). The *vientes* under the subcategories *labour tenancy* and *informal allocation* are not permitted to enlarge the temporary land which is given farmland, otherwise intra-village conflicts might break out. The key argument resides around land ownership – they don't pay for land occupancy, in other words, they don't have land. In point of fact, some have experienced such conflicts: "Last year I fought with the owner of the land because I had cleared an area without his authorisation. He thought I wanted to sell. Even after having explained, he didn't believe me."[74] This shows that the conflict is not only occurring between middle scale farmers as argued by Smart

[73] Interview, Veronica Cashone, small-scale farmer, 21 December, 2018, Gurué
[74] Interview, Mario Mapaia, small-scale farmers, 21 December, 2018, Gurue

and Hanlon (2014); in the research site small-scale farmers are shown to be experiencing conflict among themselves as a way to secure assets wellbeing or as Bernstein (2010) referred accumulation. Moreover, it shows that they don't have control of land although they can have access and use it. In those villages that have not been affected by the company, small-scale farmers are leasing land to families that did not manage to get land under the solidarity principle. From the evidences presented above, people get access to land through social networks. This shows that social norms and practices are important in securing land rights. This helps to boost relations within the villages; however, one cannot be blind to the fact that due to ongoing commodification of land and labour, there are also issues of class dimension, as some are increasing the size of crop land and become middle-scale farmers (producing more than 5 hectares).

5.4.3 Self-allocation

This is a mechanism through which small-scale farmers who lost land to Agromoz went to seek land or fixed residence in a region that had not been explored or capitalised before. This is the example of Agostinho Muanhupo who, after displacement, went to open up 7 hectares in the mountainous region. Many small-scale farmers who access land through this mechanism farm on more than 2 hectares, however, the main challenge is access to market and basic services as they are farming in mountainous areas or far away from main roads.

> Here we have good quality land and good yield, the only problem has to do with access to market. The road is far way. It is very difficult to sell our products. The *candongueiros* don't want to come here because it is very far and no road to transport crops. Our crops end up getting rotten. In terms of conflict here we are safe. We don't have any and we don't expect to although we don't have documentation for our land[75].

[75] Interview, Joao Carlos, small-scale farmers, 27, December, 2019, Gurué

Small-scale farmers who applied this mechanism regarded land as common property, as testified by a small-scale farmer: "The land belongs to all of us, we can fix residence anywhere." It appeared that the small-scale farmers under this mechanism were the happiest when compared to the others who applied other mechanisms. These small-scale farmers have access to land without relying on negotiation or any means of commodification. They have enough land to produce and they can produce whatever crop they want, however, as long as there is no provision of basic services and main road infrastructures, and if there is no market strategy to sell their produce, these small-scale farmers will continue to face post-harvest challenges, as they do now.

5.4.4 Other outcomes from the land access mechanisms

The table below shows figures in terms of percentage of small-scale farmers who accessed land through the mechanisms outlined above. Data were based on the household survey administrated to 32 heads of households directly affected by Agromoz in Wakua and Escubera villages.

Table 8

Percentage of small-scale farmers who acquired land through different mechanisms in Gurué

Categories/ mechanism	**%**
Kinship	33%
Vientes	44%
Self-allocation	22%
	100%

Percentage of small-scale farmers who acquired land through a different mechanism within the *Vientes* category

Purchase	**Rental**	**Informal allocation**	**Labour tenancy**
33%	25%	25%	17%

From the table 8 it is patently clear that the displaced small-scale farmers have accessed land through different mechanisms. Most of them accessed land through purchase, rental, informal allocation and labour tenancy. Moreover, the table shows that the larger percentage of displaced

small-scale farmers accessed land through purchase, followed by renting land and informal allocation, generally through solidarity or compassion. However, although most of them bought land, the survey indicated that the majority of the affected small-scale farmers still produce on less than 2 hectares. This means that a household holds at least 0.5 or 1 hectare for crop production.

While small-scale farmers were applying different mechanism to acquire land, some conflicts surged between the *vientes* and kinship models. A single small-scale farmer in the *viente* category elaborated, "I received some comrades that were evicted from Agromoz, I lent them part of my land to farm but later on they began to sell it."[76] Another farmer in the same category said, "I discussed with my neighbour because I rent out my land to him but he is not succeeding in paying for it. This is the second year he doesn't pay the rental. He pays 4,000,00MZN (USD70) per year."[77] Moreover, a small-scale farmer in the kinship arrangements also lamented, "I live fighting my husband. Before living here, I and my husband were living at my family's. Because Agromoz took it, we moved to my husband's family. This is the 7th year. When we got here things were good at the beginning but then my husband married another woman. He doesn't stay here (Nacarari village). He stays in Cankoka village with his new wife. When we were staying on my family's land, he was not doing that (abandoning the family), I think he was afraid of my brothers."[78] Of these conflicts, none were recorded in the self-allocation mechanism during the period of this research.

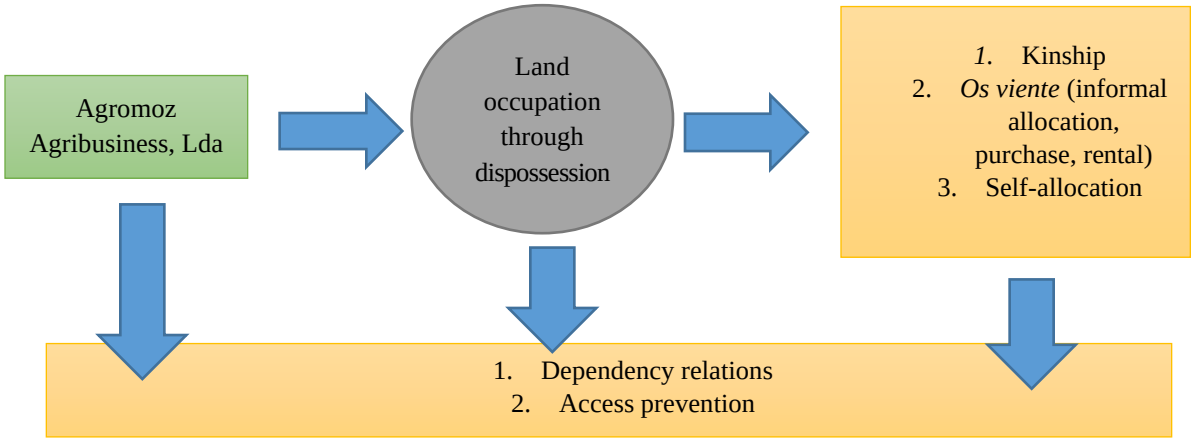
It is clear from the above accounts that small-scale farmers under these different mechanisms were experiencing conflict somehow. These conflicts can be integrated or classified in different forms. Mandamule (2016), who also researched conflicts after the establishment of large-scale agricultural investments in Mozambique, including in the Gurué district, provided a typology of conflicts. Among her classified types of conflicts, inter-familial or simply inter-household (between two or more households) and investor and villages, are the prevailing ones – this is the case of conflicts under *vientes*. Nevertheless, through this research two other prevailing conflicts were encountered: the intra-household (within the household) as is the example of Veronica Antonio with her husband and villages members vs local authorities or leader (local leader or

[76] Interview, Adelino Paulino, small-scale farmer, 20 December 2018, Gurué
[77] Interview, Andre Jone, small-scale farmer, 27 December 2019, Gurué
[78] Interview, Veronica Antonio, small-scale farmer, 27 December, 2019, Gurué

simply *m'wenhe* in the local language 'Emakuwa'). For example, *m'wenhe Wakua* (leader of Wakua) had his right eye damaged by village members because he was accused of selling the village land to Agromoz."[79] The *m'wenhe* had not lost his leadership role in the area but has lost authority over to his people, such that the government and the company count on him as a leader and, therefore, they reach out to the village through him but most village members are reluctant to accept his leadership.

The different mechanisms of land access can be related to the four class of differentiation categories identified by Nyantakyi-Frimpong and Bezner Kerr (2017) which are: landless, near landless and land rich. The major difference is that after displacement no one literally stayed without means of reproduction. Small-scale farmers found local mechanism to adapt and continue accumulating or reproducing themselves, which was through exploring land on the basis of commercial arrangements or social non-financial arrangements. This shows a spectrum or a continuation of mechanisms of accessing land under customary tenure through more or less marketised or monetarised arrangements and through social relations. However, the land pressure by Agromoz is pushing land into a direction where land is regarded as commercialised or tradable assets even though this is illegal in Mozambique (Boletim da Republica, I serie, Nº 40, Lei de Terras 19/97 de 1 de Outubro, artigo 3/Republic Bulletin, series 1, Nº 40, Land Law 19/97 of 1 October, article 3).

In conclusion, the next figure summarises the outcome of Agromoz on small-scale farmers.



[79] Interview, Diosinio Mepoteia, small-scale farmer, 28 December, 2018, Gurué

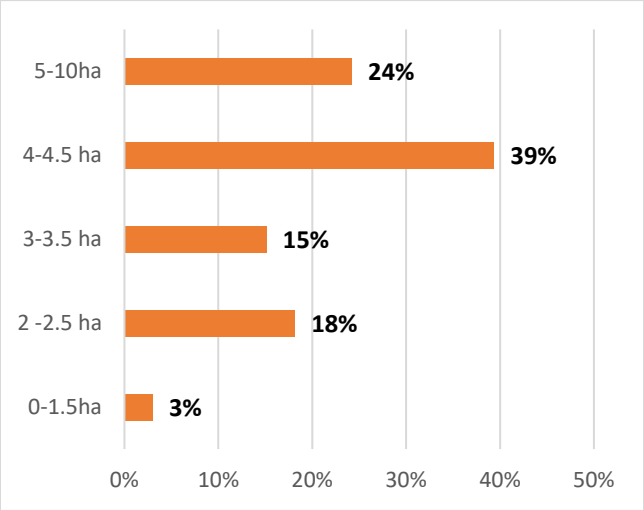
Figure 15: The outcomes of Agromoz on small-scale farmers in Gurué

Figure 12 is a conceptualisation of the outcomes of Agromoz investments on directly- and indirectly-affected small-scale farmers. It shows that Agromoz acquired land through dispossession. The field in the study site revealed that the process was undertaken through extra-legal procedures. The outcome has been the displacement of thousands of small-scale farmers in different ways, which consequently accumulated different social, economic negative impacts. More clearly, some displaced people have become dependent on the company whilst others are prevented from accessing local livelihood assets.

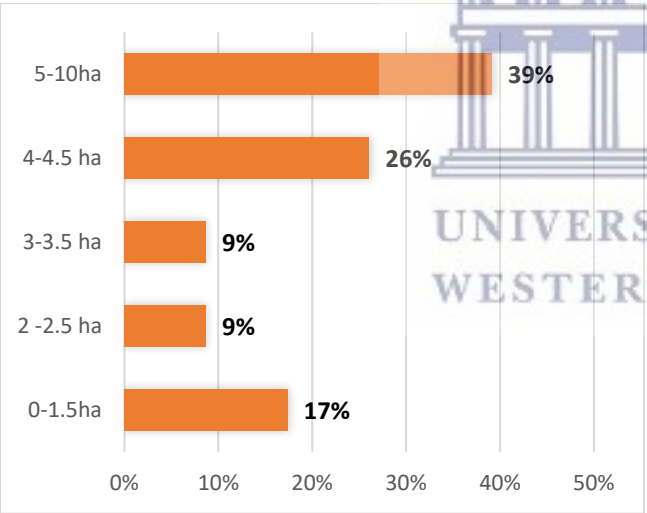
5.5 Reduction of Area of Production per Household

In Gurué, to give way to Agromoz operations, a lot of small-scale farmers lost land for their agricultural activities. As they sought land for themselves to dwell and farm on, most of the affected small-scale farmers accessed small plots, generally less than 2 hectares, meaning that a household holds 0.5 or 1 hectare for crop production. This aspect was known by local authorities, for instance the government of Gurué district, the District Services of Economic Activities (SDAE), the secretary of neighbourhoods and traditional leader put it forward to local populations at the earlier stages of the project – when it was introduced to these authorities but it was not taken for granted.

The graphs below show the changes in land holding before and after the arrival of Agromoz, disaggregated by size of landholding by household in Wakua and Escubera villages (displaced people) and, Nankoka and Nakarari villages (non-displaced people).



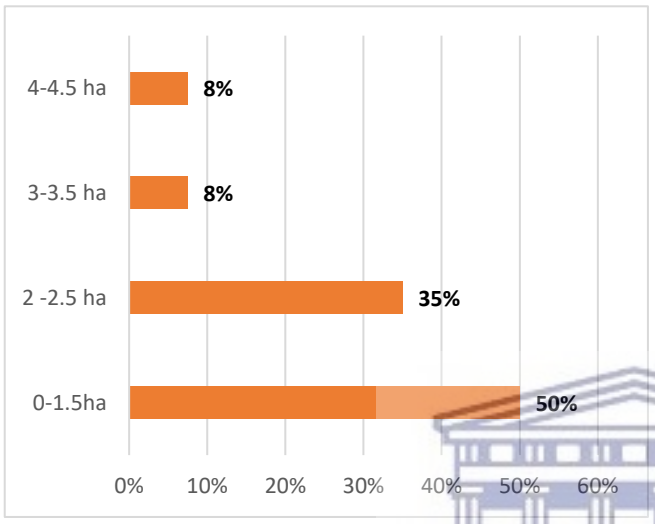
Graph 7: % change in proportion of land used between 2008 and 2012 displaced people



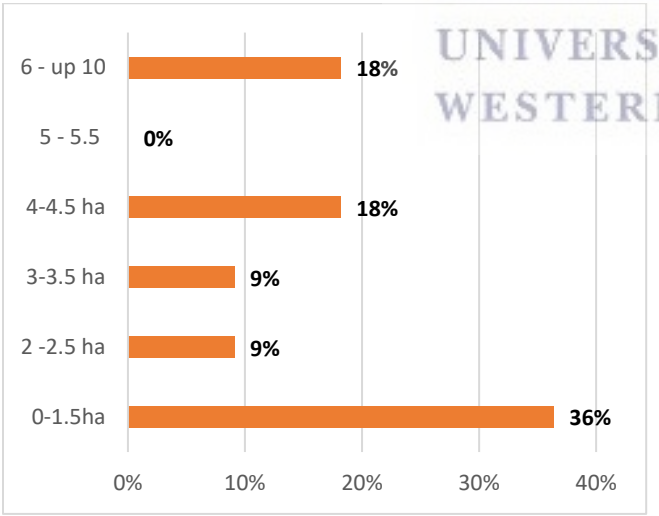
Graph 8: % change in proportion of land used 2008 and 2012 non displaced people

Graphs 7 and 8 show the reality of small-scale farmers from Wakua and Escubera villages (displaced small-scale farmers) and, Nankoka and Nakarari villages (non-displaced small-scale farmers) which are 100 meters to 5 kilometres away from Agromoz farmland. With an average of 550 households per village corresponding to 2,750 people, a survey there was administrated to52 households, which is an equal number of samples. Of this number 62% were headed by women

while 38% were headed by men. Computed data presented in graphs 7 and 8 reveal that before the arrival of investments most of small-scale farmers (39%) who have been displaced in the study area used to produce or farm on an average of 4 hectares, while small-scale farmers who have not been displaced were farming on an average of more than 5 hectares. However, a significant percentage of the non-displaced small-scale farmers were farming on 4 hectares similar to the displaced small-scale farmers.



Graph 9: % change in proportion of land used between 2012 and 2018. Displaced people



Graph 10: % change in proportion of land used 2012 and 2018. Non displaced people

Graphs 9 and 10 depict the realities of the previously described villages (displaced and non-displaced small-scale farmers) after the arrival of Agromoz. The graphs show that after the arrival of Agromoz, the displaced small-scale farmers (50%) tend to produce on 0.5 to 1 hectare, while on the other hand, the non-displaced small-scale farmers (36%) produce on a maximum of 4 hectares. Analysing the graphs 7, 8, 9 and 10, one can see a clear shift in the number of hectares used by small-scale farmers before and after the arrival of Agromoz. It shows the reduction of farmland (from more than one hectare to one hectare) per household. These findings agree with the research findings of Mosca (2011, 2017) and Bruna, (2017) that stated that the impact of large-scale agricultural investments on rural areas is reduction of crop land. Owing to the low production capacity associated with the low labour power, not every piece of land (4 ha) was used at once, some small-scale farmers used part of the land as fallow land. Yet others used some to complement their existing land for immeasurable social value. This was depicted well by Monica Mayaya: "Normally, when we have a huge piece of land like 5 ha, we don't use all of it per agricultural season, we divide it because our labour power is few. So, part of it, we keep for some years so it can produce nutrients. The other part, we use it. The division also is influenced by the number of our household labour power.".[80]

Drawing from the results of the survey data presented above one can conclude that Agromoz led to the reduction of areas of production for the majority of the small-scale farmers (because it's land which was used by village members and has been occupied, either voluntarily or by eviction). However, not everyone has had reduced cropping areas. Among directly- and indirectly-affected people, a few of them were able to increase their area of production. An example of some people who were displaced, and compensated is Joao Costomo – he was one of a few small-scale farmers who were compensated by the company. "I was displaced by Agromoz in 2012. In the same year, after receiving the compensation money, I bought land from a friend. He sold me 7 hectares. This is a lot more than what I had in Wakua. There I had 3 hectares."[81] Another example is Jose Domingos who used his pension funds to acquire 8 hectares of land in Morale village. As it can be seen from these accounts, these people invested their compensation money to buy new farmlands.

[80] Interview, Monica Mayaya, small-scale farmer, July 2020
[81] Interview, Joao Castomo, 27 September 2019, Gurué

It is also an example of small-scale farmers who were also engaged in off-farming activities other than being a farmer or who were pensioners, such as freedom fighters. This group of small-scale farmers easily acquired more land and expanded their production.

5.6 The Land Pressure and Emergence of the Informal Land Market

Land is an important element for economic and social development in any society (van der Ploeg, 2016). Owing to the current social dynamics and influenced by increased land pressure by large-scale agricultural investments, land commercialisation has accelerated in Gurué. Based on the in-depth interviews with small-scale famers, key informants and focus group discussions, small-scale farmers, in general, elaborated that before the arrival of Agromoz, village people mostly acquired land through social relations and local practices.

> We used to farm in land of our ancestral. In the case that someone come in the village (*viente*) the *regulo* is the one who was responsible in allocating land to the *viente*[82].

During this period land was still a common good with higher social value that was used to unite people and produce wealth and promote harmony among families or village members. Therefore, land commercialisation was almost opaque in most villages, as was the case of Wakua, Escobera, Nankoka and Nakarari; something also mentioned by a small-scale farmer, "selling land was not our practice here. One could lend to someone to produce but rarely could sell it."[83] Other farmers explained, "Selling land was not common practice here (in his village) but some people, even before Agromoz, used to sell it, especially housing land."[84] Statements like these show that even before Agromoz, land commercialisation was there but was just not visible.

However, with the displacement and dispossession experienced as a direct effect of Agromoz, the directly- and indirectly-affected small-scale farmers changed their perceptions about land usage,

[82] Interview, Alberto Alfredo, 20 December, 2018, Gurué

[83] Interview, Lucia Nassongle, 21 December 2018, Gurué
[84] Interview, Alberto Jacson, small-scale farmer, 20 December 2018, Gurué

on one hand. On the other, they were forced to through the need to produce subsistence and surplus to explore the available commodity market; land commercialisation and rental became a normal social practice. People deviated from their former perception of land. It was then regarded as being a tangible and tradeable asset, unlike in Manica province where Bruna (2017), in her study on the impact of forestry plantations found out that local people were giving away their land in exchange for employment with the eucalyptus plantation forest, Portucel.

The household survey administrated to 52 heads of households of farmers who have been directly and indirectly affected by Agromoz in Wakua, Escubera, Nankoka and Nakarari village showed that 55% of affected households engaged in some form of land commercialisation arrangements or transaction. Specifically, of the total figures, 42% bought land and 35% rented in land and 27% lent out land. Apart from that, many small-scale farmers migrated to new villages and engaged themselves in transactions of land whether through renting or buying new land. This implies that land markets have been accelerated with the arrival of Agromoz. Similar findings were captured by Lavigne Deville et al. (2017), although commercialisation is prohibited by the law, in practice, a vibrant rural land market expressed in selling and leasing land can be witnessed. Nevertheless, Agromoz is not the only actor that accelerated the land market in Gurué, time bundle programmes such as Sustenta, also play a big role ultimately, as explained by a small-scale famer as follows,

> Many people here in the village, including the chief of the administrative post, local leaders and our economic agents (business men), they are all buying huge scales of land because they want to get a loan from Sustenta."[85]

The statistical data given above shows that among the affected small-scale farmers there are those who bought, rented and lent land –buying land means to have permanent land rights; renting and lending land means to have temporary land rights. Mandamule & Manhicane (2019) argued in their study that purchasing and rental processes occur within areas with availability of basic services such as education, health and they are not deprived of good road conditions (no car can reach these places), and market access. This argument agrees with the findings of the current research. In fact, the purchasing and rental processes are taking place in some villages such as

[85] Interview, Dionisio Mepoteia, small-scale farmer, 27 December 2019, Gurué

Nankoka and Nacarari. These villages lie along an unpaved road with minimum driving conditions connecting Gurué in Zambezia with Mutuli in Nampula province. It is considered by local small-scale farmers to be a 'business pathway' as informal (retailers) and formal (registered companies like Cargill) buyers settled themselves, selling branches.

For rental to take place, a verbal agreement is made for a period of one agricultural season (a year), which can be renewed as per the trustworthiness between the legitimate land right holder and the occupant. "For renting land, we usually pay a fixed amount of 4000,00 MZN (70U$). This amount, we pay at the end of our harvest or after commercialisation of our yield."[86] Land is rented out by people holding 5 or more hectares with a lower number of household members, generally 3 to 4 household members. For purchasing land, a verbal agreement is also made between the one considered to be the legitimate owner of land and the client. "When somebody wants to buy a land, they just agree themselves. They don't need to go the local leader or secretary of the neighbourhood because these people, they say we cannot sell land. But they also sell secretly."[87] These types of agreements are very secret because they are not allowed by law (Tique, 2003). This reveals gaps in the implementation of the current legal framework on land in Mozambique.

The lending land process mostly takes place in areas where the residents or farm people are those who got land through self-allocation – in the mountains or near the mountains or even in very remote areas. This is because these areas, although they are fertile, their commercial value is devaluated because they are very far from the basic services such as education, health and are deprived of good road conditions (no car can reach these places), and market access.

> After the displacement of Agromoz, it is easier to get on the mountain. Even if you are weaker to open a new farmland, someone can simply lend you out a piece of plot for you crop. He or she does not have be your family. Here where people are already in, it is very difficult to get land. Besides, this land is not

[86] Interview, Joao Tomo, small-scale farmer, 28 September 2019, Gurué
[87] Interview, Alberto Jackson, small-scale farmer, 20 December 2018, Gurué

> good at all. If the government had built roads up to the mountainous areas, we would all go and farm there."[88]

Quite a few small-scale farmers who have been displaced by Agromoz have settled in these areas. However, many directly-affected small-scale farmers (*os vientes*) were pressured to buy land in the village centres so they could expand their production and get to market. Those who got land through kinship and through informal allocation, although land was not sold to them, they make some symbolic or thankful payments occasionally to the land owner. These practices have been increasing largely with the emergence of the land market, and they have also been increasing the informal land privatisation footprint in communal areas, whereby land investment opportunities are becoming major areas of development in rural areas.

From the above evidence presented, it can be argued that purchasing, rental and lending processes occur through social networks. The first three processes are partly embedded in what Bernstein (2010) called commodification of land for capital accumulation and reproduction. Moreover, the processes are not always grounded in family blood lines, as argued by Mandamule and Manhicane (2019), but in trustworthiness among people.

The figure below demonstrates the functioning of informal land markets in Gurué. It clearly shows that Agromoz has accelerated the growth of informal land markets in some villages. Local leaders (*regulos*), and secretaries of the neighbourhoods (local elites and ordinary people) are the main actors behind the land sales, followed by heads of households (men and women), young people who want to get money to move to the city and the elderly. The buyers are people displaced by Agromoz, migrated people (newcomers), people facing social conflict, divorced women and widows.

[88] Interview, Agostinho Mwanhupo, small-scale farmer, 21 December 2018, Gurué

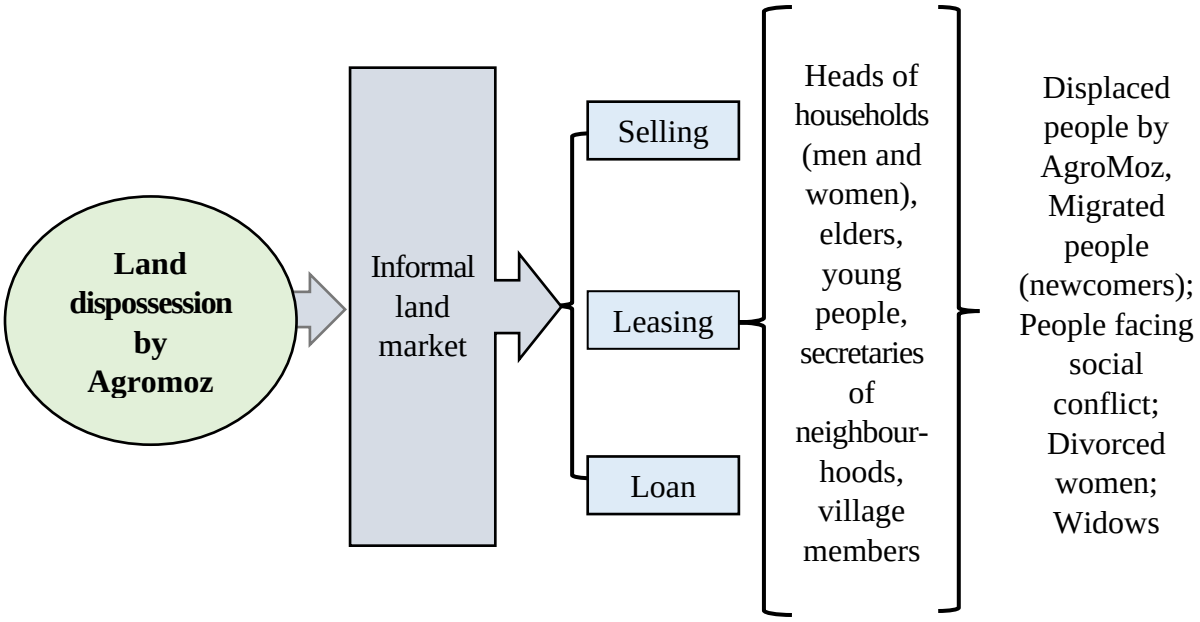


Figure 10: The informal land market scheme in Gurué

The above conceptual frame depicts how Agromoz has accelerated the informal land market in the villages near the company. Directly- and indirectly-affected small-scale farmers access land through commercial transaction from local elites and ordinary people from the village. However, as explained previously, Agromoz is not the only actor who has accelerated land markets in the region, there are other processes, which include an increase in middle-scale farmers supported by the Sustenta project and a growing commodity market for small-scale farmers has encouraged local people to search for productive land and change their inputs and technology. Findings on the inputs and technology are presented and discussed in the next chapter.

Chapter 6: INPUTS AND TECHNOLOGY: PATTERNS OF CHANGES FOR SMALL-SCALE FARMERS

This chapter argues that Agromoz affects the small-scale farmers directly and indirectly, such that this investment contributes to changes in their farming inputs and the technology at their disposal, understood herein as infrastructures and processes involved in crop production, including growing, harvesting, processing, packaging and transportation before consumption. Agromoz in Gurué have accelerated the use of modern capital and consumable inputs and technologies such as improved seeds, agrochemicals, pesticides, tractors and other implements for both directly- and indirectly-affected small-scale farmers, which, in turn, affects food production systems in tangible ways. Furthermore, apart from Agromoz, there are other actors, such as government programmes (e.g. Sustenta, *Fome Zero*) and NGOs' time-bound programmes and projects that are providing small-scale farmers with new technologies. This is also underscored by the government prioritising the mechanising of agriculture and turning small-scale farmers into commercial agents by applying the agribusiness model. These practices and dynamics are contributing to changes in the inputs and technologies of small-scale farmers. These arguments were built by answering the key question of the study which is, 'how is the introduction of new production technologies promoted by large-scale agricultural investment reshaping small-scale farmers' agriculture?' and through the use of qualitative and quantitative methodological tools. To answer these questions the chapter starts by describing farming technologies in Gurué prior to, and then after, the investments. Further it identifies and analyses changes in input or technology narrowing down to two types: consumables and capital inputs.

6.1 Description of Farming Inputs or Technologies in Gurué

Describing farming inputs or technology in Gurué amidst large-scale land-based investments requires one to first describe the farming inputs or technologies employed in the period before (the starting point) and after the arrival of Agromoz. The guiding question of this section would be "what kind of inputs did small-scale farmers use before the arrival of Agromoz? What are they using now (after the arrival of Agromoz)? And finally, how is the introduction of new production technologies promoted by large-scale agricultural investment reshaping small-scale farmers'

agriculture? Answering these questions can provide an understanding of the existing changes in farming inputs.

6.1.1 Before the arrival of investment

Before the arrival of Agromoz, small-scale farmers in the study site applied an itinerant agricultural system, where their primary inputs were hoes acquired at the nearest shops or hand made by local blacksmiths. Seeds, for the majority, were kept from the previous season and recycled for the next season and in other cases were acquired through exchange among small-scale farmers. A small-scale farmer explained their preference for indigenous seed:

> Most of us here we used hoes for farming and our indigenous seed because it is genetically pure. We didn't consider hybrid seeds although they were being promoted by agro-dealers (people who sell farming input). 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 shall we 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.[89]

The above interview highlights the preference of small-scale farmers for the local or indigenous seeds before the arrival of Agromoz because the different qualities of these type of seeds, as demonstrated in the above quote. A study by Rick (2022) has demonstrated that the struggle of small-scale farmers nonindigenous seeds is built on the need to low of small-scale farmers to purchase seeds every year. In Gurué most small-scale farmers who participated the focus groups discussion and in-depth interviews argued that financial capacity is not the primary motive of their choices to

[89] Interview, Provincial Secretary of Peasants Union, 15 July, 2018, Gurué

the local seeds but as Grain (2018) argued, local seeds connect people to their culture, tradition, spirituality, cooperation and diversity.

Figure 11: Local machines used to fabricate hoe, knives, and other farming implements before the arrival of Agromoz

As to the consumable inputs, other were organic. Almost no chemical fertiliser or pesticides were applied. Soil exhaustion was a constant problem and small-scale farmers adopted local and organic or extensive methods such as fallow land after five years of cropping or engaging in the labour-intensive process of cleaning new land to supplement older fields. In the case of insects or pests, Veronica Cashone explained that,

> We would apply a natural repellent, which was made through the mixture of leaves of a local plant called *kosho-kosho* with other seeds of *Piri-piri* (chili) plant. Other small-scale farmers would mix *Namukukutukwa*/*Nkili* with eucalyptus leaves, soap, garlic, tobacco and petrol; depending on the type of pest, others would even prefer to make some traps to catch pests.[90].

[90]Interview, Vernonica Cashone, small-scale farmers, 20 December, 2018, Gurué

Veronica explained the techniques used to control the pest. Based on the in-depth interviews one can say that for the application of these techniques small-scale farmers like Veronica do not require to spend financial resources; the all process is organic and they take advantages of the elements offered by the nature, differently from argument made by Uaiene (2011) that it is inevitably for small-scale farmers to use chemicals pesticides to control the pest.

With the presence of NGOs, the techniques described by Veronica and the Provincial Secretary of Peasant Union had intensified and yet a very few small-scale farmers begun to adopt new techniques like chemical fertiliser and pesticides just for cash crops. For ploughing, small-scale farmers would use family labour force or the *namuri* system - a "traditional system based on the traditional kinship and social ties organised for helping each other" (Zamchiya, et al, 2020, p. 1). In the case of fallow land, small-scale farmers used it differently according to their interest or purposes: "The fallow land we would not weed but keep it for pasture and restore manure for soil fertility and other small-scale farmers would not weed in order to generate fertility through tree leaves and bark."[91]. This process was reasonably effective in restoring fertility.

In terms of crops, they would primarily produce depending on agro-ecological conditions, market opportunities and food consumption patterns (respecting the local diet). Therefore, the main food crops grown were cereals (maize, sorghum and pearl millet), root and tuber crops (cassava and sweet potatoes) and grain crops (different types of beans: cowpea, pigeon pea and common beans or pinto beans). It was assessed that many families were self-sufficient in maize, cassava and beans. Eighty percent (80%) of small-scale farmers were maize, cassava and beans producers for household consumption. Depending on the prevailing agricultural undertaking, in most cases they were able to produce for an entire year or at least until the next agricultural season. Secondly, they would produce cash crops such as sesame, cotton, soya, tobacco and vegetables through intercropping methods. The main livestock included cattle, goats and poultry. These accounts agree with Mosca (2017), who argued that before the penetration of mainly agrarian capital in the rural areas, small-scale farmers relied on their production logic, essentially driven by the traditional

[91] Interview, Vernonica Cashone, small-scale farmers, 20 December, 2018, Gurué

system of production. The table below shows the top five most produced crops and production output per agriculture campaign before the arrival of Agromoz.

Table 9

The most produced crops and production output before Agromoz

Type of crops	***Tonnes per household***
maize	5
pigeon pea	3
cotton	5
cowpea	3
soya	4

Source: Author's own construct, based on the household survey data conducted in 4 villages in Gurue.

The table shows the reality of small-scale farmers from Wakua and Escubera villages (displaced small-scale farmers) and, Nankoka and Nakarari villages (non-displaced small-scale farmers). These villages are 100 meters to 5 kilometres away from Agromoz. A survey was administered which showed that before the arrival of Agromoz most communities mainly produced crops that were a part of their local diets (maize, pigeon pea and cowpea) and some cash crops such soya and cotton. Maize and *feijão burrue* (pigeon pea) were the top produced crops. The commercialisation of crops had always been a challenge for small-scale farmers as there was a lack of formal buyers. Farming outputs were sold to the *candongueiros* – informal buyers or middleman. Some small-scale farmers would set up contracts with some agro-dealers or agro-investors operating in the region including Agromoz. However, most small-scale farmers found both arrangements unprofitable as products were sold at cheapest prices, generally set by the buyer. These findings show that before the arrival of Agromoz small-scale farmers had a logic of production that combines dual systems of production – those underpinning production for consumption and for the market using indigenous inputs and rarely appling the so called modern technologies. Now I turn into analysing the dynamics in period after the arrival of Agromoz investment.

6.1.2 After the arrival of investment

After Agromoz established their business in the region, have been some observable changes of farming technologies or inputs of small-scale farmers. For some small-scale farmers, the arrival of the company constituted an opportunity, as they managed to acquire or annex more land, diversify crops, increase productivity through the use of modern technologies and hiring labour and therefore, shift social class from a mere small-scale farmer to emerging farmer or as Bernstein (2010) would rather call them, medium-scale farmers. Nevertheless, for others, the company constituted the demise of their sustainability as their social and economic situation worsened and become more vulnerable. In summary, these changes can be narrowed down into the use of consumable and capital inputs, as described below.

6.1.2.1 ***Use of consumable inputs.*** As defined in Chapter 3, consumable inputs are products or tools used for crop production, namely: seeds, fertiliser, agrochemicals etc. The use of fertiliser, pesticides and improved seeds were regarded as unnecessary for most of small-scale farmers in Gurué as they were producing enough food for household consumption and commercialisation by applying agro-ecological inputs and indigenous techniques, as described in the previous section. However, once some small-scale farmers had been evicted from their ancestral land by Agromoz and consequently forced to confine themselves to small plots of land (generally of 0.5 to 1 hectare), these inputs came to be seen as viable for farming and increased production when producing on small plots. Some small-scale farmers who accessed land through kinship, informal allocation, self-allocation or rental and purchase are using these inputs. However, although small-scale farmers under kinship and informal allocation agree on the potential of these new inputs, they assume they do not have the necessary conditions to acquire them, therefore, they continue using old technologies.

> The price for certified seeds is expensive. I use indigenous seed because I don't have enough money to buy them. I know that they can increase my production but without money to acquire I can only continue using our indigenous seeds.[92].

[92] Interview, Vernonica Cashone, small-scale farmers, 20 December, 2018, Gurué

Veronica's perspective was strengthened by evidence brought by a representative of CLUSA narrated "the certified maize seed cost is around MZN95 (USD1.4) per kilogram and local seed in the local markets is MZN50 (USD0.7) per kilogram[93]. This explains small-scale farmers' preference for indigenous seeds. As explained by Cristiano Taimo, small-scale farmers would rather buy indigenous and remain with some changes than buy certified seeds. Besides, they can always get indigenous seeds for free. As described in the previous sections, saving money is not the only reason why small-scale farmers prefer to use indigenous seeds but as GRAIN (2018) argued indigenous seeds connect people to their tradition, cultural and spirituality.

The connection to the tradition, cultural, spirituality and not less important, the money saving benefit, lead some small-scale farmers to continue keeping seeds through traditional systems and still exchange these seeds amongst themselves. As indicated by Ntauazi (2020), this is an example of small-scale farmers in Nampula affected by the Green Resources company that, instead of using modern farming inputs decided to reuse their traditional system by using preserved local seeds and producing local repellents. Back in Gurué, it was noted that there has not been much change in crops and inputs for some small-scale farmers "they are still using indigenous seeds". This reality is observed in a small number of less than 20% of the small-scale farmers interviewed. Although there have not been changes, there is a growing ambition among evicted small-scale farmers to opt for modern technologies as an alternative to bridge the gap in farming outputs when producing in small farmlands but they are curtailed by financial vulnerability. Contrarily, 73% of small-scale farmers surveyed who accessed land through rental, purchase, kinship, informal and self-allocation have introduced soya beans as a new crop after eviction. The main reason for soya is the availability of markets and its commercial value for family sustainability: "With soya we can sell it and get some money that we can use to sustain our families."[94] According to Rue (2020) small-scale farmers adopt soya bean production as a copy and paste mechanism of what they observe around their village or farmland. This means that, in the study site most small-scale farmers were influenced by Agromoz to produce soya bean. The challenge lies in the size of land, as most of evicted small-scale farmers are producing on less than 2 hectares; consequently, they are curtailed

[93] Interview, Cristiano Taimo, representative of CLUSA in Gurue, 23 December, 2019
[94] Interview, Lucinda Raimundo, small-scale farmer, 26 September, 2019, Gurué

from embedding resilience or coping with shocks to their sustainability and stress. Soya crops in Gurué have been produced since the 90s; it was introduced by non-governmental organisations such as World Vision and others, however, it was accelerated with the arrival of large-scale agricultural investments which provided seed and markets through contractual farming arrangements.

Another group of small-scale farmers consisting of small-scale farmers who have accessed land through purchase, rental and self-allocation, while not less important, they opt for inputs such as improved seeds, fertiliser and pesticides, which are sourced at the nearest shop. These small-scale farmers have been experiencing an increase in production and productivity when applying these inputs over the past five years. This has enabled them to foster their business and improve their living conditions. Although they recognise the viability of these inputs, small-scale farmers criticise the sustainability of the model: "inputs are expensive; in the event of too much rain and less outputs, it is a hurdle to pay back all consumable and capital inputs invested in land."[95] Yet, others weigh up the changes in incomes with the risk associated with the given inputs under their natural and socio-economic circumstances. It should be noted that most of these seeds are imported by agro dealers or some NGOs – For example, maize and cowpea come from Zimbabwe and South Africa. Soya is from Malawi, South Africa and Zimbabwe, while vegetable seeds come from South Africa, Europe and Asia.

As noted in the previous sections, land evictions have generated a shifting of crop production (see the graph below). Some small-scale farmers as referred by Hall (2011) are better off (those who got land through purchase and rental) and managed to acquire more land (despite the eviction) and are doing a 'copy and paste' of company practices, such that they tend to grow the same crops and yet borrow some techniques applied by the company. The majority of these small-scale farmers have received training by the company and have some form of business arrangement with it. "The company is inspiring us to increase our production. They teach us how to farm. If one day the

[95] Interview, Lucinda Raimundo, small-scale farmer, 26 September, 2019, Gurué

company stops its investments, I will be sad."[96] The company provides seeds, fertiliser and pesticides with the agreement to sell or give back seeds to the company and to pay for the fertiliser. The need to use these techniques has contributed to the abandonment of some indigenous techniques such as the field rotation system, which was used to recover soil nutrients.

6.1.2.2 ***Use of capital inputs.*** Capital inputs are also tools and products used for production, which include: tractors, agriculture machinery, agricultural implements and tools, etc. In the past, the use of tractors or other combined capital inputs was reserved for capitalists (companies) and small or emerging bourgeoisie but since 2013 the reality changed in Gurué. There is an exponentially growing number of small-scale farmers who are producing using tractors. Most of them have shifted their farming scales from 2/4 to 6/10 hectares and are becoming emerging farmers. How did they increase their hectares? After eviction, they used off-farming incomes (pension funds as some of the small-scale farmers are freedom fighters and income from small-businesses) to acquire considerable hectares of land (from 6 to 10 hectares) in the emerging informal land market. The group is made up of more affluent farmers and is primarily aimed at producing cash crops such as soya and cotton, using inputs provided by the company or purchased at the nearest shop. None of them own tractors, which means they have to pay for their use. This was well captured in an interview conducted with Rui Nacoma:

> We rent tractors out from the company for ploughing, harrowing and seeding we pay the price of MZN10,000, which is USD150 for 6 to 10 hectares. [97]

In terms of production, some small-scale farmers-maintained production of food for household consumption, but with the rising number of middle scale farmers the production of cash crops is becoming the primary produce, as depicted in table 10. According to SDAE in Gurué, the adaptation to using improved soya bean seed is about 89%, mainly due to its role as an input for industry poultry feed. Analysing household dynamics, most small-scale farmers, especially those who got land through informal allocation and kinship mechanisms, are not self-sufficient.

[96] Interview, Rui Nacoma, small-scale farmers and local leader, 21 December, 2018
[97] Interview, Rui Nacoma, small-scale farmers and local leader, 21 December, 2018

Although most small-scale farmers are intercropping cereals and leguminous plants such as maize growing with cowpea, beans, groundnuts and pigeon pea, it was revealed that diversified production systems tend to be low, with only 40% of households who got land through informal allocation and kinship mechanisms producing more than two crops. Consequently, they are food secure for seven months and half a year for even the poorest small-scale farmers. This is due to the fact that the consumption of staple food like maize and cassava exceed the demand. The table below shows the most produced crops and production output after Agromoz.

Table 10

The most produced crops and production output after Agromoz

Type of crops	**Tonnes per household**
maize	4,1
pigeon pea	2,3
cotton	4
cowpea	1,5
soya	3,57

The table 10 shows the reality of small-scale farmers from Wakua and Escubera villages (displaced small-scale farmers) and Nankoka and Nakarari villages (non-displaced small-scale farmers). A survey administrated shows that after the arrival of Agromoz most small-scale farmers-maintained production of the same crops as used before the arrival of Agromoz, as depicted in table 11. However, 83% of the displaced small-scale farmers interviewed have reduced the size of cropland and due to the use of poor farming inputs, have significantly reduced their output. Crop commercialisation has worsened due to the shortage of buyers and a dependency on *candongueiros* (informal buyers or middleman) prevail. This former aspect is a result of bad road infrastructure conditions that force many buyers to drive long distances and the fact that some small-scale farmers are dwelling and practicing agricultural activities in the mountainous or deepest wild areas without road access. During the first two years of Agromoz' arrival, some small-scale farmers had established contracts with the company. However, due to several failings in fulfilling the contract this practice has stopped. The Director of Agromoz during the time of this research said:

> We had a contract with 30 small-scale farmers in our first two years, but they were not fulfilling their contracts. They were selling the crops to other buyers. There are so many buyers who pass along the strait, some are coming from Maputo and other Nampula. There are a lot of Indians … you can't compete with them. They offer good prices for small-scale famers. So, all of our contracted farmers were no longer selling to us but to these informal buyers.[98]

The above quote illustrates that although the existence of formal arrangement between community and the company investing in a certain community contract farming is not always advantageous and fair for small-scale famers as painted by Cochet, (2018). The effects for poverty reduction may not be visible (Uaiene, 2011). The table bellow compares the changes in crops among displaced households.

Table 11

Comparison of the changes in crops among displaced households

Crops	***Non-displaced small-scale farmers (ton)***	***Displaced small-scale farmers (ton)***
maize	6	4
pigeon pea	2.5	2.5
cotton	4.5	3.5
cowpea	3	1
soya beans	4.4	2.25

General analysis indicates that after the arrival of investors, displaced small-scale farmers reduced their crops and consequently their outputs. However, when analysing individual units one can draw two conclusions. On one hand, some displaced small-scale farmers like *those who later on got land through kinship* are stuck in poverty with less subsistence alternatives. These small-scale farmers, as Nova et al. (2019) argued, are marginalised from the productive social layer. Sixty-four percent (64%) of the households which have lost their farms used to farm in the second agricultural season. Now they simply rely on the single season – dry-land through rain-fed season.

[98] Interview, Adrende Luft, Director of Agromoz, 23 September, 2019, Gurué

The second agricultural season refers to production which takes place on the smaller plots. Small-scale farmers produce varied crops such as maize, beans and vegetables. This is generally used to acquire food to cope in times of stress or low output from dry-land production. For example, as Zamchya, et al. explain:

> The last season (2019-2020 agricultural season) was not good for most of the small-scale farmers in Gurué since there have been excessive rains, which affected the yields. Consequently, most families will be starving by January and February 2021. Their hope is on the second farming season as they can produce some of the staple crops. This means that it is a must to go with all measures that would maximise food production in the coming season. To make matters worse, not all small-scale farmers hold suitable land for the second season as some had been evicted by agribusiness capitalist companies, such as Agromoz. Those who have access to some land hold very dry land. (Zamchya, et al., 2020, p.1)

On the other hand, some displaced small-scale farmers have done well after the displacement especially the *vientes* (few) *self-allocation*. This group has increased their cropland and output. The next table summarises the main changes among displaced small-scale farmers after investment in the study area. It provides two typologies: typology A and B. Typology A comprises *kinship* and *vientes*. Typology B comprises the *vientes* (few) *self-allocation*. In both typologies, the table indicates changes that have occurred in the size of land, type of crops, market and inputs like pesticides or fertiliser.

Table 12

Summary of the main changes in inputs and technology among displaced small-scale farmers after the arrival of agricultural investment.

	Typology A: *kinship, vientes* and *informal allocation*	**Typology B**: the *vientes* (few) and *self-allocation*
Size	Subsistence small-scale farmers producing on 0.5 - 1 hectare; working alone or with a family member	Emerging small-scale farmers working on more than 1 hectare with 2 or more workers/using tractors
Market	Locally/village	Village/town/other places
Crops	Indigenous crops: maize, common beans, cowpea, sorghum and pigeon pea	Hybrid/improved maize, soya and common beans, cowpea and sorghum.
Pesticide/Fertiliser	None but they want to use modern technology as they believe it may increase outputs	NPK etc

The changes in inputs, technologies and crop production that are taking place in Gurué were explained by Mosca (2017), and Cáceres and Gras (2019) who argued that existing initiatives for the development of agricultural in poor countries are embedded in the context of a modernisation paradigm, which essentially intensifies penetration of capital, undermining traditional production systems developed locally. On the other hand, Cáceres and Gras (2019) argue that they were introduced to resolve the problems of pests and to increase production and productivity. Findings from this research indicate that these changes cannot be solely attributed to the capital. The local government, through central programmes such as the Sustenta and *Fome Zero* programmes, international development agencies and NGOs through time-bound programmes and projects, are providing new technologies to small-scale farmers. Moreover, as stated by the Director of SDAE,

"one of the priorities of the government is to mechanise agriculture and turn small-scale farmers into commercial agents by applying the agribusiness model"[99].

The use of new inputs as a consequence of Agromoz's presence has contributed to differentiated outcomes. Some literatures (Uaiene, 2011) argues that ideally a small-scale farmer in a village observes the behaviour of large-scale farmer, including their experimentation with new technologies and copies and incorporate in their production system, through 'technology transfer'. In another development, Fan and Rute, (2020) based in their research findings in Ethiopia argued that the arrival of investments and the turning of small-scale farmers into commercial farmers should not be translated into a pathway for the development. The authors gave examples of a rural area in Ethiopia where small-scale farmers who turned commercial continued to be stuck in a poverty. Market-orientation does not equate with poverty reduction. This coheres with the argument that in Gurué small-scale farmers benefited differently. In this part of the country Agromoz has poor effects on the reduction of poverty levels.

The prevailing question with regard to these technologies or inputs concerns not the productivity capacity but the sustainability for the largely poor small-scale farmers in Mozambique. Therefore, the next chapters discuss livelihood capability and labour relations.

[99] Interview, Jose Macuinja, Director of Gurué District Economic Activities Services, 4th July 2019, Gurué.

Chapter 7: LABOUR DYNAMICS, RELATIONS AND RURAL LIVELIHOODS IN GURUÉ

This chapter argues that changes in production systems have been accelerated with the arrival of Agromoz in the region. However, these changes have had differentiated effects on small-scale farmers, such that, depending on the capacity and capability of each small-scale farmer, some have managed to generate livelihood assets, including human assets (labour), but to the contrary, others have experienced a crisis in terms of livelihood assets, including a reduction in available labour. In general, livelihood assets, labour trajectories and relations were reconfigured. These arguments were developed to answer the guiding question of this chapter, 'how do large-scale agricultural investments affect labour and livelihood trajectories? And what are the likely impacts for small-scale farmers?' Thus, the chapter starts with the analysis on the labour dynamics and relations and it goes on analysing the configuration of rural livelihoods and the impact on different rural livelihood assets with focus on the natural capital assets, financial capital assets and social capital assets.

7.1 Labour Dynamics and Relations

Farmers are involved in three labour regimes in Gurué, namely the household/family labour power (father, mother and children), the hired labour force and the *namuri* system. The latter is composed of extended family members (not from the same bloodline) and neighbours or friends. Lucinda Antonio, explained what the *namuri* system is:

> *Namuri* is a local method which consist on helping one another. A group of people – which could be members of the same family, relatives or neighbours – would organise themselves into a group and would help with the cropping of each other's plots. After having finished in one plot, then the members go to another member's plot…it goes like that until all members are helped. This is also applied for harvesting.[100]

[100] Interview, Lucinda Antonio, small-scale farmer, 09 April, 2020, Gurué

The use of *namuri* system shows that small-scale farmers have their own mechanism to generate labour. This method (*namuri*) helps to save time and makes it easier for the entire farmland to be worked quickly. The *namuri* system, which was practiced by all small-scale farmers before, is now rarely practiced by those who have acquired land through rental, informal allocation, labour tenancy and kinship and also the small-scale farmers who have been indirectly affected by Agromoz.

The small-scale farmers who work in the company (the wage labours) do not find it necessary to apply it for just small hectares (0.5/1ha). Some small-scale farmers who acquired land through self-allocation and some who bought land, rather hire labour, consumables and capital inputs to work quickly on the entire farmland and ensure production and productivity.

7.1.1 The hired labourers

One of the arguments for the establishment of a company such as Agromoz is that it creates jobs, especially for local small-scale farmers in nearby villages (Machimu, 2020; Smart & Hanlon, 2014b). Indeed, the company has employed 169 permanent employees and 50-80 seasonal employees[101]. Some of these employees are from the villages around the company (where the company has acquired land) – small-scale farmers whose land is now occupied by Agromoz. The prevailing concern is about who benefits from these jobs provided by the company. Most small-scale farmers interviewed claimed that foreigners (people from other villages or provinces) are the ones taking up the good job positions (leadership roles or positions of management) at the company. During a focus group discussion carried out with the directly- and indirectly-affected communities, a small-scale farmers voiced the following and others agreed:

> The company does not employ local people. It does employ people from other regions or villages. For example, there are people from Ruace, Gurué town, Mutuali, and Nampula city, etc.[102]

[101] Interview, Director of Agromoz, small-scale farmer, 27 September, 2019
[102] Interview, Matias Alfredo, small-scale farmer, 25 September, 2019, Gurué

The above quote by Alfredo reveals that employment of local people is the one of the primary advantages of an investor. This contracts with Gyapong, (2020) who argue that the investments can create employment outside the agriculture through sectoral linkage. The company, on one hand, justify their attitude by claiming that there is a lack of skilled people in the villages, on the other hand, it claims it experiences bad behaviour from local people – they are mostly involved in theft. An employee from Ruace confirmed the fact that many labourers were not from the company, "I come from Ruace, I am working as supervisor. In fact, here the foreigners are in the majority and permanently employed people and hold higher positions than the local people. The Boss says that the locals are thieves and not good workers, thus they are in low positions"[103]. The survey indicated that 16% had secured jobs at the company, however, out of this number, 73% of those surveyed had only been seasonally hired.

When observing the reality of the people who have been affected by the company and later on hired to work for the company, it became clear that in many cases a single employee in Gurué is the sole earner in a family with an average household size of 5 members. The minimum wage earned by most permanent employees is around MZN3000, approximately $50 per month. As one respondent said in a group discussion, "This a starvation wage for a father who largely depends on the job to source livelihoods as the money is not enough to allocate for food and other domestic expenses"[104]. Evidence generated from the survey indicate that 78% of the affected people who have been employed by Agromoz skip meals because they do not earn enough to buy food throughout the year and they lack enough land to produce food. This contradicts the findings of Smart & Hanlon (2014) who argue that small-scale farmers employed in the company are likely to diversify sources of livelihoods. It also contradicts the findings of Matenga and Hichaambwa (2017) who argued that small-scale farmers employed at the Zambia Sugar company were more food secure than the unemployed. The differentiated findings between Mozambique and Zambezia prove existing differentiated impacts and outcomes of investments in different geographical contexts.

[103] Interview, Matias Alfredo, small-scale farmer, 25 September, 2019, Gurué
[104] Focus group discussion, Joao Cuamba, 18 December 2019, Gurué

Though these employees recognise some improvements made by the company regarding their contracts (every permanent employee has a contract), there is a need to improve the working conditions (there is no working equipment and a need to improve the minimum wage), as pointed out during a focus group discussion involving indirectly-affected small-scale farmers:

> We work more than 8 hours per day, five days per week and we are free on Saturday and Sundays. We can also be free when are sick but apart from this reason we are not allowed to stay home otherwise we will be paid less or expelled from the labour post.[105]

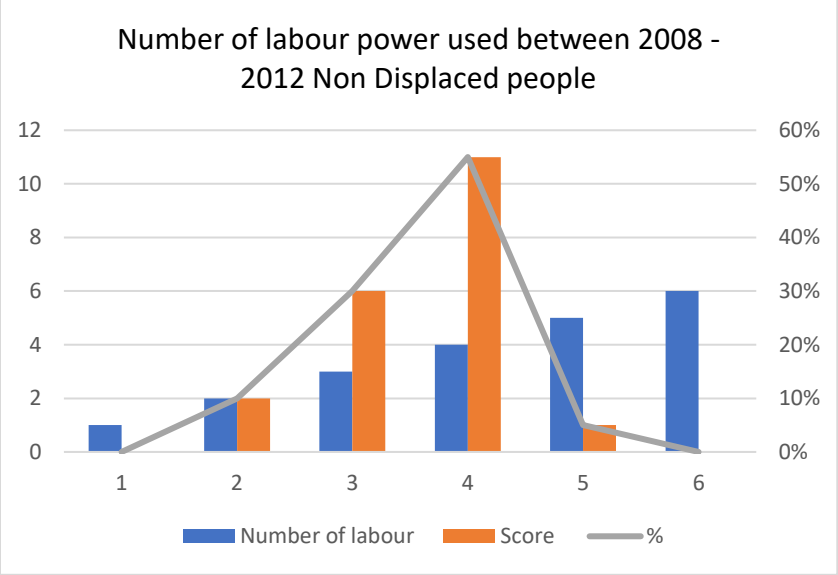
The above quote by Simao confirms Gyapong's (2020) argument on the capacity of the large-scale agricultural investments to create employment, however, the evidence from Gurué showed that not all the investments embrace the human principles. In other words, local people are used as human machines in the service of or by the Agromoz (international capital) to generate profits.

The company is promoting outgrower schemes with 30 small-scale farmers outside of direct employment. The company provide seeds on loan and the small-scale farmers give back twice the amount. If the company ploughs the field, then the small-scale farmers pay MZN250 (USD3) per hectare. For the company, the outgrower scheme was a way out to deal with theft and expand employment schemes. This agrees with Machimu's (2020), findings in Tanzania where a sugar cane company generated 66.3% of Tanzania's direct and indirect labour.

7.1.2 Household labour power

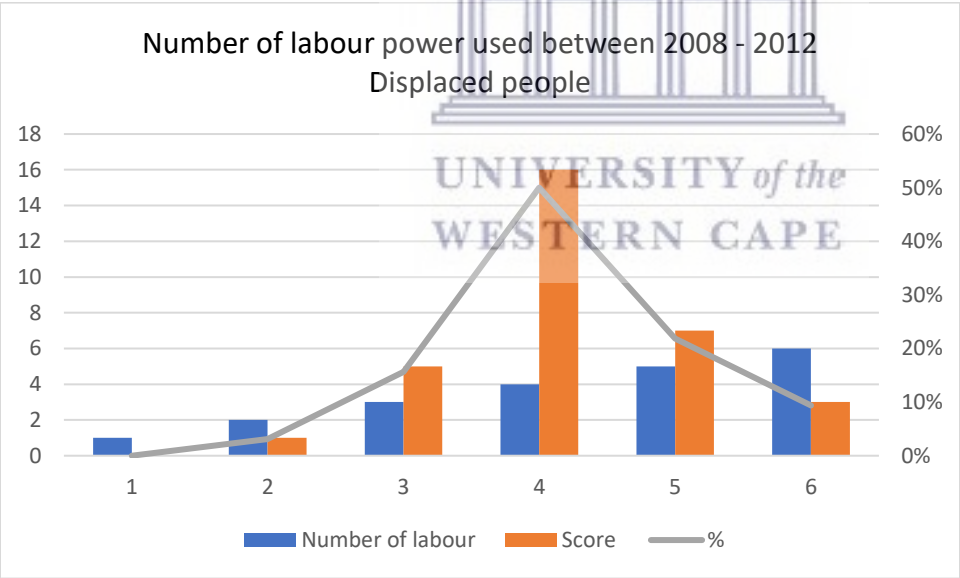
Household labour is another social segment that has been affected by the displacement induced by Agromoz in Gurué. However, similar to land, farming inputs, technologies and livelihood assets, labour was also found to not be affected homogenously – it depended on the spectrum of mechanisms of land access (kinship, self-allocation, informal allocation, labour tenancy purchase and rental) applied after being displaced. Based on the survey administrated in four villages to displaced and non-displaced people, 52 samples were computed from 20 non-displaced villages and 32 displaced villages. The graph below provides a snapshot of the changes in household labour power before and after the arrival of Agromoz.

[105] Focus group discussion, Simão Domingos, 25 September, 2019, Gurué



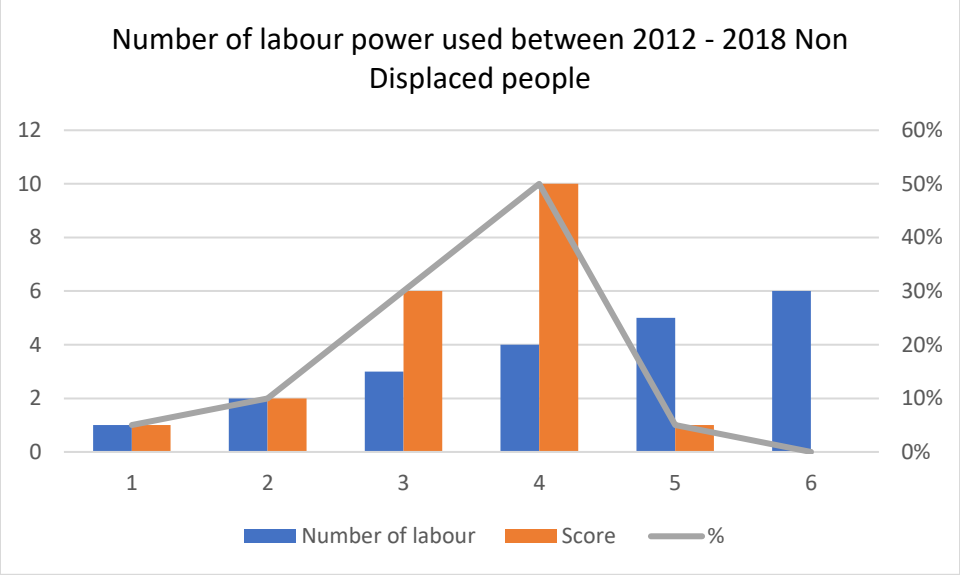
Graph 6: Amount of labour power used between 2008 - 2012 Non-displaced people

This graph shows that before Agromoz started operating in the region, the majority (55%) of non-displaced small-scale farmers relied on household labour which was composed of 4 members at least.



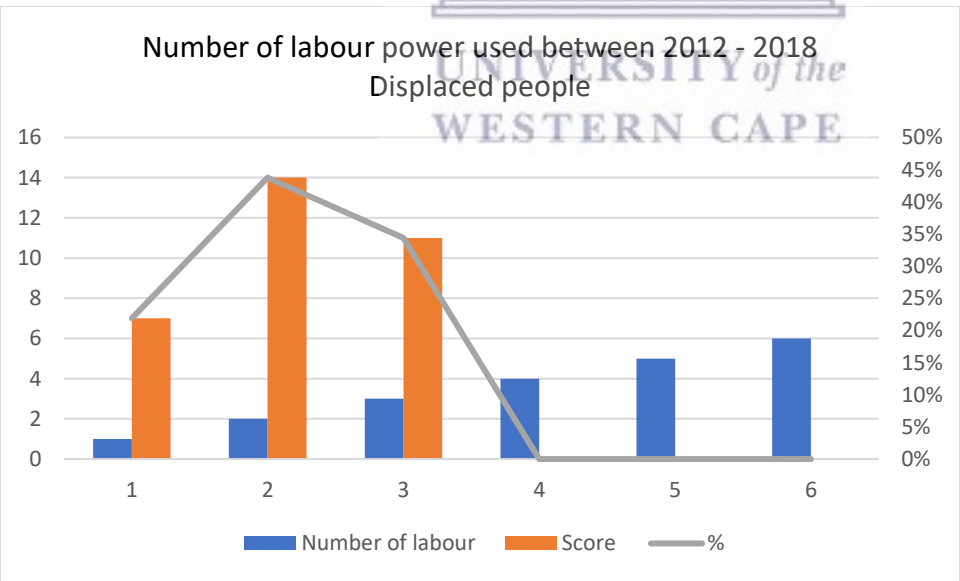
Graph 7: Amount of labour power used between 2008 - 2012 Displaced people

This graph shows that before Agromoz started operating in the region, the majority (50%) of displaced small-scale farmers relied on household labour which was composed of 4 members at least.



Graph 8: Amount of labour power used between 2012 - 2018 Non-displaced people

This graph shows that after Agromoz started operating in the region, the majority (50%) of non-displaced small-scale farmers relied on household labour which was composed of at least 4 members. This means that for this group of small-scale farmers, the amount of labour power before and after the investments was maintained.



Graph 9: Amount of labour power used between 2012 - 2018 Displaced people

This graph shows that after Agromoz started operating in the region, the majority (44%) of displaced small-scale farmers relied on household labour which was composed of at least 2 members. However, 34% use 3 persons for labour power and 22% use 1 person for labour power for faming activities. This means that for this group of small-scale farmers, the amount of labour power reduced significantly from 4 persons per household to 2. There are many reasons for the reduction of labour power.

During a life story account, a small-scale farmer explained the marital and home situation that justified the reduction of household labour power. We were two here who were farming in the crop land, but since we were suffering my son moved to Lichinga. Now it is just me who farms on this land."[106] Another small-scale farmer shared her story: "Here I live with my 10-year-old son. He helps me farming. My husband comes over the weekend but not always. He is working in Lioma Administrative Post as security guard"[107]. Nevertheless, another small-scale farmer shared that "I only have sons, no girl. My family's labour power has decreased recently because my son grew up and got married. By tradition they don't stay here. It looks like that in the next year it is going to be just me and my wife. At the moment I will have to hire people to work on my farmland because we are old."[108]

As can be seen from the above evidence, Agromoz has contributed to the reduction of household labour, however, there were also social practices that, apart from Agromoz, contributed to the reduction of household labour power among the affected- and non-affected small-scale farmers. The reduction of labour power has impacted small-scale farmers differently, in that some *vientes* and those who got land through self-allocation and even those through kinship mechanisms, were able to recover the labour power gap through social relations and practices which Bernstein (2010) coined as strategy for social reproduction or simply as argued under this research a livelihoods recovery strategy. Some could hire labour and others could ask for favours or for help from a family member to support them farming on their cropland. These dyanamics and transformations have contributed to the reconfiguration of people's livelihoods as decribed in the next section.

[106] Interview, Gina Alberto, small-scale farmer, 21 December, Gurue
[107] Interview, Angela Torieque, small-scale farmer, 21 December, Gurue
[108] Interview, Mario Mahomed, small-scale farmer, 22 December, 2018

7.2 Configuration of Rural Livelihoods

Livelihoods, as it was defined in the theoretical framework, comprise people, their capabilities and their means of living, including food, income and assets (Scoones, 2015). In other words, people survive by using their capabilities to make productive use of their assets, which are both tangible (resources and stores) and intangible (claims and access) (Quansah, et al. 2020).

Researchers Bruna (2019), Scoones (2015), Neves (2017), Zamchiya (2019), Kaarhus (200) and Quansha et al. (2020), all reveal that households in the rural areas sustain themselves through diverse combinations of wage earnings and remittances such as receipt of social (welfare) grants, agricultural production (often small-scale) and various other informal economic activities. In other words, rural household livelihood patterns are generated through diversification of activities or strategies. For instance, 98.5% of the small-scale farmers interviewed in the study areas were found to be dependent on agriculture-related activities to generate livelihoods like farming on the homestead's land, fishing (in the river) and collecting fruits or being engaged in green entrepreneurship, etc. However, 1.5% combined farming and off-farming sources to generate livelihoods – there are no small-scale farmers who merely depend on off-farming sources to generate livelihoods. The diversified patterns of livelihoods in rural areas reflect or reinforce material differences between households. This, as argued by Hall et al. (2015a) and Naves (2017), is evidenced in the emergence of rural differentiation.

The arrival of Agromoz changed rural livelihood assets, such that Agromoz rarely adhered to and considered the traditional land tenure systems and engaged people of host villages satisfactory. In view of that, affected villages generally reduced or aspired both to maintain and to advance livelihoods assets. In trying to advancing their welfare, some small-scale farmers attempted to expand their activities and or move into new activities.

As it was discussed in the fifth chapter, as result of the large-scale agricultural investments in Gurué district, small-scale farmers acquired land through different mechanisms. In order to grasp changes in the livelihoods of small-scale farmers it might be useful to conduct an analysis based on the range of strategies and responses combined within the household in order to address their challenges or to generate livelihoods.

Most of the *vientes*, particularly those who acquired land through informal allocation and labour tenancy, after displacement, engaged in food production using an intercropping model. Additionally, they rely on the remittance received from their relatives from urban centres.

> Because our land is too small, we grow all crops together. But there are other crops that cannot be in cropped like soya and maize. If someone grows soya and maize together, the soya won't be productive. You will end up having only a little soya because maize can kill it. [109]

The same small-scale farmer added,

> This year I started producing cotton. I didn't have space here before to produce cotton. So I asked people to cut down trees in 0.5 hectares of my 1 hectare. Now I have 0.5 for maize and 0.5 for cotton. I am producing cotton but I would like soya because I want to increase the production.

Another small-scale farmer spoke of the need for remittances: "Our production here is not enough. Since my cropland is small, I mostly succeed to produce for consumption and maybe sell a little to buy soap. But for doing big things such as buying clothes or sending these children to school, I ask my son who lives in Lichinga city. He sends me money sometimes"[110].

Both strategies above described enabled these small-scale farmers to have access to food or self-consumption and meet basic needs. Although it might be true as argued by Deininger and Xia (2016), Machimu (2020, and Manuel et al. (2021), that in the context of large-scale agricultural investments, small-scale farmers take advantage of the opportunities to change their livelihood sources. In the case of the small-scale farmers who acquired land through informal allocation and labour tenancy, as described above it appears that they have adopted alternative ways to ensure household food consumption in the context of limited access to land and lack of economic opportunities to diversify their livelihood sources. This means that these small-scale farmers have limited sources of livelihoods, therefore, their main concerns are to maintain their livelihood level,

[109] Interview, Lucia Nassongle, small-scale famer 21 December 2018
[110] Interview, Gina Alberto, small-scale farmer 21 December 2018

which means that they are more or less subjected to long-term reliance on subsistence agricultural efforts and remittances.

Relatively speaking, some small-scale farmers who acquired land through purchase and rental or even self-allocation were able to secure enough land to allow them to invest in commercial crops such as soya beans and cotton and use the profits to expand their income-generating activities and expand their business.

> I generate income through agricultural activities and a salary. I have 8 hectares. I produce cash and food crops. With my salary I am able to expand my production and buy all required farming inputs including renting a tractor. With the money from my agricultural activities, for example for one crop I got in last season, I opened up a business. I have a small grocery store along the street.[111]

Figure 12: Mr. Jose Domingos' pigs which he keeps for consumption and for selling.

[111] Jose Domingos, small-scale farmer, 20 December, 2018

Some of these small-scale farmers are retired or were freedom fighters (they receive a pension from the government), thus they are expanding their production and can continue investing in cash crops. While in Gurué small-scale farmers directly affected by Agromoz have the capacity to expand production and rent tractors and other farming inputs. In the same region, some indirectly-affected farmers have received tractors from NGOs and the government. They also have the capacity to buy other farming capital (such as farming implements) and are becoming medium scale farmers as they apply efficient technology when increasing their land size. An example of this is Raimundo, a medium scale farmer in Tete village in Gurué who received a tractor from the CLUSA project in 2015. Another example is Muquesse, a businessman and medium scale farmer in Mutuali village who received a tractor from the Sustenta programme. These farmers, differently from the previous group of small-scale farmers, are more likely to enjoy the benefits of investments and are referred to by a number of scholars such as Scoones (2015), Sulle (2017) and Neves (2017), as being better off and having the capacity to easily incorporate new production patterns, invest in new business and diversify their livelihood sources even more.

Figure 13: Mr. Raimundo's tractor

The small-scale farmers who are working in the company obtained their jobs as compensation for being evicted from their land. These small-scale farmers were left with no farmland except the small piece of land around their household. The wage earned at the company appears to be insufficient to maintain livelihoods for a greater number of household members (5 members). Some (few) newcomers were given a small plot (less than 0.5 to 1 hectare) which generates low output. These realities curtail these small-scale farmers' efforts to maintain their level of livelihoods, expand production or invest in a particular business in any way. These people are more likely to be mired in poverty.

During the research it was recorded that a very few small-scale farmers had an opportunity to invest in off-farming activities. These were members of households who acquired land through

kinship and informal allocation, as testified by Gina Alberto who obtained land through informal allocation in Morale village under the Wakua chiefdom: "After we were displaced we have since been suffering here; he did some *ganho-ganho* in 2013. He got some money, he went to Lichinga where my brother lives. There, he is studying and doing business. This is how he manages to send money to me". Gina's son who formerly was engaged in crop farming, is now focused on accumulating financial assets (money) and investing in long-term employment in the city. This is also related to other cases where in a household, a husband goes to the city in Lioma or Gurué to work as a security guard while the wife deals with agricultural activities. These strategies show a combination of household patterns to generate livelihoods. The existing differentiation in terms of livelihood sources makes it clear that small-scale farmers have different capacities to respond and to deal with stresses or generate livelihoods.

Having discussed livelihood outcomes based on the range of strategies and responses combined within a household, it is now is important to analyse the impacts on different rural livelihood assets developed by Scoones (2015).

7.3 Impacts on the Different Rural Livelihood Assets

The key argument in this section is that the Agromoz investments in Gurué have impacted small-scale farmers differently. This can be evidenced in the related impacts of Agromoz investments on different livelihood assets (natural capital, financial assets, physical capital assets and social interests), as discussed below. The human asset is developed further down in the labour dynamics and relations section.

7.3.1 Natural capital assets

Natural capital consists of land, water, and biological resources such as trees, pasture and wildlife, as well as environmental services such as hydrological cycles and pollution sinks (Dubb et al., 2017; Muntrakis, 2014; Woodhouse, 2010; Quansah et al., 2020). These indicators dispose a considerable contribution towards household livelihoods (Quansah et al., 2020 and Scoones, 2015). As developed in the second chapter of this research, Agromoz has occupied land formerly used by local small-scale farmers. The survey indicates that most small-scale farmers' households report losing farmlands to Agromoz and consequently, 98% of them reported to having

experienced higher negative effects than households that did not lose farmlands. These dynamics have affected households' livelihoods especially, because there are some evicted small-scale farmers who were not compensated for the loss of their farmlands – 68% of the small-scale farmers' households have an increased distance to reach their farmlands, the other 48% reported having social unrest among village members around quality and farmland size.

Small-scale farmers' villages in Gurué use biological resources such forest-based energy sources like firewood for cooking and trees and plants for different utilities. When Agromoz occupied land from local small-scale farmers, over 1000 small-scale farmers' households were banned from felling trees for firewood for domestic cooking on such acquired land. Moreover, they were curtailed from accessing the area to extract timber, medicine plants and bamboo for housing. In the group discussion with those displaced by Agromoz, one of the respondents recounted their plight as others agreed:

> 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 was cleared by the company and our children have fever problems. We also lose our nearest source of bamboo for housing and handcraft, plants to extract rope … now we extract this material from very far away.[112]

Having been prevented from extracting timber, medicinal plants and other natural resources, these elements are now being extracted from 15km to 20km away and the gatherers are subjected to having to climb mountains. The evicted small-scale farmers have reported that they had fruits on their former land but on their new land, since it is very small, they are afraid they will not have sufficient food if they can't grow fruit trees.

> We lost access to bananas, mango and avocado trees that grew on our former land. Here we don't know if we grow a mango tree so we can harvest good food.[113].

[112] Focus group discussion, Alberto Jackson, a displaced small-scale farmer, 18 December, 2018
[113] Focus group discuss, Lucia Nassongle, a displaced small-scale farmer, 18 December, 2018

Agromoz is slowly introducing conventional ways of cultivating in the affected villages. For instance, local small-scale farmers are encouraged by the company to opt for commercial crops and use capital technologies, thereby contradicting earlier agricultural scenes dominated by smallholders farming using crop rotation and cultivation without industrial herbicides, pesticides and fertilisers. This encouragement is regarded by the company as a symbolic contribution in knowledge to small-scale farmers, as according to Agromoz, "Small-scale farmers use rudimentary techniques, which results in low production and productivity; by teaching them how and what to produce we are contributing to their food security"[114]. In other words, small-scale farmers (especially those who have been evicted and still receive inputs from the company or those farming nearby or around the company) are now being pushed to use chemical additives. Beneficiary small-scale farmers understand that the support given by the company regarding chemical inputs is intended to increase production and productivity, especially because after displacement there is less land (small-scale farmers produce on a small plot of less than 0.5 to 1 hectare maximum) and crop rotation or fallow land practices are not possible. Other small-scale farmers understand the support to be a strategy of the company to keep them more dependent to the company in order to facilitate the extension of the company's DUAT: "They will take our land; they will promise to find us new farmlands and to support us as they do now" – this was voiced by a small-scale farmer woman in Wakua village. Small-scale farmers fear having to face new land evictions because they do not hold DUATs and the customary tenure has proved to be unsafe.

As small-scale farmers are exhorted to use commercial inputs, it is critical to ask about the outcomes of using these inputs. Key informants argued that there are negative effects associated with the use of herbicides, pesticides and fertilisers: "These chemical products will lead to less fertile soil, which affects our ability to access natural capital assets, and it thereby decreases other capital assets such as finances because there is less income from cultivation."[115] Apart from that, attendees of focus group discussion added that the aerial spraying used by Agromoz directly affects small-scale farmers' ability to access foods as their crops become destroyed by the spray. "The company compensated us with 100kg and 200kg of rice and flour per family (averaged by 5

[114] Interview, Director of Agromoz, 27 September, 2019
[115] Interview, key informant Luis Muchanga, Executive Coordinator of UNAC, 12 September 2019

members per household).” Although the company compensated them for the destroyed crops they did not ensure the right to food, food security and nutrition because the food was consumed throughout the year. It is also seen in a number of studies by Muntrakis, (2014), Quansah et al. (2020) and FAO (2017), that using fertiliser and other combined chemicals may lead to overcropping and strengthen other assets like financial and physical assets; however, the effects may not be seen immediately but after a longer time has elapsed it may be seen that this may sacrifice the land quality – land may become unproductive. However, this study found out that use of these technological packages with adequate knowledge about how to use them can be an alternative to improve production and prosper livelihood assets. However, there remains the question of these technologies’ sustainability.

Figure 14: The proximity of Agromoz farmland to household farmland. On the left is Agromoz land while on the right is household farmland.

As regards the water sources, it seems that all the affected villages are still collecting and using water from the natural sources as they were before the arrival of the company in the region. However, the prevailing questions concern the quality and quantity of water available after the

arrival of the investments. Not least, water sources have become some distance away for some households after they were evicted, as was recounted in the focus group discussion:

> In the past (before Agromoz) we could take less than 30 minutes to reach the nearest river or stream, now we spend over 30 minutes because some of us have to go around the company's fence, avoiding being assaulted or bitten by security personal [and their dogs] if passing through the company's property (which is a shorter way).[116]

Analytically, land, forests and water are the main resources available to farming households in the villages of the Gurue district. Losing the right to access these natural resources to private commercial investors like Agromoz is synonymous with losing entitlement to, control of and benefits derived from these resources, thereby rendering farming households' livelihoods more precarious and unsustainable.

7.3.2 Financial capital assets

Financial assets consist of stocks of money or other savings in liquid form. In this sense, it not only includes financial assets such as pension rights, but should also include easily-disposable assets such as livestock, which may then be considered to be natural capital (Woodhouse, 2000; Scoones, 2015). Before the arrival of Agromoz, small-scale farmers were engaged in multiple income-generating activities such as apiculture (beekeeping), tailoring or cutting and sewing and they were engaged in small business – some small-scale farmers' households made bricks from mud, yet others would process domestic animal or livestock like pigs and goats or hunted animals and yet others would produce charcoal, harvest farming goods and sell in the village and in town. Other households with members working in the other villages/towns may have received money to support themselves. During this period, financial livelihood assets were generated through agricultural and non-agricultural sources.

[116] Focus group discussion, Maria Joao, small-scale farmer, 18 December, 2018, Gurué

After Agromoz' investments, some small-scale farmers could no longer employ these income-generating mechanisms. Although some sources such as commercialisation of firewood and fish (caught in the local river) have not been severely affected, most households reported suffering a financial crisis. Alberto Jackson is among the displaced small-scale farmers who claim to be having a financial crisis:

> It is very difficult for me to have money now. When I was living in Wakua I was tailoring and I had many clients but here I don't have many. I can even go a day without one client. My former clients can't reach me out here because they are staying far away now.[117]

These accounts show that with the arrival of Agromoz, financial livelihoods assets were reconfigured in Gurué, such that some households remain with few options to acquire these assets. However, some have opted to selling their labour to the company or doing *ganho-ganho* (daily wage work) in addition to selling firewood and agricultural produce. Since the nature of employment is seasonal and precarious (described by interviewees), most interviewees claimed to be paid lower than the minimum wage (much lower than the living wage).

Said one of the interviewees, "I work at Agromoz and I earn MZN3000 (USD46). This money is not enough because I depend on this money for daily living". However, Agromoz argued that the workers are paid a minimum wage because they are not qualified. "We pay minimum wage for agriculture, which is about USD100 per month or something like that. It depends on their skills but around this area most of people don't have any educational level and skill is very limited."[118]

Analytically, small-scale farmers in Gurué are not merely dependent on agriculture to obtain financial assets, therefore, it is important to support the villages who have lost land rights (evicted villages) with income-generating activities like rural financial services (saving and loan groups, etc.) to cope with the ongoing households' financial crisis.

[117] Interview, Alberto Jackson, small-scale farmer, 20 December 2018, Gurué
[118] Interview, Director of Agromoz, 27 September, 2019, Gurué

7.4 Physical capital assets

Physical capital assets refer to a household's basic needs and access to basic physical resources, including basic infrastructures (water, sanitation, energy/power, transport and communication), housing and the means and equipment of production. The visible physical capital assets in the study areas are related to the transportation network. Road infrastructures are great challenge in rural areas. Virtually all the small-scale farmers complained about the road conditions, which are unsafe and broken. "The roads are narrow, unpaved and full of puddles, which makes passing difficult. In the rainy season, it is almost impossible to drive or circle through"[119]. Some small-scale farmers attributed one of the reasons the main road is full of puddles to the arrival of Agromoz. "The company uses the same road to transport produce for commercialisation, therefore, the frequency with which heavy-loaded lorries from the company pass over the unpaved road is the reason that the road is in a state of degradation"[120]. Agromoz declared that, "The company has no intention to build or rehabilitate the road, as it is the government's responsibility."[121] The company opened narrow pathways along the company's estate to ease production operations and movement of labour when they are wanting to reaching different production blocks or sections, however, local small-scale farmers living nearby the company regard these pathways as safe because they are wide open and therefore, they use these them to reach neighbouring villages or their farmlands. During harvest time, the company does not allow villages to use these pathways because the company fears that small-scale farmers may steal part of the company's produce to address household dietary needs.

Despite the road challenges described above, small-scale farmers living along or nearby the road still use the same road to transport their produce by motorbike or bicycle to sell at either Gurué headquarters or at Mutuali in Nampula province. However, this situation cannot be applied to small-scale farmers who were evicted and have migrated to find new land or farmlands (the *vientes* and explorors). For these small-scale farmers, a road is regarded as a lost physical asset – they live and farm far away from where basic needs are exposed, not least, the road network is not only affecting small-scale farmers but also the company. Sometimes it is not possible for the buyers to

[119] Interview, Director of Agromoz, 27 September 2018, Gurué
[120] Interview, Dionisio Mapoteia, small-scale farmer, 20 December, 2018, Gurué
[121] Interview, Director of Agromoz, 20 December, 2018, Gurué

access the company and if the road continues to be in the current condition, the company may lose business and end up losing revenue. The small-scale farmers will lose business opportunities as there might be fewer buyers in the villages or they may not be able to go to Gurue, Lioma or Mutuali (where most produce is sold).

7.4.1 Social capital assets

Social capital assets refer to the demographic characteristics and network or relations of farming households with each other. If one observes the reality before and after the arrival of the investor, it would appear that household sizes have changed – some household members migrated to other regions like Mutuali and Malema or a city like Gurue or Quelimane, Cumba and Nampula to source financial assets or even natural capital assets. Agromoz has caused a disruption of the social setting in the villages. The villages in the study areas are matrilineal. When land was taken from local people, they activated survival mechanisms – the traditional systems employed in the village were undermined. This is evident in the fact that most of the evicted small-scale farmers are no longer dwelling where, per tradition, the woman (wife) holds the rights to land but have had to move to where the man (husband) does. An example of this is Mario Jose who, among other small-scale farmers, went back to his family: "I was living on my wife's land because this is our tradition but then after displacement I and my spouse had to go back to my parents' land."[122]

In the focus group discussion among the displaced small-scale farmers, it was pointed out that the relationship between the company and the villages is characterised by disagreements, divisions among village members and conflict with the company. Village members are dissatisfied with the kind of working contracts arranged by the company with the village members – the contracts are seasonal and most of the small-scale farmers want it to be permanent, especially because they have less land for cropping. Another concern is related to the low paid wage – this has been developed in the previous section under this chapter.

The divisive perspective among small-scale farmers about the company is explained by the fact that small-scale farmers are engaged in survivalist pathways, they do not welcome the company –

[122] Interview, Jose Mario, small-scale farmer, 24 September, 2018, Gurué

on the contrary, the small-scale farmers who are able to expand production and make other investments, support most of the investment arrangements made by the company. In general, the relationship with the company is acrimonious because the company, under its social responsibility, has failed to deliver some facilities for village use, such as a village clinic or health centre, construction of the main road that goes to Lioma (one of the commercial centres for farming produce) and bridges at the Nalume river (the main river). The company constructed a school in the village but in the eyes of the local people, it was a wasted investment because the school did not meet the expectation of the villages – it is a low-quality school. After having answered the main research questions[123] throughout the document, I now move into the conclusion to highlight the research key findings.

[123] In what ways do the large-scale agricultural investments affect small-scale farmers' access to, use and control of land? To what degree do the large-scale agricultural investments affect labour dynamics and rural employment? In what ways are the large-scale agricultural investments reshaping agriculture inputs, technology and livelihood trajectories of small-scale farmers?

Chapter 8: CONCLUSION

This MPhil thesis was enlightened by two critical agrarian political theories. On one hand the Agrarian Political Economy (APE) and on the other, the Sustainable Livelihood approach. These two approaches were chosen by their interdependence relation on the analysis related to land, labour, inputs and livelihoods trajectories. Structurally, the thesis started with the introduction chapter which incorporated objectives and a set of research questions. Further, it went to a theoretical framework and literature review chapter where the two theories that guided the study are presented and described. Additionally, through the literature review, the study was located in ongoing debates and recent studies on the implications of large-scale agricultural investments for small-scale farmers. This section was preceded by a key concept section whereby defined and debated different concepts embodied in this thesis were defined and debated in the context of this study to avoid multiple and diversified definitions that suggest multiple interpretations.

The thesis was further developed with four research findings chapters that were anticipated by the lead-up to the conclusion chapter. The chapter three, where the findings started outlined and analysed the background of land-based investments in Mozambique. It focused on the land-based investments trend in the country with an analysis of the legal and institutional frameworks (policies, laws and regulations) that govern agricultural investments. The key argument in this chapter showed that the most large-scale agricultural investment operations in rural Mozambican areas lead to land dispossessions of local small-scale farmers and generate differentiated impacts and outcomes regardless of the existence of a legal framework. This was confirmed in the study site, whereby evidence sustained that Agromoz evicted small-scale farmers from their native land. Yet, the land pressure created by Agromoz and other land-related programmes such as Sustenta Programme (an agricultural government programme) in Gurué is pushing generated pressures of multiple and competing interests in land, with the result that land – previously an entitlement that comes with membership of a community – came to be into a direction where it is regarded by small-scale farmers as commercial or tradable assets or, as referred to by Bernstein (2010) puts it, as the conversion of land into a commodity. Agricultural investments therefore prompt not only land dispossession but also land commodification.

The fifth chapter, which was after the methodology and research design chapter, focused on land access and use. Here, the chapter showed that Agromoz investment in Gurué has led to land dispossession among local small-scale farmers and generated differentiated impacts and outcomes for these small-scale farmers. Theoretically, Bernstein (2010) argues that dispossession and exploitation are the primary concepts underscoring capitalism. This is also the case of Agromoz where a predominance of involuntary dispossession and exploitation in large-scale land deals occurred, as is sustained by Hall, et al. (2015; 2011), O'Laughlin (2017) and Murphy (2012). Evidence from this study has shown that although dispossession and exploitation are dominant processes in the capitalist production system as in the example of Agromoz, this argument cannot be taken for granted because there was a degree of consent from village members and Agromoz and small-scale farmers are also benefiting in terms of inputs (seeds, chemicals and fertiliser) and implements (tractors). However, the number of small-scale farmers who access these benefits from the company is limited. Building upon the dispossession outcomes, other studies by Lisk (2013) and Nolte et al. (2017) highlighted land dispossession as one of the immediate impacts of agricultural investments on small-scale farmers. Moreover, studies conducted by UNAC, et al. (2016) and Bruna, (2019) in Mozambique showed that large-scale agricultural investments affect small-scale farmers' land rights, as they get displaced and dispossessed. These authors highlighted a complete loss of land among small-scale farmers as a result of agrarian capital or investors and therefore deepening the poverty situation.

However, empirical evidence throughout this study has demonstrated that the displaced small-scale farmers adopted different mechanisms for land access from other villages within the Gurué district. For instance, small-scale farmers got access to land elsewhere through self-allocation, kinship, informal allocation, labour tenancy, rental and purchase. In other words, as farmers get dispossessed from their means of production, some managed to acquire land, expanded their production and upgraded their production systems such that they could introduce new crops such as soya and cotton, they use tractors, chemical fertiliser and hybrid seeds, and the land is fertile. This showed a spectrum of or a continuation mechanism of accessing land, through more or less social relations and marketable or monetarised arrangements and reshaped land politics. It also showed that social relations and local practices are important in accessing communal land under customary systems. Nevertheless, evidence also showed that the land pressure created by Agromoz

and other land-related programmes such as Sustenta in Gurué is pushing land into a direction where it is regarded by small-scale farmers as commercial or tradable assets or, as referred to by Bernstein (2010), entails the conversion of land into a commodity, even though it is illegal to sell and buy land in Mozambique, as stated by the 1997 Land Law: "Land is State property and cannot be sold or otherwise alienated, mortgaged or pledged." (*Boletim da Republica, Lei de Terras 19/97 de 1 de outubro; Artigo 3*).

Empirical evidence has also demonstrated other related outcomes of displacement such as the reduction of area for production of small-scale farmers from an average of 4 hectares to an average of 0.5 to 1 hectare because Agromoz occupied land which was used by village members either voluntarily or by eviction. This consequently resulted in a reduction in food production of maize from an average of 6 tonnes to 4 tonnes per family and also affected the use of local farming techniques such as the use of fallow land. Furthermore, Agromoz has accelerated land commercialisation and rental processes in the region due to an increase in the value of land as demand increased due to displacements and also other governmental and NGOs' initiatives such as the Sustenta and *Fome Zero* programmes. The government and some NGOs are providing agricultural loans for small-scale farmers to invest in farming. One of the requirements to access or to be part of these initiatives is to have a piece of land, this therefore has accelerated land demand and increased land value. However, these effects were not homogenous, and the study agrees with Hall (2017), who maintained that the impact of large-scale agricultural investments is differentiated, in the sense that among affected small-scale farmers in Gurué some managed to acquire land from other villages. As people get dispossessed from their land, they find new coping mechanisms to survive and produce crops through land rental activities and selling their labour or accessing land through social relations such as kinship relationships and informal allocation, which does not involve monetary relations. These mechanisms strengthened the idea that local practices and social relations are important in land acquisition processes under the customary tenure system.

In chapter six, the study focused on the farming inputs or technology of small-scale farmers, herein understood as infrastructures and processes involved in crop production, including growing, related to harvesting, processing, packaging and transportation of crops before consumption (Brookes & Barfoot, 2018; McArthur & McCord, 2017). It specifically explains changes in

agricultural inputs and technology for food production that have emerged for small-scale farmers as a result of large-scale agricultural investments. In the chapter evidenced thatAgromoz affected, directly and indirectly, small-scale farmers in a way that contributed to changes in farming inputs and technology. This agrees with Mosca (2011), and Mendes, et al. (2014), who argued that before the penetration of agrarian capital in the rural areas, small-scale farmers relied on their production logic driven essentially by the traditional system of production. The study demonstrated that the investor accelerated the use of capital and consumable inputs and technologies for both directly- and indirectly-affected small-scale farmers, which also affected food production systems in tangible ways. Some scholars such as Muntrank (2014) and Quansah et al. (2020), argued that, based on their empirical findings, the changes of farming inputs and technology in the short-term may drive benefits for small-scale farmers because of an increase in production and productivity; however, in the long-term, it may poison or damage the fertility of the soil. Conversely, this study demonstrated that the use of knowledge may overturn the long-term effects and help small-scale farmers, particularly those confined to small hectares to improve productivity.

It was also evidenced that apart from Agromoz, there are other actors' (government) programmes, such as Sustenta, *Fome Zero*, and NGOs' through time-bound programmes and projects, which are providing new farming technologies such as tractors and chemical pesticides to small-scale farmers. Moreover, it was also shown that before the arrival of Agromoz, small-scale farmers applied traditional seeds or recyclable seeds with less pesticides or chemical fertiliser and used hoes. These inputs enabled crop production for both subsistence and market purposes. However, with the arrival of Agromoz, most small-scale farmers have changed their farming inputs and technologies to so-called modern technologies such as hybrid seeds and full employment of chemical pesticides. A study by Deininger and Xia (2016), in their study on the effects of large-scale investment in Mozambique, argued that small-scale farmers who are living less than 50km away from the investment are likely to benefit from the company with new inputs and technology and improve their production output. Empirical evidence in Gurué revealed that small-scale farmers changed their inputs and technology as a way of increasing production and productivity in the context of squeezed production areas; hence the new inputs and technologies increased their farming capacity. This was demonstrated by the fact that, with the arrival of investments, some small-scale farmers introduced new crops such as soya beans and started using chemical fertiliser

and tractors. For those who were farming on less than 1 hectare, the change meant a survivalist mechanism or pathway, however, for those who were farming on more than 5 hectares it was an opportunity to expand production, increase productivity and production.Therefore, the study concludes that the existing transformation of farming inputs and technologies for small-scale farmers might be beneficial, especially for those who are confined to less than a hectare because they can increase their production and be able to cope with what Scoones (2015) referred to as the crisis of social reproduction; however, not everyone can sustain the new inputs and technologies.

Lastly, the study argued that Agromoz contributed to changes in livelihood trajectories within the household. This was argued in chapter seven which focused on rural livelihoods and, labour dynamics and relations. Some scholars, Scoones (2015), Neves (2017), Bruna (2019), Zamchiya (2019) and Kaarhus (2010), have demonstrated in their studies that people combine a range of livelihood assets including social grants, agricultural production and other income-generating activities. The survey administrated to the heads of households in the villages directly and indirectly affected by Agromoz indicated that 98.5% of affected small-scale farmers depended on agricultural-related activities to generate livelihoods and 1.5% combined farming activities before the arrival of Agromoz. However, after the arrival of Agromoz the situation changed as small-scale farmers were dispossessed of their assets. As demonstrated by pieces of evidence from the study, some small-scale farmers relied on purchasing food and yet others, depending on their capacity, opted for making small investments such as opening mini-grocers to sell basic needs such as salt, soap, cooking oil and other products. Borrowing from Hall et al. (2015) and Naves (2017), the percentages of affected small-scale farmers engaged in different livelihood activities show differentiation in their access to livelihoods where some small-scale farmers attempted to expand their activities and or move into new activities. Specifically, it was demonstrated that Agromoz created job opportunities for small-scale farmers, as it is expected based on the many studies such as Smart and Halon (2014) and Cochet (2017), who argue for the potential of large-scale agricultural investments in creating employment. Evidence showed that with the higher mechanisation employed by Agromoz and with the lack of skills of local people, job creation for low-skilled labour is minimal; most of them depend on seasonal work. Furthermore, the study demonstrated how Agromoz impacts household labour, in the sense that small-scale farmers have reduced labour-power per household – instead of 4, now its 2 members. The other members

migrated and integrated themselves into the off-farming activities. This affected their farming capacity such that some relied on the market to purchase food. However, combining farming (mainly handled by women) and off-farming (mainly handled by men) strategies adopted within the household helped them diversify their sources of livelihoods in the context of a lack of opportunities. Therefore, the study concludes that livelihood trajectories were varied among small-scale farmers because they combine different activities and assets within the household. Thus, some are doing well and others are relatively only surviving. Undoubtedly, a failure to provide or generate adequate and secure livelihoods for directly- and indirectly-affected small-scale farmers may generate a prolonged crisis for livelihoods.

The current research findings broadly analysed the impacts of large-scale agricultural investments in Gurué district, and consequently, it provided evidence that will contribute to strengthening the existing debate over land deals, land rush and its significance in the dynamics of agrarian changes in Mozambique by stating that the impacts of Agromoz on land, labour, input or technology and livelihoods for small-scale farmers are differentiated. Additionally, although food production systems are changing as a result of changes happening in the land, labour and input or technology, the outcomes of these changes are also differentiated. Thus, the study addresses empirical gaps particularly by providing evidence on the effects of large-scale agricultural investments on small-scale farmers and existing responses to coping with crises or challenges faced by the small-scale farmers after dispossession.

Theoretically, scholars Bernstein (2010) and Hall and Cousins (2015) argued that dispossession and exploitation are the primary concepts underscoring capitalism. This was sustained by existing evidence in recent land deals without fair compensation and low wages for labour power in developing countries, which sets a clear example of the predominance of dispossession and exploitation (Hall, 2011a; Hall et al., 2015a; O'Laughlin, 2017). Building on the empirical evidence demonstrated throughout this research, these theoretical arguments cannot be taken for granted because dispossession and exploitation do not involve all land deal cases. There are cases where local people give consent such as the case of Agromoz, although their case can be questioned because they did not follow national and international guidelines on land acquisition in village areas. The study also demonstrates exploitation by capital through local people's sale of

labour power. According to Bernstein (2010), local labour power exploitation by capital is in pursuit of profit, which is the case with Agromoz. This was also reported by Joala, et al. (2016) in the same study area, where small-scale farmers were selling their labour to agri-investors to get income to supplement their subsistence.

In addition to labour exploitation, investors build a partnership with villagers. In the case of Agromoz, it was evidenced that the company provides payable services to the villages such as rental services of farming technologies (such as tractors, chemicals and seeds) to villages. Therefore, Agromoz' operations also triggered changes and differentiations within the households and village members, in the sense that some village members and household members were able to accumulate more land and become medium-scale farmers, leading to them increasing crop land size from 1.5 to 5 or more hectares and employing tractors, hybrid seeds and chemical fertiliser in dry and irrigated land.

Existing studies on livelihood trajectories by Scoones (2015), Neves (2017), Bruna (2019), Zamchiya (2019), Kaarhus (2010) and Quansha et al. (2020) have demonstrated that people combine a range of livelihood assets including social grants, agricultural production and other income activities to generate livelihoods, which Scoones (2015) called diversification of livelihood assets. Besides the diversification argued by Scoones (2015), findings of this research have shown that the impacts of Agromoz investments on livelihoods was differentiated. For instance, in the context of lack of opportunities, small-scale farmers continue combining different livelihood strategies within the household, including migration and incorporation of off-farming activities. However, among them, some are doing better and others are not doing better. In other words, some have resources to make their living and some are relatively struggling to access these resources. This demonstrates that livelihood activities and mechanisms or assets can be diversified and differentiated.

Methodology and research design were addressed and made chapter four. Here, key methods and data collection tools have been described. it was noted throughout the literature review that most of the empirical studies which had been conducted in Gurué and other countries on similar topics (Hanlon and Smart, 2012; Bruna, 2019; Deininger & Xia, 2016; Sulle, 2015) have mostly used

available documents in agricultural sectors and they have conducted semi-structured, in-depth interviews, structured in-depth interviews and field observation, which are qualitative research methods. Others, such as Deininger and Xia (2016), in their studies on quantifying the spillover effects of a large-scale land-based investment in Mozambique, have used GPS coordinates to assess new large-scale farmers and the large farm areas cultivated. However, methodological approaches need to be reflected. In understanding existing changes in food production systems in terms of land, labour, technology and livelihoods, in addition to qualitative methods that others have used, this study also used a household survey, which is a quantitative research method. This was meaningful because it was possible to understand changes in terms of the number of hectares, household labour power, crop production and type of crops produced. It was also possible to find the number of small-scale farmers among the affected who have obtained land through different mechanisms. It was also possible to get a sense of the distances small-scale farmers have to contend with to access farmland, comparing those before and after the establishment of Agromoz. Therefore, a combination of qualitative and quantitative methods was important because with the qualitative method it was possible to identify existing dynamics of agrarian changes in Gurué in land, labour, input, technology and livelihoods. With the quantitative method it was possible to get numbers that only made sense with the use of qualitative methods because it was possible to explain the numbers to get a holistic picture of changes in land, labour, input, technologies and livelihoods. It was also possible to explain in terms of how and why these changes are happening for small-scale farmers. Furthermore, a combination of qualitative and quantitative methods gave nuance and explained the numbers (quantitative findings). These methods will also help upcoming studies in the region that will look at the changes or even track the existing social relations of small-scale farmers who acquired land through a different mechanism, as well as land politics, or studies seeking to understand coping mechanisms including a combination of varied survivalist livelihood activities within the households, in the context of squeezed access to land and absence of opportunities.

Agromoz' operations in Gurué have led to land dispossession of local small-scale farmers and generated differentiated impacts and outcomes including emergence of different mechanisms for land access, reduction of production areas and the intensification of informal land markets, all of which spill over into complex changes in food production systems. On the one hand, it accelerated

the use of capital and consumable inputs and technology; on the other hand, it highlighted the commodification of land and labour, which undermines the subsistence of the small-scale own production and fosters reliance on the purchasing of food. To reiterate, while Agromoz has dispossessed some small-scale farmers from their means of production, others have found Agromoz' investments a boon, as they have actually acquired more land, increased their production and improved their production systems, while yet others have begun to use a combination of varied household survivalist livelihood activities despite their more limited access to land and patent lack of opportunities.

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9. APPENDICES

Appendix A: Question for Structured In-depth Interviews

Introduction

The present document is a fieldwork guide note for MPhil research on Land and Agrarian Studies at the Institute for Poverty Land and Agrarian Studies, University of the Western Cape. The research entitled "The Impacts of Large-scale Agricultural investments on Food Production Systems: The Case of Gurué District, Mozambique" intends to investigate how large-scale agricultural investments are restructuring the food production systems of small-scale farmers in the Gurué District, located in Zambezia province in the central region of Mozambique.

Methodology

In order to investigate how large-scale agricultural investments are restructuring food production systems of small-scale famers, this study makes use of a combination of qualitative and quantitative research methods – i.e. mixed research methods. Qualitative methods include field observation, qualitative in-depth interviews and informal conversation, including ethnographic interviews,[124] group discussions and gathering personal and official documents. In addition to this, quantitative research methods are used.

The following section of questions concern land access, labour dynamics and relations, technology or capital and livelihood. These questions will be addressed to the small-scale farmers directly and indirectly impacted by large-scale land acquisition by Agromoz in Lioma. The main objective is to understand how large-scale agricultural investments are restructuring food production systems of small-scale farmers.

[124] An ethnographic interview is a type of qualitative method that combines immersive observation and one-on-one interviews. The technique is applied in order to understand the behaviour and rituals of people interacting with individual products. (Spradley, 1979)

QUESTIONNAIRE

1. Basic interviewer data:

1.1.Household basic information

Size of household	Gender	Age	Source of income/employment

2. Questions on land access

2.1. How long have you been living here?

2.2.Where were you living or farming before?

2.3. How did you acquire the land?

2.4. What is the total hectare count of your farmland?

2.5. Would you say you are land secure?

3. Questions on labour dynamics and relations

3.1. How many member of your family/association work in the farmland?

3.2. Gender?

3.3. Since the arrival of the company, is there anyone from your family who has moved out from the community as result of the investments?

3.3.1. If yes, where did they go and why?

3.3.2. Did they go to look for a job? Or what?

3.3.3. What kind of job?

3.4. How many members of your family are employed in the company? Since when? What do they do?

3.5. Gender and age:

3.6. How did they get the job?

4. Questions on technology/capital

4.1. Are you or your family/association engaged in any type of food production, on any scale? Please describe:

4.2. What type of crops do you produce and why?

4.3. How much did you harvest in the last production season?

4.4. How do you produce? What type of inputs do you use (seeds, fertiliser, and others)?

4.5. Where and how do you source the inputs (specify for each)?

4.6. Are you satisfied with the applied technology? Could you explain why?

4.7. Do you use a tractor or any farming machinery or equipment?

4.8. Is there any observable changes in the last 5 years in terms of the what, where and how you produce?

4.9. Describe:

4.10. Where do you sell your output? Which one among what you produce do you sell most?

5. Questions on livelihoods

5.1. What are the sources of family income?

5.2. Do you have enough water? Or did the company grab water?

5.3. Do you have access to firewood?

5.4. Do you have any fruit trees?

5.5. How long does it take to reach a water source, market, and farmland?

6. Questions to large-scale farmers for commercial agricultural investments

6.1. As an investor, what attracted to you in Gurué (Mozambique)?

6.2. When did Agromoz start operation in Gurué?

6.3. Please describe your business operations.

6.4. What crops do you grow? Was this crop present before the establishment of your company in Gurué?

6.5. How much do you produce?

6.6. What types of inputs do you use?

6.7. Where do you source inputs?

6.8. Where do you sell the output?

6.9. What is your relationship with farmers in the area? Do you process your output? Do you promote any outgrower scheme?

6.10. Do you employ local people, if so, how many?

6.11. What type of employment opportunities does your business offer?

6.12. Do you supply input to local famers? Explain the process?

6.13. What are the challenges that you are facing here as an investor?

7. Questions for traditional leadership and government officials

7.1 What is the population size of this area?

7.2 What is the structure of the local economy?

7.3 How big is the agricultural sector?

7.4 What is the percentage of small-scale, middle-scale and large-scale farmers in the sector?

7.5 How many types of farmers are in this area/district?

7.6 How do you define small-scale, medium-scale and large-scale farmers?

7.7 What investment has there been in the agricultural sector historically?

7.8 What type of agribusiness investment has taken place, who are these investors?

7.9 What is the process for large-scale agricultural investment?

7.10 What type of relationship do you have with the agribusiness investors?

7.11 Are there any programmes targeted at smallholder farmers?

a. Input supply or land distribution?

7.12 What are the staple foods in this area?

7.13 Would say that there are some changes ultimately in terms of what, where and how people produce? What would be the causes of these changes?

7.14 What kind of investments would you like to see in the future?

Appendix B: Household Survey

1. Survey Concepts

This survey serves as an important part of the research on the Impacts of Large-scale Agricultural Investments on Food Production Systems: The Case of Gurué District, Mozambique as requirement for the fulfilment of a Master's Degree in Land and Agrarian Studies at the Institute for Poverty, Land and Agrarian Studies (PLAAS), University of the Western Cape (UWC). The compilation of the data and analyses will be conducted by the researcher student Clemente Jorge Ntauazi under supervision of Dr. Phillan Zamchiya and Professor Ruth Hall.

The purpose of this survey is to enhance the understanding of how large-scale agricultural investments are restructuring food production systems of small-scale farmers in Gurué, Zambezia province, in the centre region of Mozambique, where small-scale farmers have been affected and unaffected by Agromoz, Lda Company. Agromoz is an agro investor company that acquired 10, 000 ha for agro-commodity production in 2012. The survey will target affected and unaffected farmers. The analyses will focus on land access, labour dynamics and relations and technology or capital and livelihoods trajectories. These categories will enable us to draw figures on the impacts of large-scale agricultural investments on food production systems of small-scale farmers.

2. Survey Details

3.

Period of survey	August 2018
Total sample	30 household (10 affected; 10 unaffected; 5 members of farmers' associations; 5 not member of farmers' associations)
Survey sites	Communities of Gurué District affected and unaffected by the Agromoz company
Gender	The survey will take into account the gender balance

Name of Community _____
Unit of analysis_____
Respondent ID N°_____

Questionnaire for the household survey

1. Respondents' profiles and general information

Sex	Male		Female	
Household composition	Male (how many)		Female (how many)	
Age	15-25	25-40	40-50	50-up
Employment	Male		Female	

How long have you been living here?

_____

Where were you living before?

_____

Main source of income

_____

2. This part is for farmers who are members of any associations

2.1. Number of Members: Male ☐ female ☐

2.1. Year of foundation: _____

2.2. What are the benefits to being a part of any farmers' association?

_____
_____
_____

3. Change in food production systems

3.1 In the next section, provide the number of hectares, output per year, type of technology used and the number of applied labour before and after the establishment of the investor.

Categories	**2008 - 2012**	**2012 - 2018**
Number of hectares		
Type of technology		
Type of crops produced		
Time used by farmer to reach the farmland		
Number of labourers applied		

3.2. Is there in change in production systems? Yes _____ No _____

If yes, what changes and what motivated such changes?

_____

_____

3.3.How does this affect your life? Or in terms of what, where and how you produce?

_____

_____

What you produce	**Where you produce**	**How you produce**

3.4.Production output before the arrival of investment

Type of land	Crop type 1	Amount harvested	Crop type 2	Amount harvested	Crop type 3	Amount harvested	Crop type 4	Amount harvested
Dry Farmland								
Garden plots								
Specify other								

a. Any livestock? _____

3.5.Production output last year

Type of land	Crop type 1	Amount harvested	Crop type 2	Amount harvested	Crop type 3	Amount harvested	Crop type 4	Amount harvested
Dry Farmland								
Garden plots								
Specify other								

a. Any livestock? _____

4. Level of satisfaction

4.1. If you compare things before the establishment of the investor to now, how would you rate your level of satisfaction in terms of land access, type of land, number of hectares, crop production commercialisation, inputs, output, employment and source of income?
(1. Not satisfied at all; 2 Not very satisfied; 3. Satisfied. 4 Very satisfied; 5 Neutral)

Satisfaction level	Type of land	No of Hectares	Crop production	Output	Input	Commercial-isation	Employment	Source of income

Observation:

_____
_____
_____

5. Benefits from the company?

5.1. What benefits has the company generated for the communities?

Benefits	**Yes or No**	**Details/comments**
Infrastructure construction (roads, hospitals, etc.)		
Promotion of outgrower scheme		
Technology transfer		
Employment		
Any other		

5.2.How many members of your family are working in the company?

_____

How many have worked in the company before?

_____

5.3. Has any member of your family moved out from the community?
Yes _____ No _____

If yes, to where? And why? _____

5.4. Has any member of your family or in this community left working as farmer?
Yes _____ No _____
What is his/her job now? _____

6. Types of investments

6.1. What kind of investments would you want to see in the future? Why?

_____

_____

_____

Thank you

Appendix C: Questionnaire for Focus Group Discussion

Introduction

The present document is a questionnaire for focus groups, one among other methods that will be used for MPhil research on Land and Agrarian Studies at the Institute for Poverty Land and Agrarian Studies, University of the Western Cape. The research entitled "The Impacts of Large-scale Agricultural Investments on Food Production Systems: The Case of Gurué District, Mozambique" intends to investigate how large-scale agricultural investments are restructuring food production systems of small-scale farmers in the Gurué district, located in Zambezia province, in the central region of Mozambique.

The focus group discussion will be conducted with at least 10 to 15 small-scale farmers divided by gender, in Lioma, where generally open questions will be asked in order to collect their perspective on the impact of large-scale agricultural investments on local farming systems. The focus group is expected to last 2 hours minimum.

QUESTIONNAIRE

Number of Participants	Gender	Employment

1. How long have you been living here?
2. How did you acquire the land?
3. Any conflict on land access due to the entrance of the company? Describe:
4. Does the company employ local people?
5. Did anyone move out from the community as result of the establishment of the investment?
   5.1. If yes, where did they go and why?
   5.2. Did they go to look for a job? Or what?
      5.2.1. What kind of job?
6. What type of crops do you produce and why?
   6.1. Which one do you most produce and why?
7. How do you produce? What type of input do you use (seeds, fertiliser, and others)?

8. Where and how do you source the inputs (specify for each)?
9. Are you satisfied with the applied technology? Could you explain why?
10. Have there been any observable changes in the last 5 years in terms of the what, where and how you produce?
    10.1. Describe how these changes are affecting your life.
11. Where do you sell your output? Which one of the outputs you produce do you sell most?
12. Apart from farming, what are other activities are you conducting?
13. Do you have access to livelihood sources? (Water, firewood, land, markets)?
14. What type of investments you would want to see in the future?

9.4 Appendix D: Consent Form for Focus Group Respondents

RESEARCH TITLE: The Impact of Large-scale, Land-based Investments on Food Production Systems: The Case of Gurué District, Mozambique

I have read the information presented in the information letter about a study being conducted by Clemente Jorge Ntauazi towards the MPhil programme at the Institute for Poverty, Land and Agrarian Studies (PLAAS) at the University of the Western Cape.

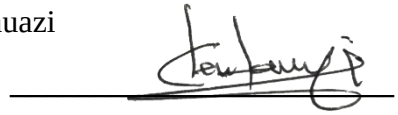
This study has been described to me in a language that I understand and I freely and voluntarily agree to participate in the focus group discussion on the restructuring of local food production systems as a result of land-based investments. My questions about the study have been answered.

I understand that my identity will not be disclosed and was informed that I may withdraw my consent at any time by advising the student researcher. I understand that any information that can connect the responses to my organisation or me will remain confidential and will be disclosed only with my permission. The researcher will keep all records and tapes of my participation, including a signed consent form, locked away at all times.

With full knowledge of all foregoing, I agree to participate in this study as part of a focus group.

NAME	SIGNATURE	PLACE	DATE

Student Researcher: Clemente Ntauazi

Student Researcher Signature: 

Student Number: 3716431

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I am accountable to my supervisor: Dr. Phillan Zamchiya

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Co-supervisor: Professor Ruth Hall

Email: rhall@plaas.org.za

The details of the Research and Ethics Committee are:

HSSREC, Research Development, UWC

Tel: 021 959 2988

Email: research-ethics@uwc.ac.za

9.5 Appendix E: Consent Form

RESEARCH TITLE: The Impact of Large-scale, Land-based Investments on Food Production Systems: The Case of Gurué District, Mozambique

I have read the information presented in the information letter about a study being conducted by Clemente Jorge Ntauazi towards the MPhil programme at the Institute for Poverty, Land and Agrarian Studies (PLAAS) at the University of the Western Cape.

This study has been described to me in a language that I understand and I freely and voluntarily agree to participate in this interview on the restructuring of local food production systems as result of large-scale land-based investments. My questions about the study have been answered.

I understand that my identity will not be disclosed and was informed that I may withdraw my consent at any time by advising the student researcher. I understand that any information that can connect the responses to my organisation or me will remain confidential and will be disclosed only with my permission. The researcher will keep all records and tapes of my participation, including a signed consent from, locked away at all times.

With full knowledge of all the aforegoing, I agree to participate in this study.

Participant Name: _____

Participant Signature: _____

Date: _____

Place: _____

Student Researcher: Clemente Ntauazi

Student Researcher Signature: _____

Student Number: 3716431

Mobile Number: +258 840559490

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I am accountable to my supervisor: Dr. Phillan Zamchiya

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