Large-scale Foreign Land Investments in Africa with particular attention to the case of Zambia

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ABSTRACT

This study analyses large-scale foreign land investments, the trends, the drivers, the actors and the extent. It focuses on Africa and on Zambia in particular. In addition, it aims to understand the role of smallholder farmers and of host governments in these investments. Further, it seeks to establish how large-scale foreign land investments can contribute to economic development in host countries. The study draws on a large body of literature as well as interviews and data provided by a number of organisations in Zambia. The research shows that in global terms Africa receives most interest, with investors mostly based in Europe and Asia. The single largest investing country is, however, South Africa. Aside from traditional agribusinesses, newly established biofuel companies, investors and governments have become involved in land deals. These actors are driven by high oil prices, biofuel policies, high food prices, the financial crisis and general climate change considerations.

From Zambia's experience it is argued that if large-scale foreign land investment is to contribute to economic development and poverty reduction, smallholder farmers, who make up a large part of the rural poor, must be included in a fair way. Rather than using small-scale farmers for taking risks, such as exist with new crops and rain-fed crops, these farmers should be sufficiently supported and given a fair share for their produce. In addition, they should not be forced off their lands and be encouraged to keep part of their land for their own food production. Experiences to date however, show that investors are more interested in short term profit rather than the development of the local area. Many projects have been reported to have displaced the local population, have created only a limited number of jobs at low wages and in general have not generated considerable economic growth.

DECLARATION

I declare that this thesis is my own unaided work. It is submitted for the degree of Masters of Art at the University of the Witwatersrand, Johannesburg. It has not been submitted before for any other degree or examination at any other university.

SIGNATURE: _____

NAME: _____

DATE: _____day of _____

DEDICATION

I dedicate this study to my daughter Amy Marijke Chamberlain

That she may grow up in a world without hunger and poverty

And that she may inherit an Africa in which wilderness still exists

ACKNOWLEDGEMENTS

First and foremost I wish to thank my supervisor Professor Christian M. Rogerson for his continued support and enthusiasm. This study would not have taken its final form without his academic guidance. He challenged me to go deeper into the material and made sure everything came together in the end. It was an inspiring experience to work with him.

Next I wish to say thanks to Dr. Godfrey Hampwaye. He made my stay in Zambia a wonderful time. Thank you for arranging accommodation, for getting me in touch with numerous people, for setting me up at the University of Zambia and in general, for making me feel at home.

Dirk Muijs gave invaluable information on agriculture in Zambia. Thank you for sharing your knowledge and experience. And thank you and your family for opening your home to me.

To all the interviewees, without your experiences, this study would not have been possible. Thank you for your patience and time. It was extremely rewarding to meet each and every one of you, from market stallholder to manager, from rural farmer to politician.

Thanks to Wendy Job for making the data come alive through clear figures, graphs and maps. To the Faculty of Humanities and to the School of Geography, Archaeology and Environmental Studies at the University of the Witwatersrand, thank you for facilitating my study.

A final word of thanks goes to my husband Shaun Chamberlain. He never failed to support me, even when I went to the malaria areas in Zambia being only a few weeks pregnant with his daughter. His interest in my work encouraged me and challenged me to make the most of my study.

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GLOSSARY

AU	African Union
BAZ	Biofuels Association of Zambia
CAADP	Comprehensive Africa Agriculture Development Programme
CDC	Commonwealth Development Corporation
CDT	Cotton Development Trust
EBRD	European Bank for Reconstruction and Development
EDBM	Economic Development Board of Madagascar
EIA	Environmental Impact Assessment
EU	European Union
FAO	Food and Agriculture Organisation
FDI	Foreign Direct Investment
FDRE	Federal Democratic Republic of Ethiopia
FISP	Farmer Input Support Programme
FNDP	Fifth National Development Plan
FRA	Food Reserve Agency
FSP	Fertiliser Support Programme
GDP	Gross Domestic Product
GRZ	Government of the Republic of Zambia
IFAD	International Fund for Agricultural Development
IFC	International Finance Corporation
IFPRI	International Food Policy Research Institute
ILC	International Land Coalition
IPCC	Intergovernmental Panel on Climate Change
ISI	Import Substitution Industrialisation
LDC	Least Developed Countries
MACO	Ministry of Agriculture and Co-operatives
MDG	Millennium Development Goals
MIGA	Multilateral Investment Guarantee Agency
MMD	Movement for Multiparty Democracy
MoARD	Ministry of Agriculture and Rural Development (Ethiopia)
MoFED	Ministry of Finance and Economic Development (Ethiopia)

MoU	Memorandum of Understanding
NAMBOARD	National Agricultural Marketing Board
NDP	National Development Plan
NEPAD	New Partnership for Africa's Development
NGO	Non-Governmental Organisation
ODA	Official Development Assistance
RSA	Republic of South Africa
SAP	Structural Adjustment Programme
SNDP	Sixth National Development Plan
SWF	Sovereign Wealth Fund
TNC	Trans National Corporation
UAE	United Arab Emirates
WB	World Bank
ZCCM	Zambia Consolidated Copper Mines
ZDA	Zambia Development Agency
ZIC	Zambia Investment Centre
ZK	Zambia Kwacha
ZLA	Zambia Land Alliance

CHAPTER ONE

INTRODUCTION

1.1 Introduction

Since the financial and food price crises of 2008 a new trend labelled 'land grabbing' in the media, has received increasing worldwide attention. It is argued that resource rich but land poor countries are appropriating large areas of fertile land in developing countries with the aim of either feeding their own population or to grow crops for biofuel production. These investments are subject to a global debate in which some parties advocate the benefits these projects can bring to the host economy, whereas opponents claim that these investments are exploiting the local population with few benefits for the targeted developing countries.

Many organisations, including the World Bank, the Food and Agricultural Organisation (FAO), the International Fund for Agricultural Development (IFAD), the International Monetary Fund (IMF) and a wide range of Non-governmental organisations (NGOs), have contributed to the research and discussion regarding large-scale foreign land investment. Despite all their work, the extent and the impact of these deals are still difficult to assess. Global reports generally are based on literature research without any observations done on the ground, whilst more in-depth studies based on fieldwork only cover a small area. It is the aim of this research to establish the scale and impact of foreign agricultural investment as per mid-2011 in the case of Africa with particular focus on the situation in Zambia, a country which has received little attention despite its argued large agricultural potential.

This chapter starts with framing the context by presenting a short historical overview of large-scale land investment in overseas countries in order to illustrate how trends in the 21st century differ from earlier investments, mainly during colonial times, and the lessons that can be learned from earlier experience. Based on the historical background, the central questions that will be answered in this study are outlined, the research methodology is explained and the structure of the report in which the several topics will be discussed is given. The chapter then offers a definition of foreign direct

investment (FDI) in land to set it aside from other types of FDI followed by an explanation of the scope of this study.

1.2 History of large-scale foreign land investment

The search for fertile land overseas is not a new phenomenon. The Romans plundered North Africa for wheat, the Portuguese, Spanish, Dutch and English raided the Indonesian islands for their spices and for numerous years colonial powers appropriated land in their overseas territories to enrich themselves. At the beginning of the 20th century African colonies became major exporters of agricultural commodities such as groundnuts, palm oil, cotton, coffee, cocoa and sisal (Meredith, 2005). Not only was colonial land used for highly profitable exotic products, the mineral resources of particularly African countries promised a huge source of wealth for the colonisers. Mining activities were one of the first forms of foreign "land grabs", continuing until today (FIAN, 2010). Even after African and Asian countries gained independence, extraction of resources and commercial agrarian land use has continued, mostly in the form of large-scale plantations and mining (UNCTAD, 2009).

Most of these historic investments have been for the growth of cash crops: produce that cannot be grown in the developed world, are not part of the staple diet of the population in the target country, and sell for premium prices. Land ownership was one of the possible business models, but long-term ownership of land was not the main aim of investors (Dinham and Hines, 1983). Large trans-national corporations also used contract farming and out-grower arrangements, for example Campbell's and Del Monte in the Mexican state of Guanajuanto in the 1960s (Echánova and Steffen, 2005), a practice also used by many investors at the beginning of the 21st century (Vermeulen and Cotula, 2010). In addition, the investments tended to be much smaller than some of the contracts signed in the last few years.

Nevertheless, even in the 20th century ownership of large areas of land was granted to private businesses, especially under colonial rule in Africa. One of the first plantations was established by the Lever Brothers (currently Unilever), operating as a local subsidiary under the name Huileries du Congo Belge (HCB) (Dinham and Hines, 1983). In 1911 HCB received rights over five concessions in the Congo to grow palm

oil, to be used for their soap factories in Europe. The deal with the colonial government specified that the company had to build its own infrastructure consisting of roads, railroads and a postal service. In addition HCB was obliged to build schools and hospitals for its employees and their families. Nevertheless, the local population did not gain from these investments. Thousands of farmers were dispossessed of their land and subjected to strict controls working on the concessions. As Gondola (2002, 18) remarks in his classic study of the history of Congo: "It is notable that after some thirty years of activity, HCB, like most capitalistic ventures in Congo, had failed to create any substantial economic development". This operation can serve as an example for more recent investments as will be illustrated in Chapter 3.

Another major player in the early 1900s was the Firestone Natural Rubber Company, part of the US based Firestone Tire and Rubber Company. This business venture started as a way for the Americans to become independent of the British who dominated rubber supply (van der Kraaij, 1983). In 1926 the company obtained an agreement with the government of Liberia for the lease of one million acres (over 400,000ha), four percent of the country's territory for the period of 99 years. The company would pay a rental fee of US$5 cents per acre. The initial plans were to employ 350,000 Liberians, which the government would provide. To enable easy exports, the company would build a deep-sea harbour, the costs of which would be reimbursed by the Liberian government (Johnson, 2010). Lastly, Firestone forced the Liberian government to take out a US$5 million loan with the company's subsidiary Finance Corporation of America to pay off its foreign debts, making the country largely dependent on Firestone (van der Kraaij, 1983). By 1960 only 35,000ha of the total 400,000ha had been planted, an increase from the 22,000ha of land cleared in 1930 (Johnson, 2010). The harbour was only completed and opened in 1948 with support from the American government after Firestone abandoned the project shortly after the first surveys highlighted difficulties and high expenses (Taylor, 1956). With regards to the loan agreement, "Only half the loan, for up to $5 million over 40 years at 7 percent interest, was ever issued; but service charges and advisors' salaries cost over $270,000 a year which was 20 percent of government revenues in 1928 and 50 percent in 1931" (Lanning, 1979, 258). Overall, Liberia received little out of the Firestone operations, whereas the company made major profits (Johnson, 2010).

As these examples show, agribusiness has had a long-term interest in Africa, in several cases on a very large scale. Companies wanted to gain maximum control over their supplies, rather than being dependent on small farmers or foreign companies or harvesting natural sources (as in the case of rubber). Owning land and growing their own crops gave them the desired degree of control (Dinham and Hines, 1983). An important stimulus was the support given by the colonial governments in securing land rights (Christopher, 1984). Settlement took place at the expense of the local population which was removed from their land (Christopher, 1984). All plantations were focussed on cash crops for export and were highly concentrated, such as: groundnuts in Gambia, cocoa in Ghana, rubber in Liberia, sisal in Tanzania and cotton in Uganda (Lappé and Collins, 1978). These patterns are visible to the present day with a large part of the exports of these countries still dependent on these crops (FAOSTAT, 2011a).

The abundance of cheap labour was another factor that made setting up in Africa, and other developing countries, an attractive proposition. Nevertheless, the indigenous population was not easily convinced to work for the large plantation companies. Those people who were forced off their land had no option other than to become labourers on plantations (Christopher, 1984). Another means of forcing locals to become plantation workers was by introducing taxes that had to be paid in money. This made it necessary for local farmers, most of whom were involved in subsistence farming, to find a source of monetary income, either by growing cash crops (sold to the European companies at their terms) or becoming a wage labourer (Lappé and Collins, 1978; Meredith, 2005). Through this enforcement, western plantation companies gained access to a wide pool of cheap labour. This occurred at the expense of local food production, an effect that can be felt to the present. Overall, the plantations brought little to local populations but rather filled the ‘pockets’ of the corporate owners (Dinham and Hines, 1983).

Decolonisation led to a decline in foreign plantation ownership (Dixon, 1990). The newly independent countries faced the problem of how to maintain a larger share of the agricultural activities to benefit their own population. Some governments adopted a hostile stance to foreign investors and either nationalised plantations or split them up into smallholder units (Dixon, 1990). Other countries were more favourable

towards foreign companies (Dinham and Hines, 1983), perhaps realising their dependence on these companies for export earnings. In general, policies were introduced to secure stricter control over financial flows, like the limitation of foreign exchange a company could send back to its home country. In addition, local interests had to be increased in several cases. Although companies did not leave, many did reduce their interests in Africa as a result (Dinham and Hines, 1983).

With actual land holding becoming either impossible due to new land policy or more risky (UNCTAD, 2009), agribusinesses started to move away from controlling land. Instead, they focused more on the upstream activities of processing, trading and marketing of the products, activities with a steadier stream of income and high profit margins (Dixon, 1990). To keep control over crop input, large agribusiness trans-nationals either opted for managing large estates owned by locals or to engage smallholders in supply schemes (Dinham and Hines, 1983; UNCTAD, 2009). Smallholder development was supported by the newly independent governments. For example, the government of Kenya, in cooperation with UK based Booker Agriculture International and the Commonwealth Development Corporation (CDC), established the Mumias Sugar Company. This company consisted of a nucleus farm supported by a network of 33,000 outgrowers and was situated in a remote area of the country. The idea behind the scheme was to bring development to the region and to decrease Kenya's dependence on sugar inputs (Glover and Kusterer, 1990). The example of Booker is indicative of the preference for multinationals to be engaged in an advisory and management role rather than be the direct owner of the operation (Dinham and Hines, 1983).

In more recent years, Africa has become a source of fresh fruit, vegetables and flowers. Driven by demand for all year round fresh produce by customers in Europe and the USA, food companies started to look for low cost locations to satisfy this request and found their answer in Africa (Dolan and Humphrey, 2000). One of the first companies to move in was Bud Antle Inc., which set up a subsidiary in Senegal as early as 1972 (Dinham and Hines, 1983). With support from the Senegalese government, which put in a pipeline to supply water for irrigation and assisted with relocating people from the 800ha assigned to the company, Bud Senegal started to grow vegetables such as beans and peppers (Chasm, 1982). Financing was done by

the World Bank and the German Development Bank which saw this enterprise as a development project for Senegal (Lappé and Collins, 1978). However, after just four years the company ran into financial difficulties and the Senegalese government took a majority share in the venture. Without the expertise, eroded and depleted soils and continual transportation issues, the operation finally closed down in 1979 (Dinham and Hines, 1983). During the years that Bud Senegal was operational, little was done to overcome local developmental issues. Relying on drip irrigation and technology, employment generation was minimal. Upon closure in 1979, 3,000 people were employed by the then nationalised venture (Chasm, 1982). The project certainly did not help to relieve hunger, caused by severe droughts. When the price for green beans in Europe fell below the cost price of Bud Senegal, rather than selling the crop in the local market, the company decided to destroy the complete harvest (Chasm, 1982).

The 1980s and 1990s saw a sharp increase in the export of fresh produce from sub-Saharan Africa, especially from Kenya and to a lesser extent Zimbabwe, Ivory Coast and Zambia (Dolan and Humphrey, 2000). Initially, smallholder farmers supplied the bulk of the produce to a group of concentrated exporters which supplied the overseas supermarkets. High standards on quality, consistency, health and safety set by the supermarket chains in Europe made it increasingly difficult for smallholders to be able to supply according to requirements. Whereas in 1992 nearly 75% of fresh produce in Kenya was produced by smallholders (Harris, 1992), in 1998 this figure had dropped to around 18% (Dolan and Humphrey, 2000). In Zimbabwe, smallholders only supplied a meagre 6% to the five major exporters. Production is now taking place on large-scale commercial farms and on land owned or leased by the exporter (Dolan and Humphrey, 2000). Increased post-production activities, such as packing at the source, have created a large number of jobs, although these are generally insecure and low-paid (Barrientos et al., 2005). Even the few exporters and large-scale farmers reap limited benefits due to the dominance of supermarkets in the supply chain (Dolan and Humphrey, 2000).

Many studies have looked into the impact of smallholder farming for agribusiness supply. Despite some relative successes like the Mumias Sugar Company in Kenya, most research indicates that small-scale farmers gain little from participating with agribusinesses, either through outgrower schemes (Kirsten and Sartorius, 2002) or as

independent growers of cash crops (for example, Toulmin and Guèye, 2005). The next chapter will discuss in further detail the role that small-scale farmers can play in an increasingly commercial agricultural sector.

In general, land expansion has shown a continuous increase since at least the 1960s. In the period from 1961 until 2007, an average of 3.8 million hectares of land was brought under cultivation annually (World Bank, 2010a). Whilst there was a slight decrease of farmland used in the industrial countries, this was more than compensated for by expansion in developing countries, mainly in sub-Saharan Africa and East Asia (FAOSTAT, 2011b). This development has been driven both by domestic small farmers, commercial farmers as well as international players.

1.3 Research questions, methodology and structure

Although large-scale agricultural investment has a long history, several differences exist between projects from the 20th century and those being initiated in the 21st century. This study aims to analyse the situation with regards to foreign large-scale land investment in Africa and in Zambia in particular. In order to do so, the main questions that will be answered are:

- What is the extent and what are the characteristics of foreign large-scale land investments in sub-Saharan Africa in general and Zambia in specific?
- What are the drivers behind foreign large-scale land investments?
- Who are the actors investing in foreign large-scale agricultural operations in Africa and Zambia in specific and which are the main host countries on the African continent?
- What is the impact of large-scale foreign land investment on the local population where these investments take place?
- How can large-scale foreign land investment contribute to economic development in the host country and Zambia in particular?
- What is the specific role for both host governments and smallholder farmers to ensure local development?

This study looks into the situation on Africa in general since many projects are targeting countries on this continent. Also, these are the most controversial investments due to the high rates of poverty and hunger in the target countries. Zambia is the country of specific interest to this study and the above questions will be answered with particular focus on this nation.

In order to analyse developments in large-scale foreign land investment, a database has been established containing information on host country, investor, land area and land use and the status of investment projects. Desk research forms the source of this database. Information from other studies such as published by the IIED (Cotula et al., 2009), the Oakland Institute (Daniel and Mittal, 2009) and IFPRI (von Braun and Meinzen-Dick, 2009) has been triangulated and investigated in more detail. In addition, a large number of in-depth studies on a limited geographical area have been combined to establish an up-to-date and comprehensive set of data for the African continent. The investments cover the period from 2004 until mid 2011.

To get a more detailed picture on the case of Zambia, fieldwork was undertaken in January 2010. During this visit 19 interviews were conducted with managers and employees of two large-scale foreign farming operators, people in the direct area of these activities who are impacted by the operations, government officials and representatives of stakeholder organisations such as the farmers union and the land alliance. These interviews are referred to in the text either by name of the interviewee or the name of the organisation in case the person interviewed wished to remain anonymous. The information gained from these interviews is being supplemented with data from resources such as the Central Statistics Office (CSO) and the Zambia Development Agency (ZDA). In addition, a limited body of written material is available which describes findings on large-scale agricultural investments in Zambia.

Large-scale foreign land investment projects are part of a host country's agricultural sector. One of the aims of a country to welcome these investors is to develop their overall economy. The role of the agricultural sector in overall economic development has been the subject of discussion since the 1950s. The central question was if agriculture was subject to industrialisation or whether industrialisation was only possible once the agricultural sector was able to produce sufficient resources for the

whole country. This discussion is still valid and is particularly relevant to understand the role that large-scale foreign investment can play in the overall development of the host country. The several theories and experiences are discussed in Chapter 2. In addition, the chapter will elaborate on the role of smallholders and land policies, especially in Africa, which are important contributing factors for the success of the agricultural sector and wider economic development within a country. Altogether, Chapter 2 provides the theoretical background for this study.

Chapter 3 gives an overview of the existing international research done into large-scale land investments. It will cover the geographical areas of South America, the former Soviet Union and Asia and will touch on general developments in Africa. Due to the large scale and many countries involved, this last region is discussed in more detail in Chapter 4. Not only are many countries across the world targeted by investors, these investors themselves are highly diverse, including both private actors and governments. Different actors are driven by different reasons to invest in large-scale agricultural operations in developing countries. It is argued that the several crises (food, fuel and financial) are the underlying drivers, making the investments in the early 21st century different from those of the previous century. These drivers will be discussed in detail in Chapter 3. Lastly, the chapter will cover the impact, both theoretical and practical, that these large-scale investments can have on the host country. Can the local population benefit from these projects and if so, what are the conditions to make these ventures a win-win?

Having set the theoretical background on the role of the agricultural sector in economic development and having painted the picture of recent developments of large-scale foreign investment globally, Chapter 4 is dedicated to an analysis of the situation in sub-Saharan Africa. This area consists of a large diversity of host countries with different policies, national resources and histories. In general, most sub-Saharan countries are not self-sufficient from a food point of view. The prevailing hunger and poverty makes large-scale commercial agriculture investments controversial. Chapter 4 aims to illustrate the extent of large-scale foreign land investments up until mid-2011. Ethiopia and Madagascar are two countries well-studied. Findings from previous research are summarised in this chapter to illustrate

experiences that have taken place in these nations, which can be an example for Zambia and other African countries.

Chapter 5 then focuses on Zambia. This land-locked country in Southern Africa is said to have a high potential for growth in the agricultural sector due to its abundance of fertile land. Despite this potential, little attention has been paid to foreign investment in this country. This study aims to make an inventory of projects so far and how Zambia can benefit from these projects. Understanding the impact that large-scale investors have had so far can enable the country to develop a strategy to ensure both the local population and the country as a whole can seek to maximise local benefits from this global trend.

Based on the theoretical framework and the observations both globally, in sub-Saharan Africa in specific and particularly in Zambia, this study concludes by detailing if and how large-scale foreign investment can contribute to overall development in host countries. It is argued that even though certain possibilities for growth exist, a large number of conditions must be met. Many projects have shown that if strict regulations are not set by the host government, the local population is likely to face deteriorating living conditions and the country as a whole does not gain from these projects.

1.4 Definition and scope

Land investment can take many shapes and forms; large-scale versus small-scale, domestic versus foreign, commercial versus subsistence, food crops versus fuel. This study looks into large-scale foreign land investment as a particular form of Foreign Direct Investment (FDI). The World Bank (2004) defines FDI as “Investment in an enterprise that operates outside the investor’s country, that establishes a lasting interest in or effective management control over [this] enterprise”. The lasting interest implies the existence of a long-term relationship between the direct investor and the enterprise and a significant degree of influence on the management of the enterprise.

FDI in land differs from FDI in commercial entities. Rather than having the objective of influence in the management of an enterprise, FDI in land is aimed at taking a large degree of control over the land or the fruits of the land in the host state. This may be

in the form of lease, concessions or purchase. To underline this difference, the German government development agency GTZ[1] offers the following characterisation:

> "FDI in land by a foreign company or state is based on a lasting interest in taking control over land use rights. The transaction includes either rights of land-use or land-ownership. The land-use rights are generally valid for a limited period and can possibly be extended" (Görgen et al., 2009, 9).

Terms used in this study are agricultural or land acquisition, investment, projects, ventures and the like. Media reports and publications made by certain NGOs use terms as "land grabbing" and "neo-colonialism". These terms imply a negative connotation to the investments. This report aims to be objective and therefore will not use such terms.

Important in the definition given by GTZ is the notion of "lasting interest". Although difficult to establish, this research intends to examine projects where leases are valid for at least 15 years or land rights are purchased outright. In addition, the size of the investment is important, since this is one of the distinctive features of the new trend. This study is limited to investments larger than 5,000ha, considerably more than an individual commercial farm. Partnerships with domestic companies are often used by foreign investors to reduce risks in setting up in the host country and are included in this study.

Although not the main focus of this research, attention is also paid to large-scale projects singularly driven by domestic investors. When looking into large-scale land acquisitions, the World Bank found that domestic players were more dominant than foreign investors (World Bank, 2010a). As Chapter 5 illustrates, domestic investors in Zambia certainly do play a role which should not be left unmentioned.

Finally, it should be noted also that, Official Development Assistance (ODA) in agriculture is not included in this research. The aim of ODA is not to take control of foreign land but rather to assist the recipient country to develop its own agricultural

[1] Now part of GIZ, Deutsche Gesellschaft für Internationale Zusammenarbeit

sector (IMF, 2006). ODA can play an important role in the increase of agricultural productivity and food security and will be mentioned where applicable.

A last remark is on the country of Sudan. Due to the fact that most material researched for this study was published before the independence of South-Sudan in July 2011, the data for Sudan as mentioned in this research covers both Sudan and South-Sudan.

CHAPTER TWO

THEORIES ON THE ROLE OF AGRICULTURE IN ECONOMIC DEVELOPMENT AND AGRICULTURAL PLANNING

2.1 Introduction

Agriculture plays a major role in the economy of developing countries in terms of both employment and foreign exchange earnings (World Bank, 2007). This sector has therefore been a major area for discussion on the role it plays in overall economic development. The aim in this chapter is to look in detail at the various theories and modes of agricultural planning since the 1950s, when many LDCs gained independence, until the early 2000s. Analysing these theories and experiences over this period provides a framework in which large-scale foreign land investment can be contextualised and establishes the contribution these investments can make to the development of the host country.

This chapter covers three distinct periods: the Post-Independence decades, including the Import Substitution Industrialisation policy and the Green Revolution popular from the 1950s until the 1980s, Structural Adjustment Programmes which dominated the 1980s and Agro-industrialisation which emerged in the 1990s. During these periods, agriculture has not always been at the centre of economic planning for many countries and for organisations such as the World Bank. The sector has had to find its place in a constantly changing policy world and has adjusted considerably over time.

Important conditions in the possible developmental scope of the agricultural sector are the land policy implemented by national governments and the role that smallholders play in growing food and cash crops. These conditions determine the extent to which local farmers are included in investments made and how much they can benefit from the inflow of investment funds. After covering the theories on agricultural planning, this chapter incorporates a discussion on both subjects, with a specific focus on Africa which is the continent central to this study in order to enable a better evaluation of

experiences reported on across the continent in Chapter 4 and more particularly in Zambia in Chapter 5.

Although the agricultural sector is of major importance in most developing countries, investment from both the government and the private sector has lagged behind, particularly in Africa. Based on the theories discussed in this chapter, it is argued that a central role must be played by national governments to ensure food security is achieved and productivity can reach at least a minimum standard. Once the basic infrastructure is in place, private actors will be interested in investing and the country can be integrated in the increasingly global agricultural supply chains. To ensure maximum benefits to a host country, particularly in large-scale land investment, it is important that local smallholders are integrated in the operations and that part of the production is produced for the domestic market. In this way, opportunities for both jobs and income are generated whilst reducing the dependence of the country on a volatile world market for its food/fuel security.

2.2 The Post-Independence period: 1950-1980

During the 1950s and 1960s, the time when many of the current LDCs gained independence, so-called "classical theories" on economic development were the mainstream thinking amongst economists. At the core of these theories was a linear development pattern taking countries from a 'traditional society' based on agriculture to a 'modern economy' characterised by highly productive industrialisation (Brara, 1983). According to these theories, the relative importance of the agricultural sector declines over time as a country develops, both in terms of contribution to GDP and share in employment. Fischer (1939) first observed this trend, which was later generalised by Kuznets (1957).

In the classical theories, four roles for the agricultural sector are identified (see Kuznets, 1964; Johnston and Mellor, 1961):

- Product contribution: the agricultural sector provides food for the industrial workforce and raw materials for agro-processing industries such as textiles;
- Market contribution: the large agricultural population is a market for items produced by the domestic industries;

- Factor contribution: the agricultural sector generates excess capital to be used for investment in the non-traditional sectors and by becoming more efficient, also becomes a pool of labour for non-agricultural activities; and,
- Foreign exchange contribution: agricultural production can be exported to gain access to foreign exchange and/or it can substitute agricultural imports hence reducing the need for foreign currency.

Throughout the 1960s there has been fierce debate on whether industrial development should precede agricultural development or vice versa (Weitz, 1965). Despite influential academics, including Lewis (1954) and Fei and Ranis (1961), emphasising that sufficient food production was a necessity to enable industrial expansion, this was not a generally accepted view. The structuralist school, best known for the Prebisch-Singer hypothesis, argued that (agricultural) export commodities produced in LDCs are less price-elastic than commodities exported from developing countries, resulting in less rapid price increases and thus deteriorating the terms of trade for LDCs over time (Singer, 1950, Prebisch, 1951). Others, such as Rosenstein-Rodan (1943) and Hirschman (1958) argued that due to the limited linkages of the agricultural sector with other areas of the economy, this sector would be unable to "pull" wider economic development.

2.2.1 Import Substitution Industrialisation

Against this theoretical background, many newly independent countries adopted a strategy focussing on the industrial sector rather than agriculture (Anderson and Valenzuela, 2010). According to the classical theories, labour productivity in the industrial sector is higher than in agriculture. Development therefore would necessitate the transfer of labour from farming to manufacturing (Diao et al., 2007). According to the linear development notions as put forward in the classical theories, industrialisation was envisaged as a way of modernising economies, which in the colonial period had focussed on agriculture and minerals. In addition, the politically influential urban population had greater interest in manufacturing than in rural development (Bezemer and Headey, 2008). Agriculture was negatively perceived as 'backward' and a 'remnant' of the colonial period (Schiff and Valdès, 1998). This thinking led many developing countries to implement a policy of Import Substitution

Industrialisation (ISI), aiming to build up a manufacturing sector behind a protectionist wall of government instruments (Krueger et al., 1988).

The role for the agricultural sector in an ISI environment mainly was seen as a source of excess labour and capital that could be transferred to the new manufacturing sector (Diao et al., 2007). In order to do this, governments introduced high taxes on agricultural production and exports (Anderson and Valenzuela, 2010). One of the many examples is the taxation of commercial crops in West Africa (Bates, 1981); similar policies were implemented in several other countries across the world, including Argentina (Maffucci and Reca, 1974). Marketing boards, state agencies holding a near-monopoly on the marketing of agricultural products, were a legacy left by the colonial powers through which taxation could be achieved. Prices paid to farmers by the marketing boards were kept below those on world markets, the price at which the boards could sell, thus generating an income for the state at the expense of farmers (Bates, 1981). There was pressure to keep domestic food prices low for the urban population, forcing the same marketing boards to sell in the domestic market at prices sometimes under the producer price (Krueger et al., 1988). Since agriculture accounted for most exports of developing countries, centralised purchasing below market price was a highly successful policy to transfer capital from the agricultural sector to national governments that could, in turn, invest it in the industrial sector (e.g. Bates, 1981; Krueger et al., 1988).

In addition, farmers were disadvantaged by the overvaluation of domestic currencies (Krueger et al., 1988). Often the exchange rate was kept artificially high to reduce the price for imports necessary as inputs for the favoured manufacturing sector, at the same time making the export of agricultural products less competitive (Adelman, 1984). Krueger et al. (1988) executed an in-depth study on the impact of both direct (taxes) and indirect protection (mostly unrealistic exchange rates) on the agricultural sector in a number of developing countries. Their study shows that agricultural export products were greatly impacted in a negative way, whereas food imports received considerable support. Even though the authors mention price stabilisation as a possible reason behind these price-distorting policies, they can also be interpreted as bias of governments to extract maximum capital out of the agricultural sector, whilst

at the same time favouring the urban population involved in the industrial sector with low food prices.

Even though the agricultural sector overall was greatly neglected at the expense of industrial growth, some developing countries followed different policies. For example, Thailand implemented a gradual ISI policy under which it managed to successfully grow its industrial sector. This growth was supported by a rapid expansion of food output in which the national government played only a limited role, focussing mainly on rural infrastructure to enable the opening up of more land for crop production. Whereas initially agricultural exports consisted mainly of an excess of rice, farmers gradually started producing cassava, sugar and fruits, primarily for the export market. The main driver of agricultural growth came from the private sector, which gave incentives through market prices both to increase production and to diversify crops (Tongpan, 1974; Siamwalla, 1987; Breisinger and Diao, 2008). This strategy is in sharp contrast with the market distorting policies of the state-owned marketing boards as followed in many other developing countries (Krueger et al., 1988).

Rather than growing staple food crops, several newly established independent countries in Africa were more dependent on export crops, set up during the colonial era. This was particularly the case in West Africa where crops such as cocoa and coffee dominate (Dinham and Hines, 1983). New governments nevertheless adopted different approaches, which were reflected in their agricultural planning. Miracle (1970) analyses the approaches of Ghana and Ivory Coast from 1960-1966. Ghana opted for a socialist path, concentrating on large state-owned farms and cooperatives both for the production of food and export crops. By contrast, Ivory Coast favoured foreign investment and, as an incentive, gave monopoly powers to overseas investors for the growth and marketing of particular crops. The government itself focussed more on development of extension services to ensure staple food production. Although some limited successes have been achieved on plantations and by smallholders linked to the large foreign players in Ivory Coast, Miracle (1970) concludes that both approaches largely have failed. He mentions not only limited knowledge, but also “ignorance of the economic environments in which African farmers must operate” (Miracle, 1970, 328). Hinderink and Sterkenburg (1983)

analysed both Ghana and Ivory Coast over a longer period of time and concluded that the continuous focus on smallholders, combined with a large budget allocation to the agricultural sector and stimulating price incentives, ensured a relative successful development in Ivory Coast, whereas Ghana neglected its agricultural sector with inconsistent policies and its focus on large-scale production.

Overall, African countries made little progress with their industrialisation despite the positive environment created by government ISI policies. Manufacturing only made up a small contribution to GDP, with agriculture still the main economic activity (e.g. Hinderink and Sterkenburg, 1983, 20). This argues in favour of those theorists who claim that growth in the agricultural sector is an absolute requirement for overall economic development. Latin America offers examples where agricultural growth could not keep up with industrialisation. As a result, foreign exchange earnings from agricultural exports were insufficient to ensure continued manufacturing growth (Maffucci and Reca, 1974; de Janvry, 1981).

By contrast South Korea and Taiwan achieved agricultural growth at an early stage, laying the foundation for successful industrial development. Both countries abolished the heavy taxation of their agricultural sector in the 1960s and started to follow a more liberal trade policy. After directing significant investments towards irrigation projects, infrastructure, improved seeds varieties and cultivation techniques, these two countries ensured sufficient food could be produced to support the industrialisation process (Lee, 1974; Kang and Ramachandran, 1999). As the next section will illustrate, India has been able to follow the path of these countries in the growth of its agricultural production during the Green Revolution.

The relative success stories of Taiwan, South Korea and India share the experience that smallholder farmers were the main beneficiaries of government policies and consequently were the main drivers of agricultural growth (Wiggins et al., 2010). Hinderink and Sterkenburg (1983), in their study on policies in five African countries, also conclude that smallholders are crucial for development. They argue that to grow the agricultural sector and build the foundation for wider economic growth, policies need to be focussed on stimulating a favourable price policy and production environment for smallholders, combined with high budget allocation to enable

development. Based on these experiences and studies done by researchers such as Schultz (1964) which illustrated the high efficiency of small-scale farmers, the World Bank adopted a new policy changing to a more 'pro-poor' attitude, putting small-scale agriculture at its centre (McNamara, 1973). Schultz (1964) identified technology as a possible vehicle for smallholders to break out of their cycle of poverty. Experience during the Green Revolution in Asia, and India in particular, shows that technology has potential.

2.2.2 The Green Revolution

During the 1960s and the 1970s agricultural productivity increased rapidly across Asia (Barker and Winkelman, 1974). This period became known as the Green Revolution. Many countries, including China, Indonesia and the Philippines, focussed their policies on agricultural growth. India has become the country synonymous with this development (World Bank, 2007). Before the widespread implementation across Asia, more isolated cases of a Green Revolution took place in, amongst others, Mexico (Breisinger and Diao, 2008) and Taiwan (Lee, 1974).

The Green Revolution was driven by technology and research and development into new, high yielding varieties of the main staple crops rice and wheat. In combination with fertilisers and pesticides and a reliable source of water, these new varieties boosted cereal production. As a result, India managed to double its wheat output in only seven years (Brown, 2001, 145–46).

Instrumental to this success was active involvement by the State. First, governments invested heavily in irrigation projects and infrastructure. This enabled the efficient distribution of seeds and fertiliser to a wide network of farmers. Governments also introduced fertiliser subsidies and easy credit access to stimulate (small-scale) farmers to switch to new high yielding varieties of wheat and rice. This was further supported by extension services to train farmers to obtain maximum benefits from these inputs (e.g. Islam, 1974; Breisinger and Diao, 2008; World Bank, 2007). Some countries, such as Taiwan (Lee, 1974) and the Philippines (World Bank, 2007), implemented land reform policies to give more people access to land. Smallholder farmers were the focus of government policies, driven by fears of food security under increasing population pressure (Boserup, 1974; World Bank, 2007). C. Subramaniam, Indian

Minister of Agriculture from 1964-1967, stressed the importance of the role government played in bringing about the Green Revolution amongst small-scale farmers, but also indicated that this support did not come easily (Subramaniam, 1995). The work of the governments was facilitated by generous financial assistance from Official Development Aid (World Bank, 2007) and technical knowledge from institutes such as the Rockefeller Foundation (Sachs, 2005).

The Asian experience reinforces the argument for strong linkages of the agricultural sector with the rest of the economy as was first argued by Johnston and Mellor (1961). In addition it once again underwrites the theory that wide economic growth is not viable without first producing sufficient food. It emphasises the importance of dedicated government support and clear planning. Both India and China have since embarked on a rapid growth path outside the agricultural sector (Sachs, 2005).

2.3 Liberalisation and Structural Adjustment Programmes – 1980-2000

During the 1980s, many developing countries witnessed the start of an economic crisis. Failed ISI policies combined with external factors such as deteriorating terms of trade since the 1960s slowed down economic growth. Especially sub-Saharan Africa started to lag far behind the rest of the world (World Bank, 1994). As a result, these countries faced high trade deficits and debt and suffered from high inflation (e.g. Commander, 1989; Wiggins et al., 2010). Access to international credit became more difficult (Reardon and Timmer, 2005). The World Bank and the IMF were the institutions lending assistance under newly developed Structural Adjustment Programmes (SAPs). Countries were given loans on conditions focussed on fiscal stabilisation, free market operation and trade liberalisation, together with a sharp reduction in state intervention (Easterly, 2005).

Amongst the changes implemented across a wide number of countries was the devaluation of overvalued exchange rates, thus reducing the price of imports and making exports more competitive (e.g. Commander et al., 1989; World Bank, 1994; Easterly, 2005). As illustrated by Krueger et al. (1989), overvalued exchange rates had a considerable negative impact on the agricultural sector in the 1970s. The

argument was that devaluation would enable a growth in exports through more competitive prices. Exchange rate devaluations were accompanied by a closer link between producer prices and world market prices, with the aim of incentivising farmers to increase productivity (World Bank, 1994).

Due to the central role of the agricultural sector in terms of GDP contribution, export earnings and employment, the World Bank put the increase of 'traditional' exports at the centre of agricultural policy to generate growth and benefit the balance of payments. The chosen implementation of currency devaluation and an increase in cross-border prices have led to an increase in exports with a consequent rise in income for farmers, and a stimulation of production. For example, cocoa production in Ghana increased significantly between 1982 and 1986 (Commander et al., 1989) as did cotton in Benin and Mali and cashew nuts in Tanzania (Kherallah et al., 2000).

Another way of stimulating exports was through the liberalisation of export marketing channels, which were largely dominated by state owned marketing boards. These boards were not abolished, but their operations became less stringent and more space was created for the private sector (World Bank, 1994). A large number of employees were made redundant to bring down the high labour costs burdening the government budget (Commander et al., 1989; de Rezende, 1989). A similar movement took place in marketing boards for staple food products, although reform of these parastatals, which mostly impact domestic consumers, proved to be difficult with governments reluctant to release control (World Bank, 1994; Kherallah et al., 2000).

Overall, from the years since SAPs were first implemented in 1983-84 until 2000, the agricultural sector in developing countries performed better than in the 1960s and 1970s. It has benefited from currency devaluation, less taxation and general market liberalisation (Kherallah, 2000; Yu and Nin-Pratt, 2011). Benefits were predominantly concentrated amongst larger farmers with access to resources and economies of scale. By contrast, small-scale farmers struggled to pay for more expensive imports such as seeds and fertiliser which were no longer subsidised. It is argued that SAPs resulted in increased inequality (Green, 2009). In addition, due to feeble government commitment and half-implemented or reversed policies, the private sector proved

hesitant to fill the space left by the retreat of government which was one of the main objectives of the SAP policies (Kherallah et al., 2000).

The situation in Latin America was different from that in Africa. Here, despite an ISI policy, the agricultural sector still received substantial support from the government. This was mainly in the form of public investment, cheap credit and extension services. As a result, agricultural output grew significantly throughout the 1970s, mainly due to an increase in land under cultivation and technology (Buainain and de Rezende, 1995; Buainain and da Silveira, 2002). Latin American countries were late to introduce liberalisation policies, some countries only started during the late 1980s. For example, Brazil pursued a minimum price policy and increased its share in crop marketing during the 1980s, which encouraged domestic output (de Rezende, 1989). Despite continued interventionist policies, agricultural output steadily increased in the 'lost decade' of the 1980s (Spoor, 2002). Only during the 1990s did Latin American countries introduce liberalisation strategies, albeit at a rapid rate. Import taxes for food imports dropped between 1988-1990 and 1991-1993 from over 20% to around 5% in Argentina and from nearly 30% to just over 10% in Brazil (Spoor, 2002, 384). Due to credit market reform, driven by fiscal reasons, cheap credit was no longer available. This has had a specific negative effect on small-scale farmers who could no longer afford to borrow money at increased interest rates (Thorpe, 1997). Gains from structural adjustment were made mostly in the commercial farming sector (Spoor, 2002). As a result of the adjustment policies, "output [...] has become more volatile (most likely because output performance is much more closely related to the now dominant export-led growth model, and subsequently with very volatile world market prices for agricultural commodities)" (Spoor, 2002, 397).

But, terms of trade for export commodities have fallen, reducing the income of cash crop farmers and foreign exchange to exporting countries in general. The world prices for the main African export commodities such as coffee and cotton were reduced considerably (World Bank, 2007). The same happened in Brazil which has seen a fall in soya bean, poultry and coffee prices (Buainain and da Silveira, 2002). Even though export crops can bring much needed cash for small farmers and foreign exchange for a country, dependency on a small number of export crops, which is still the case in many sub-Saharan African countries (FAO, 2004), increases the vulnerability of a

country's balance of payment and hence its ability to import staple foods. This situation can potentially lead to food insecurity. Nevertheless, the position of the World Bank during this period was one of "Exporters First" (World Bank, 1994).

As observed by both Kherallah et al. (2000) for sub-Saharan Africa and Spoor (2002) and Kay (2008) for Latin America, the structural transformation of the 1980s and 1990s mainly benefited large-scale farmers who had access to credit and international marketing channels and who focussed on export crops. Despite an increase in agricultural production, developing countries were still largely dependent on imports of staple food crops for their food security and have become more so in the years since structural adjustment (FAO, 2004). Some of the improvements aside, the overall consensus is that the structural reforms with the emphasis on the market and a withdrawal of government interventions did not lead to the intended economic growth (Kherallah, 2000; Chang, 2009). In the decade from 2000-2010, theories on the role of agricultural in development and its structure, in a continually globalising world, have changed. Key debates continued both on the role of smallholders and on whether to prioritise food or cash crop production.

2.4 Agro-industrialisation

Structural adjustment programmes exposed developing countries to the world market (Reardon and Barrett, 2000). Import and export barriers have been reduced considerably, foreign investment has been stimulated and domestic markets have been liberalised. Globally, the agricultural sector has undergone a process of industrialisation in which vertically integrated supply chains become more important (e.g. Boehlje and Doering, 2000; Pingali, 2007; Wiggins et al., 2010). These developments offer opportunities for the agricultural sector in developing countries, but also pose several threats, especially for smallholder farmers.

Agro-industrialisation comprises an increasing vertical integration of the supply chain (Reardon and Barrett, 2000; Boehlje and Doering, 2000). Supported by evolving technologies, a growing group of urban consumers are now in a position to demand a wide variety of high quality goods (Kirsten and Sartorius, 2002). This is channelled via large food processors and supermarkets which are capturing an increasing market share in food distribution (Reardon and Timmer, 2005). In order to ensure high

standards of quality, availability and traceability in an increasingly competitive market, agribusiness and food retailers are looking for vertical integration as a means to coordinate complex supply chains (Kirsten and Sartorius, 2002). Concentration also takes place on the supply side where large firms such as Monsanto and DuPont dominate the market for inputs such as seeds and chemicals (Napier, 2001). Reduced numbers of both customers and suppliers lead to an increase in transaction costs for small-scale farmers, especially in areas where market access is limited (Pingali et al., 2006; Hazell et al., 2010). Vertical integration has gone hand-in-hand with a replacement of the conventional spot market with contracts that enable downstream companies to obtain a greater degree of control (Drabenstott, 1995; Reardon and Barrett, 2000).

A second development accompanying vertical integration is an increase in international food trade (Pingali, 2007), especially in processed foods, horticultural products and oil seeds (Reardon and Barrett, 2000). This is also the case for many developing countries which, since the 1960s, have become food importers rather than exporters. These agricultural imports are expected to increase further during the period 2015/2030 (FAO, 2002). On the one hand, demand for cereal products is expected to increase due to population growth in general and of the urban population in particular. On the other hand, the low productivity of the domestic cereal producers and the lower costs of imports after trade liberalisation leads to a dependency on imports of basic food items, which are often produced by subsidised farmers in developed countries (Pingali, 2007; Hazell et al., 2010). At the same time, markets for traditional agricultural export crops, such as coffee and cocoa, are not growing as rapidly (FAO, 2004). Developing countries are therefore experiencing a deterioration in their balance of payments accompanied by greater risks to their food security position.

A third development in the agro-industrialisation process is that of a change in the agricultural production system itself, driven by changing supply chains and increased globalisation (Reardon and Barrett, 2000; Boehlje and Doering, 2000; Pingali, 2007). Farms tend towards larger scale operations, greater reliance on purchased inputs rather than free family labour and more specialisation. In general, production systems

are seen more as manufacturing operations where technology, information and management become more important (Boehlje and Doering, 2000).

In an increasingly industrialising agricultural sector, transaction costs related to information, markets and technology become more important. It is argued that under these circumstances large-scale farming will become more and more efficient as compared to small-scale farms which gain their competitive advantage from low cost labour (Poulton, et al., 2010). The trend towards larger scale production has been analysed in a large number of works (e.g. Reardon and Barrett, 2000; Kirsten and Sartorius, 2002; Collier, 2008). Although the industrialisation of the agricultural sector has been particularly apparent in parts of Latin America, China and Eastern Europe, Africa and other developing areas have also been affected (Reardon and Barrett, 2000).

2.5 Small-scale farmers in an industrialised and global world

The changed environment in which farmers operate has led to a wider discussion on the role of smallholders in developing countries. Whereas some argue that agriculture in general is limited in its role as engine for economic growth (e.g. Sachs, 1997; Maxwell et al., 2001; Ellis and Harris, 2004; Gardner, 2005), others maintain that within the agricultural sector, there are growth opportunities but only for large-scale operations as these are better adapted to the circumstances of more integrated global supply chains (De Haen et al., 2003; Collier, 2008). Challenges faced by smallholders include higher costs to credit, higher transaction costs in the market and higher vulnerability to price changes (Hazell et al., 2010). In addition, small-scale farmers face greater difficulties meeting strict health and safety standards, and increased concentration in the supply chain combined with vertical integration results in a preference by large downstream businesses for a limited number of large-scale producers for them to enhance control and lower transaction costs (Kirsten and Sartorius, 2002).

Nevertheless, a strong argument still exists for agricultural development with a central role for small-scale farmers. Lipton (2005) observes that productivity increases amongst this group of the population have been critical in nearly all cases of poverty reduction. Irz et al. (2001) sum up 12 effects of agricultural growth in the farm, rural

and national economy, indicating that the linkages first mentioned by Johnston and Mellor (1961) still play an important contemporary role. Jayne et al. (2006), Hazell et al. (2010) and Wiggins et al. (2010) emphasise the importance of smallholders to reduce poverty, the first of the United Nations Millennium Development Goals. More specifically, despite increasing globalisation and international trade, it is argued that developing countries should focus on food production for the domestic market, rather than export crops (Kydd and Dorward, 2001). Timmer (2002) observes that food security has been essential in generating wider economic growth, an argument already made in the 1950s by the supporters of the classical theories. It has to be noted, however, that dietary changes due to increased urbanisation and increases in income (e.g. De Haen et al., 2003; Pingali, 2007) mean that demand for traditional staple foods declines whereas demand for non-traditional products increases. It remains to be seen if smallholders can make the transition to these new crops and if the growing conditions are suitable.

In addition to food security, Diao et al. (2010, 1379) argue that "broad-based agricultural growth is more pro-poor than export-led growth". The national and regional markets for staple food products, such as cereals and roots and tubers, are still the biggest markets for agricultural producers in many developing countries (Diao et al., 2007). Opportunities do exist in high-value export crops such as fresh fruit and vegetables, though this will only be available to a small number of farmers with access to capital required for expensive seeds, fertiliser and pesticides and who will be dependent on a highly variable demand (FAO, 2004; Pingali, 2007; Hazell et al., 2010). Developing countries with large mineral resources might have higher exchange rates that make food imports cheaper, leaving domestic food production uncompetitive. In this situation, it is argued that high value crops could be a better way of developing the agriculture sector (Hazell et al., 2010).

Most land in Africa is under cultivation by smallholder farmers (World Bank, 2010a). Although these families might have income from non-farm activities, they largely depend on the harvests from their land to feed themselves (Jayne et al., 2006). Work on the farm mostly is done by cheap family labour (Wiggins, 2009). But it is amongst this group of people that poverty is highest. Many smallholder farmers seem to be trapped in semi-subsistence poverty (Barrett, 2008). Therefore, many

recommendations have been made to put smallholder development at the heart of poverty reduction strategies (e.g. World Bank, 2010). To understand the impact that large-scale farming, either by domestic or foreign businesses, might have in Africa and other developing countries, it is important to get an insight in the role of small-scale farmers.

According to Nagayets (2005), there are around 33 million small farms in Africa, representing roughly 80% of all farms on the continent. Despite a large variety, smallholders can produce up to 90% of total agricultural production (Nagayets, 2005). With a large share of production being generated by small-scale farmers, growth in a country's agricultural sector can indicate increased performance by these farmers. During the past 40 years, West and North Africa have shown considerable growth in their agricultural output (FAOSTAT, 2011c). In general, in most countries in these regions, growth in agricultural production has kept pace with population growth. By contrast, productivity growth has been much lower in southern and East Africa and has lagged behind the rest of the world. There is, however, a marked variability across the region, as far down as the district level (Jayne et al., 2006). Certain authors indicate that crop input and management issues might be underlying factors that can explain this diversity (Jayne et al., 2006).

Looking at smallholder farming from a labour productivity side, the figures are less favourable. Small-scale farming largely depends on the input of family labour, which is cheap, highly motivated and has intimate knowledge of the land (Poulton et al., 2010). Productivity per hectare therefore can compare favourably with large-scale farming where labour input is less intensive (see Wiggins, 2009 for a number of examples). Nevertheless, important is the added value per person. For a family to reach at least the US$1 per day threshold, each active member needs to contribute US$365 per year plus extra income to cover for dependent family members. Almost half of all countries in Africa did not even reach the level of US$350 per labourer (FAOSTAT, 2011c). It is in these situations that families will be trapped in a constant situation of poverty.

As Jayne et al. (2003) have demonstrated, per capita income for smallholder farmers shows a strong positive relationship with land access. The more land a family has

access to, the higher the per capita income. In the same study, it is shown that the ratio of land cultivated per person has come down significantly across a number of countries between 1960 and 1999. One possible cause of this decline is absolute population growth amongst the rural population which causes pressure on available land resources. As can be expected, small farmers in relatively land scarce countries will have smaller size holdings than in countries that have a relative abundance of land. This is clearly illustrated by Rwanda where the average landholding size is 0.71ha, whereas in Zambia this is nearly four times as much at 2.73ha. Within countries there is a great spread amongst agricultural households where the quartile of households with the lowest land access is as little as 0.2 and 0.32ha in Rwanda and Ethiopia respectively, compared to 1.82 and 2.58ha for the quartile with the largest land holding (all figures from Jayne et al., 2003).

Lack of capital is a severe issue for many small-scale farmers. With limited income, no funds are available to acquire inputs such as good quality seeds and fertiliser, for irrigation or storage, or for farm animals. This results in low productivity and thus little or no harvest that can be sold at the market place to obtain income to purchase inputs for the next cycle. This is a vicious poverty circle from which many farmers find it hard to come out of (Dickenson, 1996).

Staple food crops are the main crops grown by smallholder farmers. Cash crops for market sales might give them higher income and thus a means to get out of the poverty trap, but these crops make the family more vulnerable. Input costs for cash crops are usually higher than those for staple crops and it is important to have access to markets (Jayne et al., 2006). If the family cannot meet these two conditions, it will have to revert to staple crops. Even if the farmer can manage to raise the funds and is able to sell to the market, the food security of the family is highly jeopardised in the case of a failed harvest. The family then is fully dependent on the food market to buy all their food. Examples of high involvement of smallholder farming in cash crops are tea and coffee in Kenya (Kabura Nyaga, 2007), cocoa in West Africa (Duguma et al., 2001) and cotton in Burkina Faso and Mali (Tschirley et al., 2009).

This situation does not imply that staple food crops, such as maize and roots and tubers, are not being sold by small-scale farmers. In their study in five sub-Saharan

countries, Jayne et al. (2006) found that market integration of smallholder farmers is, however, limited. Only 20-35% of these farmers were sellers of maize, and mainly these were farmers with larger landholdings of 4-20ha. The majority, 50-70%, were buyers of cereals and only have access to a small area of land. In addition, due to lack of storage facilities, many farmers sell their crops immediately after harvest at a low price, only to buy it back later in the year at a higher price (Barrett, 2008). Similar patterns have been found in other studies (e.g. Levinsohn and McMillan, 2007, Stephens and Barrett, 2011). High food prices might give farmers an incentive to grow more. However, this will only benefit a small and already privileged group of farmers able to sell to the market, whereas it will hurt the majority of small farmers who cannot even reach their own food security and thus are dependent on buying food (Barrett, 2008).

Governments and international organisations argue that smallholder farmers can benefit from foreign investment through access to market, technology and inputs to the domestic farmers. In his study over a wide area of literature on market participation amongst smallholder farmers in eastern and southern Africa, Barrett (2008) finds evidence that lack of access to these items certainly impedes smallholder farmers from involvement in market activities and traps them at low-income levels.

2.6 The changed role of governments

Governments have acknowledged the changes taking place in the agricultural sector and the role they need to play in developing their agricultural sectors, which in many sub-Saharan countries makes up more than 20% of GDP and can employ as much as 80% of the population (World Bank, 2010b). Even though some African countries earn a large share of their foreign exchange through exports of cash crops, such as coffee and fresh vegetables, all sub-Saharan countries are net importers of cereals, the main staple for the majority of the population (FAOSTAT, 2011c; World Bank, 2011). The agricultural sector thus has a large potential in reducing poverty, but needs government support in order to grow.

During the years of ISI and SAPs, government support was withdrawn under budgetary constraints and the policy of free markets. The Comprehensive Africa Agriculture Development Programme (CAAPD) under the NEPAD initiative argues

for a reversal of this situation and calls for the African Union (AU) members to dedicate ten percent of their national budget to agriculture and achieve a 6% annual growth rate in their agricultural output (NEPAD, 2010). Despite these good intentions, in the seven years since its signing in 2003 only eight countries have increased the budget allocated to their agricultural sector and only ten African Union members have reached the 6% growth rate. Likewise, in its World Development Report 2008, the World Bank (2007) acknowledges the leading role agriculture can play in generating overall growth.

Even though financial support from both governments and ODA is increasing, the debate on how this money should be channelled continues. It is acknowledged that the market does not reach large parts of the developing world. For example, private R&D has not invested in developing seeds and technologies for crop production on marginal land (Pingali, 2007), especially the wide range of soils available in Africa. Public funds put towards the green revolution in Asia illustrates the potential of technological development geared towards smallholder food production and the importance of government funds to bring these developments into operation (World Bank, 2007).

Another area for governments to play a key role is support for infrastructure and irrigation (Pingali, 2007). Small farmers need access to both information and markets. The provision of public goods such as roads and telecommunication infrastructure are essential for rural farmers to become connected to the market. Irrigation is essential to increase the productivity of the land but is usually expensive (World Bank, 2007). Communal irrigation provided by the government can increase the incomes of many small-scale farmers. As the previous section illustrated, government expenditure on infrastructure and irrigation were crucial to the successes obtained during the Green Revolution.

On the other hand, there are arguments for the role of the private sector when it comes to the provision of inputs such as fertiliser, access to credit and storage facilities (Pingali, 2007). Government has to create an environment that stimulates the private sector, rather than sending mixed signals as has happened in many cases (Kherallah et al., 2000; Jayne and Chapoto, 2002; Harrigan, 2003;). For example, the continued

interference of government in export policies for food products creates uncertainty for private farmers and hence their reluctance to invest in food crop production (e.g. Nijhoff et al., 2002). Another case in which insufficient government support prohibits the private sector from stepping in is the provision of fertiliser and other inputs. Many governments provide subsidised inputs to smallholder farmers, with mixed impact on the operation of commercial traders (Xu et al., 2009). Private suppliers rely on good roads to minimise their distribution costs once again indicating the important role for government investment in infrastructure (Kydd and Dorward, 2001).

Diao et al. (2007) argue that in the early stages of agricultural development many analysts expected profits in the food chain to be extremely low. Market failures are likely at this stage (Dorward et al., 1998; World Bank, 2007), further reducing the incentive for the private sector. In this case, the government must step in, ensuring that productivity increases, inputs become more readily available and incomes grow., After many years of SAPs, numerous researchers and institutions have acknowledged the failure of the market (Chang, 2009). The World Bank (2007), long one of the main promoters of the free market, has changed its position and now recognises that governments have a role to play in growing the agricultural sector and thereby reducing poverty.

Central to the agricultural sector is land. Access to land (and water) is a major factor for international investors looking for large areas with agricultural potential. In addition, access to land and equal land distribution, combined with other measures, is seen as a critical factor to raising farm productivity (Chang, 2009). In many cases in Africa, this will require government initiated land reform policies. Of importance is the debate on private land ownership versus communal land holding with regard to productivity. Linked to this discussion is the impact that large-scale commercial land projects can have on the local population. Opponents of such projects claim that the land that the local population is dependent on is insufficiently protected by the government and hence small farmers lose access to their land when commercial investors require land (e.g. Daniel and Mittel, 2009; von Braun and Meinzen-Dick, 2009). Due to the importance of land access and the central part the government has in establishing land policies, this topic is looked at in more detail with a specific focus on Africa.

In Africa, land policies differ largely from those in developed countries. Whereas Europe and the USA rely on well-organised land markets and land is owned largely on individual title, "over 80% of arable land in sub-Saharan Africa is held under some form of 'customary' tenure" (Boone, 2007, 566). This has major implications both for local farmers and for foreign companies looking for agricultural investment opportunities.

Many sub-Saharan countries have a dual land system which has its roots in the colonial days (e.g. Berry, 2002). When first settling the new areas, colonial authorities claimed all unoccupied or ownerless land for the state (McAuslan, 2006). This land was then brought under control in two different ways: one administered based on European rules and regulations where land was owned as private property, and one according to what was called "customary law" where land was held collectively (Berry, 2002, McAuslan, 2006). In this way, "Colonial rulers interpreted and sought to enforce rural land rights in ways that would shore up the power of their rural allies, create political structures for governing rural populations, promote the partial commercialisation of agriculture, fix some rural populations to the land, and promote the geographical mobility of others" (Boone, 2007, 561). The belief that customary law was a long established local practice does not seem to hold though. According to Whitehead and Tsikata (2003, 75) "many of the central tenets of African land tenure, such as the idea of communal ownership, the hierarchy of recognized interests in land (ownership, usufructory (sic) rights and so on) or the place of chiefs and elders, have been shown to have been largely created and sustained by colonial policy and passed on to post-colonial states".

Upon gaining independence, different countries tackled land policies in different ways. Some countries, such as Kenya, tried to continue on the road of increased individual tenure as initiated by the colonial government (McAuslan, 2006). Most newly formed states across the continent vested land ownership in the President, the state or local governments, ignoring the rights of customary owners. This leaves the community as mere occupant of the land, without any secure rights (Alden Wily, 2001). By claiming all land to be under control of the state, the powers of chiefs in land allocation were greatly reduced (Lavigne Delville et al., 2002). At the same time, new governments used their control over land to "promote national integration,

accelerate the expansion of commercial agriculture, and demobilise rural populations who entered the political arena at the time of the nationalist struggle" (Boone, 2007, 561). Examples of countries where the State gained control over all land are Senegal and Ivory Coast. Both countries excluded land with private title from state ownership (Boone, 2007).

International donors believed that one of the underlying reasons for the low productivity in African agriculture was the insecurity of land tenure under customary law. The reasoning was that once farmers had legal title deeds, these could be used to obtain credit and make the farmer invest in land (Peters, 2004; McAuslan, 2006). Nevertheless, research by the World Bank, a major driver of establishing private property rights, indicated that private land tenure does not lead to the reduction of poverty (Deininger and Binswanger, 1999). Concerns that customary land policies prevented investment and commercialisation of the agricultural sector were refuted by studies showing the involvement of small farmers in the growing of cocoa on customary land in West Africa (Peters, 2004). At the same time, other studies showed that even under customary landholding systems, most farming activities are executed by individuals or families who have an independent claim on that particular plot (Atwood, 1990; Peters, 2004). Land reform policies designed to increase individual land tenure actually failed to achieve this aim, particularly amongst the poor. Rather, these programmes "encouraged speculation in land by outsiders, thus displacing the very people … who were supposed to acquire increased security through titling, and they facilitated practices of bribing, fraudulent titling and expropriation of land" (Peters, 2004, 274).

The failure of land reform policies together with the growing evidence of the benefits of customary land holding systems (e.g. Atwood, 1990) prompted the international donor community, including the World Bank, to revise their position on this type of tenure, even though land titling, individually or collectively, is still seen as a tool to increase tenure security (World Bank, 2010a). Land policies in many African countries now recognise customary tenure, although in many different forms. For example, Tanzania distinguishes three kinds of land: reserved land, village land and general land (Theting and Brekke, 2010). Madagascar introduced a new land policy in 2005 acknowledging "untitled private property", being land collectively claimed by

local people. Before the policy change, all land without private title belonged to the state. Local land administration offices have been introduced to deal with private ownership based on previous local rights (Perrine et al., 2011).

Nevertheless, giving more legal recognition to customary land does not necessarily imply that the poor have more secure access to land. Rights to these communal lands are not egalitarian (Atwood, 1990; Peters, 2004). Not only can secondary land rights, like those to communal grazing lands, be sold to individuals, the more powerful members of a community can decide to claim exclusive ownership for themselves or their beneficiaries. In addition, communal land rights are often disputed, depending on the interpretation of the law and often unclear, unrecognised boundaries. Liberia is one country where this has led to conflicts over land allocated to private companies but previously used by the local population (World Bank, 2010a).

After more than 50 years of independence, most African countries still have a form of dual land tenure system causing confusion and conflict. As McAuslan (2006, 1) states "Colonial boundaries; colonial land grabbing and their spurious legal justifications as well as colonial policies, practices and laws within each colonial entity that is now an independent state provide the starting point and, too often, the framework for land management and reform today". This has major implications for foreign direct investors looking for secure land rights and the local people historically using the searched after land. As will be shown, with land pressure rising, securing local land rights is one of the main issues facing poor families and one of the biggest issues where government policy in Africa has to balance the wishes of the poor smallholder families and commercial farmers, both domestic and foreign.

2.7 The role of foreign investment

In a world dominated by vertical supply chains, technology and information, foreign investment in developing world agriculture plays an important role. Foreign businesses, especially vertically integrated trans-national corporations, can open channels to both domestic and export markets, thus integrating developing countries in the global market. These companies usually apply modern technologies that increase yields but which are too capital intensive for developing country farmers to purchase. In order to operate efficiently, private investors build their own roads and

infrastructure for which the national government lacks the required funds. Through increased production, either food supply to the domestic market increases and thus potentially improves the food security status of the host country, or foreign exchange earnings increase in the case when the foreign investor focuses on export crops. A last argument for the role of foreign investment is their impact on the creation of jobs (Cotula et al., 2009; Görgen et al., 2009; von Braun and Meinzen Dick, 2009; World Bank, 2010a).

Nevertheless, it is recognised that large-scale foreign investment can also pose serious threats to developing countries, and smallholder farmers in particular. These include displacement of farmers, loss of access to communal resources such as water or grazing land, ecological disruption, reduced domestic food supply if land use is being transferred from food production to export crops and environmental degradation (von Braun and Meinzen-Dick, 2009; Daniel and Mittel, 2009). Especially in the case of investment where large areas of land are involved, the risks to the host country increase. As Hazell et al. (2010) argue, unequal land distribution has been less 'pro-poor' than in cases where agricultural growth has taken place focussed on small farms. This makes a strong case to integrate smallholder farmers in the foreign investment operation, for example through contract farming or out-grower schemes. It is also through this set-up that local farmers can secure full benefits through access to improved technology, credit and other inputs that might otherwise be outside their reach.

Large-scale foreign investment can contribute to domestic food supply, producing a surplus of staple food crops for the increasing urban population which cannot be supplied by low productive smallholder farmers. Not only will this increase domestic food supply, it can also lower staple food prices, leaving consumers with a higher real wage. Foreign investment also can be a vehicle to integrate a developing country into the agro-industrialised sector. As Reardon and Barrett (2000, 196) state "it appears that agro-industrialisation is merely a necessary, not a sufficient condition. It may accentuate prevailing inequities, deepen poverty among vulnerable subpopulations, or damage the natural environment if not induced and monitored carefully". The next chapter will look into the trends, drivers and impact of large-scale foreign investment in more detail.

2.8 Conclusion

Agricultural planning and policy has changed since many developing countries gained independence from the 1950s. Initially the sector was seen as supplier of labour and tax income to drive industrialisation and was greatly disadvantaged. To finance import substitution industrialisation policies, governments became dependent on cheap credit, albeit these policies had little success in growing the manufacturing sector. It was during this period that small Asian farmers, supported by heavy government investment, multiplied their staple food production using new high yielding varieties, creating the basis for diversified economic growth in the following decades.

In the 1970s oil prices escalated to record levels increasing the current account deficits of oil importing countries and so ending the era of cheap credit. Faced by fiscal constraints, developing countries became subject to conditional loans by the IMF and the World Bank as part of structural adjustment programmes. The main objectives of these SAPs were to reduce government intervention, liberalise markets and increase exports of agricultural crops. Nevertheless, these policies have not had the desired effects. Especially the region of sub-Saharan Africa still suffers from low productivity and increased food insecurity.

Towards the end of the 20th century a trend emerged towards industrialisation and globalisation of the agricultural sector with more concentration both vertically in the supply chain as well as horizontally on larger scale farms. This situation poses new threats to small-scale farmers in developing countries who might miss out altogether on agricultural development. On the other hand, FDI might offer a channel to connect with the rest of the world and give access to new technology to increase productivity.

Regardless of the dominating planning theory, it is evident that only if domestic food supply is sufficient, overall economic development can be achieved. Governments have always played an important role in stimulating a growth in food production, especially based on smallholder farmers, recognising that the free market does not ensure agricultural development. Under the CAADP, African governments acknowledge that their commitment to the agricultural sector must be enlarged after

many decades of insufficient financial support. Small-scale private investment can play an additional role, especially in the more populated areas where commercial activities are more likely to be viable. Large-scale (foreign) investment requires vast tracts of unused land which mostly is available in more remote areas. This kind of investment has the potential to assist government in providing infrastructure and employment in what usually are the least developed regions. To ensure developmental benefits from these large-scale investments, the host country must ensure that the investor does provide both jobs and facilities. Additionally, the country as a whole will gain most if (part of) the produce, whether it be food or biofuel, is sold domestically. This can reduce dependence on volatile world markets. The integration of small-scale farmers in large-scale operations is thus considered as detrimental to the benefits of the region and the country as a whole.

CHAPTER THREE

LARGE-SCALE LAND INVESTMENTS: A GLOBAL OVERVIEW

3.1 Introduction

In Chapter Two it was argued that agricultural development, and specifically production to secure domestic food security, is an essential step towards a more diversified economic structure. Nevertheless, this has not always been the underlying thought behind agricultural policies since the 1950s when it was viewed as a submissive sector used for resources and capital to develop manufacturing. Since the turn of the century, agriculture has become part of a liberalised and global economy. At the same time, the sector has regained interest as the focus for poverty reduction on the one hand and as global investment opportunity on the other hand. In addition, food security has become an issue in a large number of countries. These developments have resulted in governments in developing countries receiving numerous requests to either lease or sell large areas of land.

This chapter will look in detail at contemporary large-scale land investments by foreign parties in developing countries. These investments are diverse from many perspectives. This chapter aims to describe the range of projects identified in numerous sources in order to better understand current developments. It will first identify the drivers behind the interest of investors in overseas land for agricultural purposes. Next, an estimated scale of the projects is portrayed. This section not only looks at reported investments, but also at the actual developments on the ground, which can vary from reported intentions. Different regions are highlighted, with a distinction between food and fuel crops. Subsequently, the focus will shift to the actors involved in the various deals. After having established the scale and stakeholders, this chapter will narrow to examine the impact these investments have on host regions. Several institutions such as the World Bank argue in favour of large-scale foreign investment to support economic development whereas other organisations perceive that the risks outweigh the benefits. Based on literature research, this chapter argues that despite the theoretical benefits for local

development, there are numerous risks involved which may lead to the local population actually losing out to the more powerful investors. It is argued that governments need to be aware of the risks they take when allocating land to foreign investors. These allocations must be part of a well defined policy in order to obtain the goals the government has set.

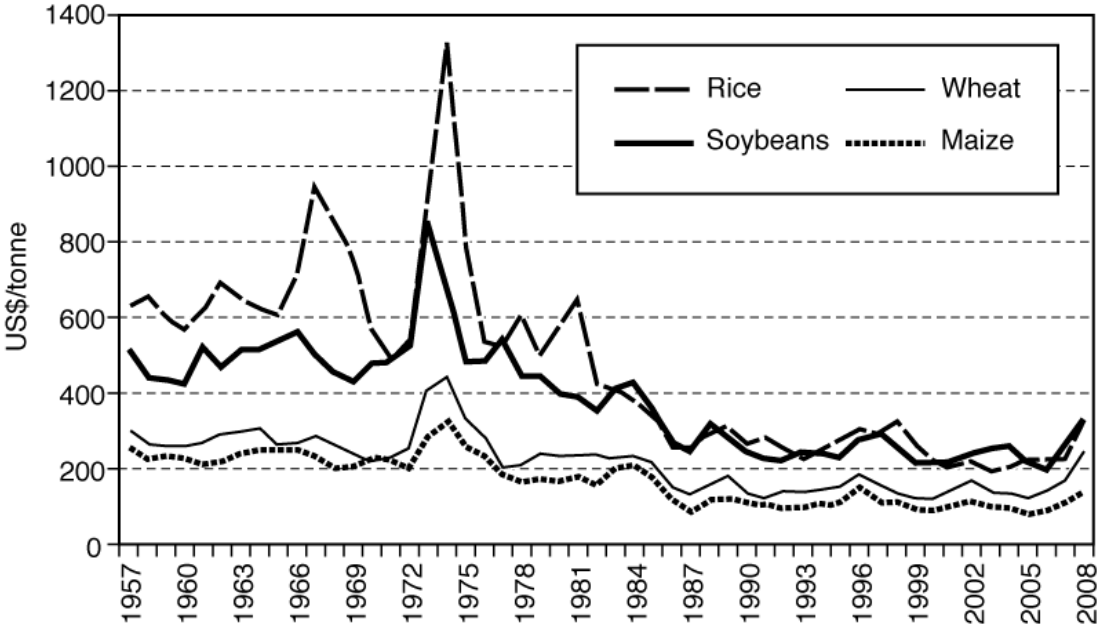
3.2 Current trends and drivers

Numerous authors have identified several drivers behind the increased interest in agricultural land as investment opportunity (e.g. Cotula et al., 2009; Sarris, 2009; von Braun and Meinzen-Dick, 2009). All these drivers are linked to the three main global crises of 2007/08: the food crisis, the oil crisis and the financial crisis. Another factor is the climate crisis which is driving the demand for alternative fuels and has made several countries more aware of the sustainability of their land and water use practices and impacts on future food production capacity.

3.2.1 The Food Crisis

From the 1950s until the start of the 21st century the world experienced an extended period of declining food prices. Occasional spikes were triggered by bad harvests due to weather-related events and were corrected with the next harvest (Brown, 2009). The oil crisis of the early 1970s caused the only major food price spike. Due to a rapid increase in productivity, driven by technological advancement, food prices were able to fall subsequently despite a continual increase in population (Brown, 2009; Sarris, 2009). But, between 2005 and 2008 world market prices for most basic food staples increased in consecutive years, culminating in tremendous price spikes in 2008, albeit at a considerably lower level than during the 1970s (Sarris, 2009). As Figure 3-1 shows, the generally downwards trend of world food prices came to a halt in the second half of the 1980s, after which prices flattened out. According to Sarris (2009, 4) “this suggests that there may have been several slowly evolving factors affecting global food markets that gradually created a situation of tightly balanced supply and demand, where a spike was almost inevitable in response to small shocks”.

Figure 3-1: Real prices for bulk commodities from 1957-2008 (US$/tonne)



Source: FAO Trade and Markets division; as published in Sarris, 2009, 18

Many different authors mentioned several structural factors which led to the recent sharp increase of world food prices (e.g. Brown, 2009; Sarris, 2009) including:

- *A continuous increase in population*: the world's population has grown from 2.5 billion in 1950 to nearly 7 billion in 2010 and is likely to increase to over 9 billion by the year 2050 (UN Population Division, 2009);
- *More people moving up the food chain*: as more and more people move up the income ladder, especially in Asia, consumption of meat increases. This requires an increase in grain production for animal feed (Brown, 2009);
- *Increased competition for land and water from increased urbanisation*: The United Nations predicts that by 2035 over 60% of the world's population will live in urban areas, compared to 43% in 1990 and 50% in 2010 (UN Population Division, 2009);
- *A rise in oil prices*: world oil prices went up from an average US$12.28/barrel in 1998 to US$94.45 average in 2008, peaking at US$140.73 in July that year (OPEC, 2011). As section 3.2.2 will illustrate, a high correlation exists between oil prices and food prices for a number of reasons;
- *A slowing rate of increase in agricultural productivity*: soil erosion, depletion of water sources, rising temperatures and an increasing difficulty to find

scientific improvements all challenge the continuous increase in land productivity which has driven the long term drop in food prices (Brown, 2009);

- *A surge in the demand for biofuels*: driven by high oil prices and climate change policies in Western countries, cars now compete with people for crops and hence for limited land and water resources (Cotula, et al., 2009); and,
- *A decline in global food stocks*: in case of low food stocks, prices react much stronger to any disturbance in supply. As Sarris (2009) illustrates though, global food stocks for the main traded food commodities were not at unusually low levels in 2007/09.

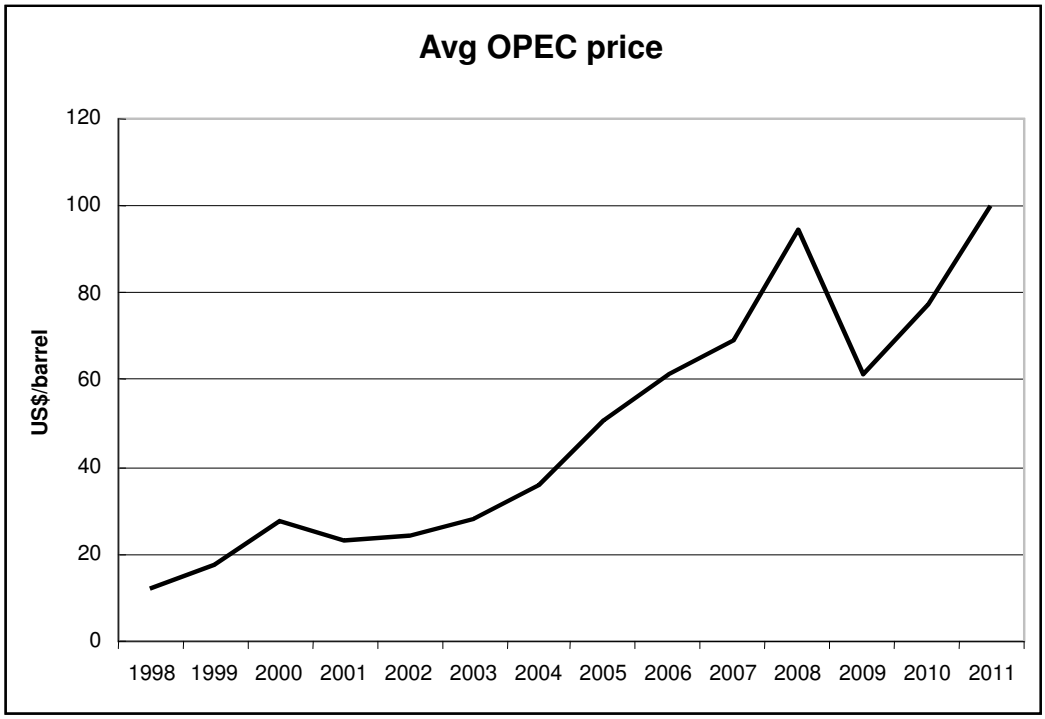
To make matters worse, the increase in domestic food prices prompted leading wheat exporting countries such as Russia and Argentina (Brown, 2009) as well as leading rice exporters, such as Vietnam and Thailand (The Economist, 2009) to limit or even ban exports of wheat and rice, driving world markets prices up even higher. As a result, riots broke out in several countries, from Haiti to Zimbabwe to Bangladesh, fuelled by people who could no longer pay for their daily food requirements (Tandon, 2010). Whereas academics have argued for the importance of domestic food production as a generator for economic growth in developing countries (Chapter 2), food security without dependence on a volatile world market also seems to be a means to prevent domestic turmoil.

With supply to the world food market being distorted by major exporters, food importing countries have become concerned about their dependence on the market for their food supply. Due to limited land and/or water resources, several countries such as the Gulf States and densely populated countries in East Asia (e.g. South Korea), have had to rethink their food security strategy (Görgen et al., 2009). One of the policies implemented as a result is large-scale land investment outside their borders to gain direct control over their food supply. For example, Qatar has established Hassad Food, part of the Qatar Investment Authority, which considers the achievement of food security for Qatar as first point in its strategic mission (Hassad Food, 2010).

3.2.2 The Oil Crisis and the Growth of Biofuels

Since the early 1900s, oil has been a key driver of global economic development. It currently has a 40% share of the worldwide energy market and mainly is used for transportation purposes (Roberts, 2005, 5). Throughout the 20th century, oil supply seemed to be unlimited with new oil fields discovered on a regular basis. Nevertheless, since 1981 oil has been extracted at a faster rate than new reserves have been found (Brown, 2009). Recently, the notion of 'peak oil' has been established. Peak oil indicates the point where oil production will be at its highest level, expected to be around 2035 or later. If demand for oil continues to increase, this peak will be determined by a lack of supply: current oil reserves will be depleted at a faster rate than new sources will be found, reducing the overall stock of oil and possible extraction quantity (OECD/IEA, 2010).

Figure 3-2: Yearly Average OPEC Basket Price, 1998-2011



Source: OPEC, 2011

Political instability has placed an additional upwards pressure on the world oil price: the oil embargo of 1973/4, the Iran-Iraq war, the Gulf wars and the 2011 turmoil in Libya all have had a de-stabilising effect on world oil supply and prices. Overall, prices have increased continuously since 2001, a trend most experts say is unlikely to

change (see Figure 3-2). Oil importing countries are subject to this high volatility and increasing price of petroleum, and with it the trickle-down effects it has on their economies.

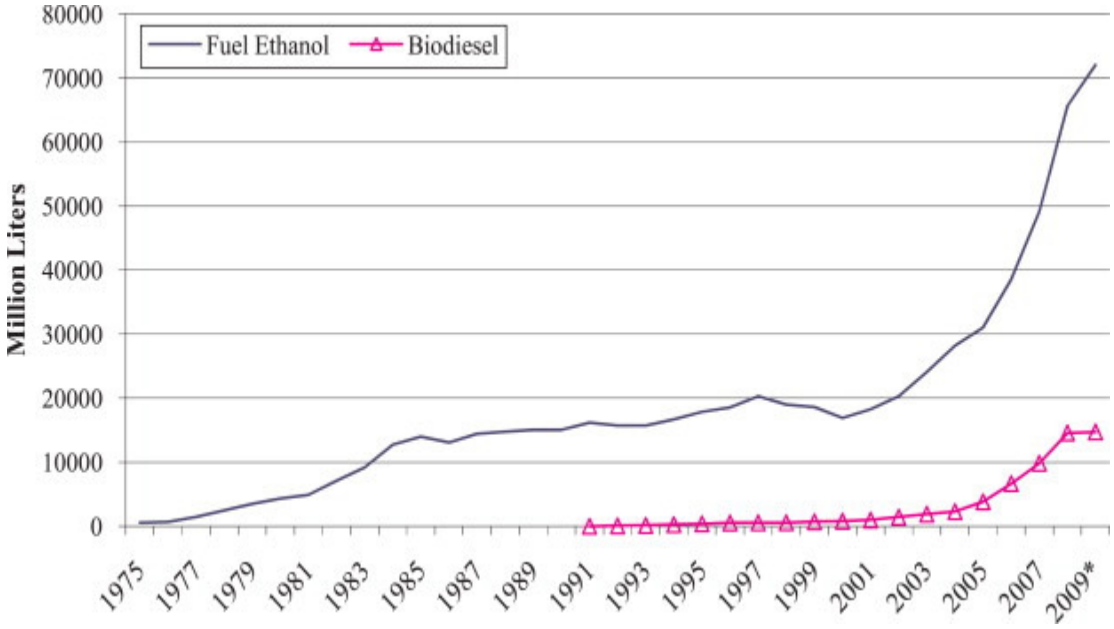
In addition to the notion of oil supply running out, the world has become aware of the negative impact this resource has on the global environment. As with the burning of any kind of hydrocarbon material, the burning of oil releases carbon-dioxide (CO_2) into the atmosphere. Oil is said to account for 38% of global CO_2 emissions (Brown, 2009). Besides, reports abound on oil spillage causing natural disasters, for example in the Niger delta in Nigeria (Duffield, 2010) or the 2010 oil spill in the Gulf of Mexico (Goldenberg, 2010).

Oil plays a major role in the agricultural sector, where it is used in tillage, irrigation, harvesting (Brown, 2009, 8), the production of nitrogen-based fertiliser and transport (Cotula et al., 2009, 53). The price of oil therefore shows a high correlation with that of food. Many authors linked the oil price spike to the food price increase in 2008 (e.g. Cotula et al., 2009; Sarris, 2009). The expected long term increase of oil prices is thus likely to exert an upward pressure on food prices in the future.

Driven by expected supply constraints, price volatility and negative climatic impacts, scientists and governments have started to investigate alternatives to petroleum. This search began as far back as the oil crisis of the 1970s (Birur et al., 2007). Figure 3-3 illustrates that liquid biofuel production of both bioethanol and biodiesel[2], have increased steadily and now hold a small market share of 1% of total fuel demand for the road transport sector (IEA, 2006).

[2] Biofuels are liquid fuels manufactured from biomass. Bioethanol is a distilled liquid produced by fermenting sugars from sugar plants and cereal crops (e.g. sugar cane, maize). Biodiesel is produced from organic oils from crops such as soya, oil palm or jatropha. Both bioethanol and biodiesel can be used in pure form in adapted vehicles or blended with gasoline for use in conventional engines (Cotula, et al., 2008, 8)

Figure 3-3: World Production of bioethanol and biodiesel



*Figures for 2009 are a projection.
Source: Sorda et al., 2010, 6978

Government policies are the main driver behind the growth of biofuel demand (Cotula et al., 2008). Amongst the reasons for governments to implement pro-biofuel policies are energy security, rural development, climate change and export development (Cotula et al., 2008; FAO, 2010). Policies focus on setting legally binding targets either on a blending mix with traditional fossil fuel (European Union, Canada, Brazil) or absolute volume quantities to be sold in the market (USA) (Sorda et al., 2010). In order to stimulate producers to reach targets, several financial incentives have been put in place such as favourable tax rates and subsidies (Sorda et al., 2010). With the exception of Brazil, where the ethanol sector has a long and fairly successful history, biofuels are not competitive without financial support[3] (OECD/IEA, 2010).

Nevertheless, biofuels are not without negative impacts. These fuels are made from food crops such as maize and sugar and thus are in direct competition with food production. Indirectly, they compete with food supply via the use of limited land and water resources. Other concerns relate to the possible loss of virgin forest and land access for the poor, and the actual net negative greenhouse effect (Cotula et al., 2008;

[3] Biofuel subsidies were estimated to be US$20 billion in 2009. Subsidies for all fossil fuels combined in 2009 were more than 15 times as much at US$312 billion, nearly half of which went to oil (OECD/IEA, 2010)

Brown, 2009; Sorda et al., 2010). Several governments have implemented policies to limit these negative consequences. The European Union has issued criteria that "no bio-feedstock shall originate from primary forests, highly bio-diverse grassland, protected territories and carbon-rich areas" (Sorda et al., 2010, 6982). In addition, it has set so-called Green House Gas emissions reduction targets to ensure the production of liquid biofuels will have less impact on the climate (Sorda et al., 2010). The USA has chosen to increase efforts to develop second generation technologies, producing biofuel from waste products rather than food crops (Sorda et al., 2010).

Overall, the oil crisis of 2008 demonstrates the direct impact a high petroleum price has on food prices, a trend repeated in 2011. The expansion of the biofuel sector is one of the major reasons behind the recent surge in large-scale overseas land investment and is likely to remain so in the future.

3.2.3 The Financial Crisis

Since the early 2000s, an influx has occurred of private investment into the agricultural sector in general and in developing countries in particular (Blumenthal, 2009; McNellis, 2009). The range of investors is diverse: governments, sovereign wealth funds, investment funds (such as hedge funds and pension funds), large private investors and agribusiness (McNellis, 2009). Investors anticipate a continuous increase in food and land prices and growth of the biofuel sector. This should lead to an increase in the value of their shares, and make their funds more attractive to new investors (Görgen, 2009, 15). Investment in farm land historically has proven to generate a higher return than the inflation rate, therefore being an effective tool for inflation hedging (HighQuest Partners, 2010, 17).

Although the financial crisis greatly reduced available funds (UNCTAD, 2009), investors realised that performance of "hard assets" such as farmland are largely independent from general market developments (HighQuest Partners, 2010, 18). With the collapse of the derivatives market, portfolio diversification has been a major driver in attracting more funds into agriculture in developing countries where land is still cheap (Blumenthal, 2009; McNellis, 2009). The performance of the agricultural sector is expected to be strong in the near future and therefore likely to be of continued interest to investors (UNCTAD, 2009).

3.2.4 Climate Change Considerations

Of longer-term impact on the world agricultural sector are considerations of climate change and the impact this will have on food supplies. As the IPCC study (2007) points out, temperatures around the world have risen slightly already and will continue to increase; weather events are expected to become more severe with more intense droughts, storms and rainfall; sea levels are anticipated to rise, threatening a large part of the population currently living in low-lying areas such as Bangladesh, the Mekong delta of Vietnam, and the coastal regions of China. Such changes will have a substantial impact on ecosystems, water resources and consequently, on food supply.

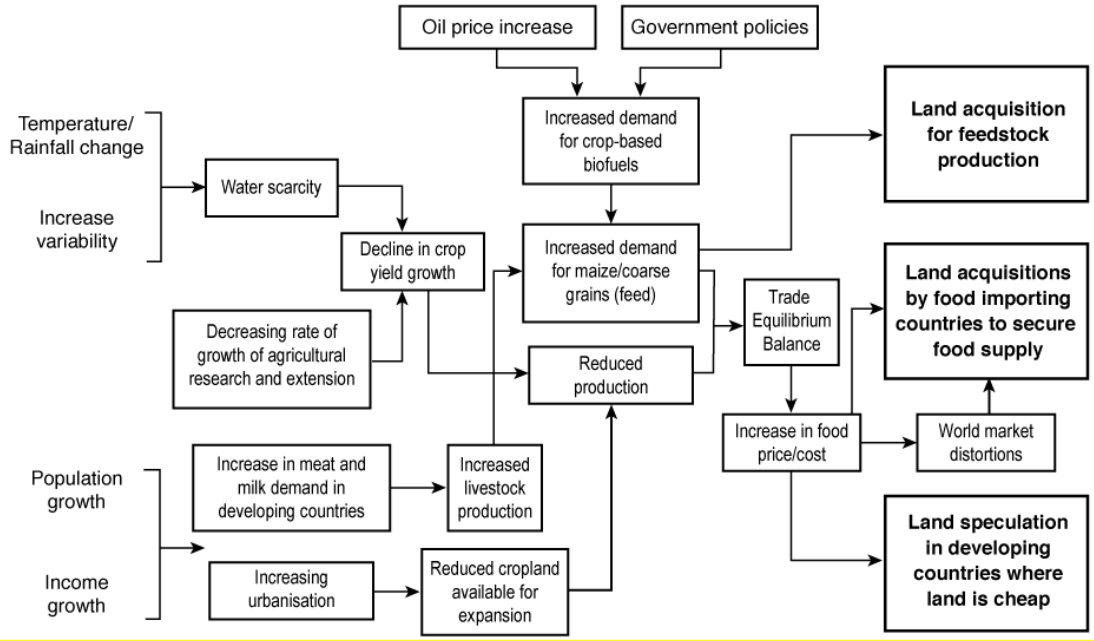
Rising temperatures result in heat waves and prolonged periods of drought, wildfires and more intense storms that cause lower harvests (Brown, 2009, 59-60). A major impact is said to come from melting glaciers. Currently, glacier melt feeds major rivers across the world. It is this melting water that sustains agriculture through the dry season. Since the late 1980s glaciers around the globe have retreated consistently, threatening the long-term supply of water to irrigate fields downstream (Brown, 2009, 66-67). In general, even a slight increase in temperatures will decrease the yield of crops (Brown, 2009, 69-70). The IPCC (2007, 48) anticipates a slightly higher yield in those countries situated in mid- and high latitude, but only if temperatures do not rise more than 1-3°C. In lower latitudes, crop yields will decrease even with a slight increase in temperature.

Fischer (2009) analyses the effects climate change can have on food production and agriculture in terms of different regions and different crops. The overall conclusion is that maize production might benefit from climate change, whereas wheat productivity will decrease. The Russian Federation and Central Asia can expect higher productivity whereas southern Africa will be the main loser. Several other scenarios have been published to determine future production of the agricultural sector (e.g. Bruinsma, 2009; Msangi and Rosegrant, 2009). These studies do not take into account the effects of climate change and therefore paint a more positive picture. What future food production will be like is unknown, but all the studies illustrate that many criteria, most importantly increased production per hectare, need to be fulfilled in order to keep feeding the increasing global population.

3.2.5 Interconnectivity

As this section has shown, there are many developments that are driving changes in the global agricultural sector. A renewed interest from investors in this sector, including in the developing world, is one of the outcomes, with large-scale foreign land deals a particular effect. Some drivers are short-term, others are more structural, but all are interrelated. High food prices are expected to remain due to an increase in population with the financial means to consume more protein-rich food. High oil prices will continue to keep food prices high, unless alternative competitive fuels are found. This situation, in turn, drives the demand for biofuel crops and with it the demand for land, a trend that is enforced by climate change concerns. On the supply side, there are fears that technological developments have been exhausted and that an increase in production must come from bringing more marginal land under cultivation. Nevertheless, both land and water are limited and climate change might reduce the availability of these resources even further, especially in the developing world and in sub-Saharan Africa in particular. In addition, these trends will be intensified in the short term by financial speculation and currency developments. Figure 3-4 summarises these various issues.

Figure 3-4: The interrelationship between key drivers of change in food systems and their connection to large-scale foreign land investment



Source: Based on Msangi and Rosegrant, 2009, 18

Increased investment is required to feed and fuel an increasingly wealthy population. The yield gap between actual and potential productivity is the largest in the developing world (World Bank, 2010a). Despite the majority of the population in the developing countries being dependent on farming, many of these countries depend on food imports, and are likely to become even bigger importers in the years to come (World Bank, 2007). It is here that foreign direct investment can make a difference, although the risks to the local population are considerable.

3.3 The extent of large-scale foreign land investment

This section aims to analyse and profile the extent worldwide of the development of large-scale land investment. Before looking into detail on the scale in which large-scale land investment is taking place, it is important to note data difficulties. These are applicable both to the global developments as discussed in this chapter and in the more detailed analysis of the situation in sub-Saharan Africa in Chapter 4.

3.3.1 Considerations

A large body of research has been devoted to try to establish the actual scale on which foreign land investment is taking place. Most research is based on media articles published on two blogs: the GRAIN website and the International Land Coalition (ILC) website[4]. Nevertheless, despite this effort, reliable data is still difficult to obtain. Friis and Reenberg (2010) attempt to quantify the scale of large-scale land investment in Africa based on media reports posted on the ILC forum. They argue that this information is highly dependent on which deals are reported by the media in the first place and, secondly, on the reliability of the sources the media uses. Further, they illustrate that articles appear in peaks. These peaks seem to be related to events associated to this topic, such as a major conference. It would be illogical to presume that actual land investments would peak at the same time. Rather, these investments are more likely to be spread out fairly evenly over the year.

In addition, a large number of projects are not reported in the media and even fewer are posted on the ILC blog. For example, using the Friis and Reenberg (2010)

[4] See www.farmlandgrab.org and www.landcoalition.org/cpl-blog/?cat=149 respectively

overview, ILC reported two projects in Madagascar totalling 915,000ha[5]. Üllenberg (2009a) uncovered information on an additional 26 projects, totalling a further 1,620,000ha, mainly based on interviews held with the Economic Development Board of Madagascar (EDBM). This divergence might imply that the scale on which large land investment is taking place is larger than that reported in the media. By contrast, Cotula (2011, 12) claims that figures reported in the media are considerably higher than those based on research. For example, it is argued that whereas the media reports deals for a total of 2.4 million hectares in Mali, only about 650,000 hectares of land actually have been acquired. These divergences suggest that another factor needs to be taken into account when assessing figures on large-scale land investments, namely that many media articles discuss plans or intentions. Yet, many of these projects are never actually signed, or are implemented on a much smaller scale.

Lack of reliability is quoted by many authors as one of the main obstructions to establish a clear picture of the extent of large-scale FDI in land. In general, the contracts signed are mostly kept confidential. Both investor and host country are reluctant to share information. In addition, host governments do not always have the resources or infrastructure available to fully capture all land investments, adding to the unreliability of available data (Cotula et al., 2009). Furthermore, where contracts are available, numerous documents do not seem adequate and lack vital data such as the exact location of the area concerned (Cotula, 2011). One exception is Liberia where many "contracts have been ratified by parliament and are available on-line" (Cotula, 2011, 2). Likewise, in 2011 the Ethiopian Ministry of Agriculture and Rural Development released a number of contracts onto their website.

This study has reduced the unreliability of data by triangulating information where possible, particularly with information on investors' websites. Numerous detailed studies, such as those by Üllenberg on Madagascar and Cambodia, have been included to create a more comprehensive picture. In addition, the status of projects is updated where new information is available. The result is a definitive database until mid-2011. This is particularly the case for the African situation which is discussed in full detail in Chapter 4. Notwithstanding the shortcomings and possible pitfalls of the

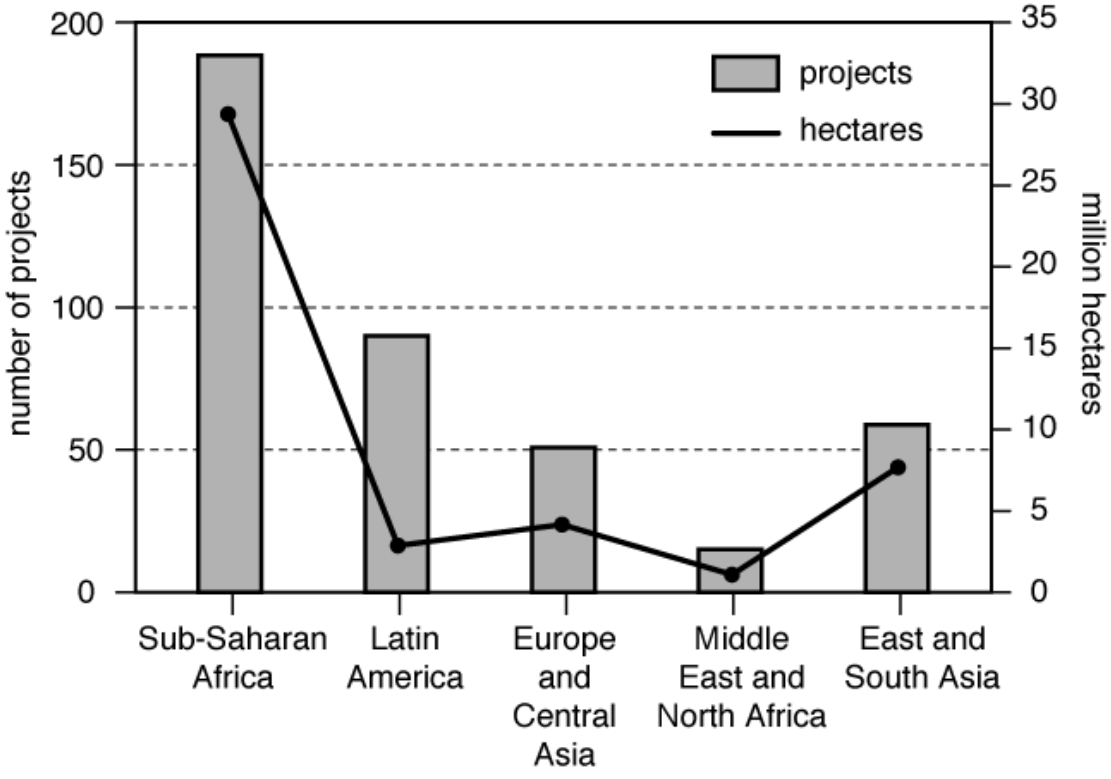
[5] This excludes the 1.3million ha investment by Daewoo Logistics which has been cancelled. Chapter 4 looks further into this deal.

data available still exist, an analysis of the figures published will now be made to establish the trends in large-scale agricultural land investments by foreign investors.

3.3.2 The Reported Scale

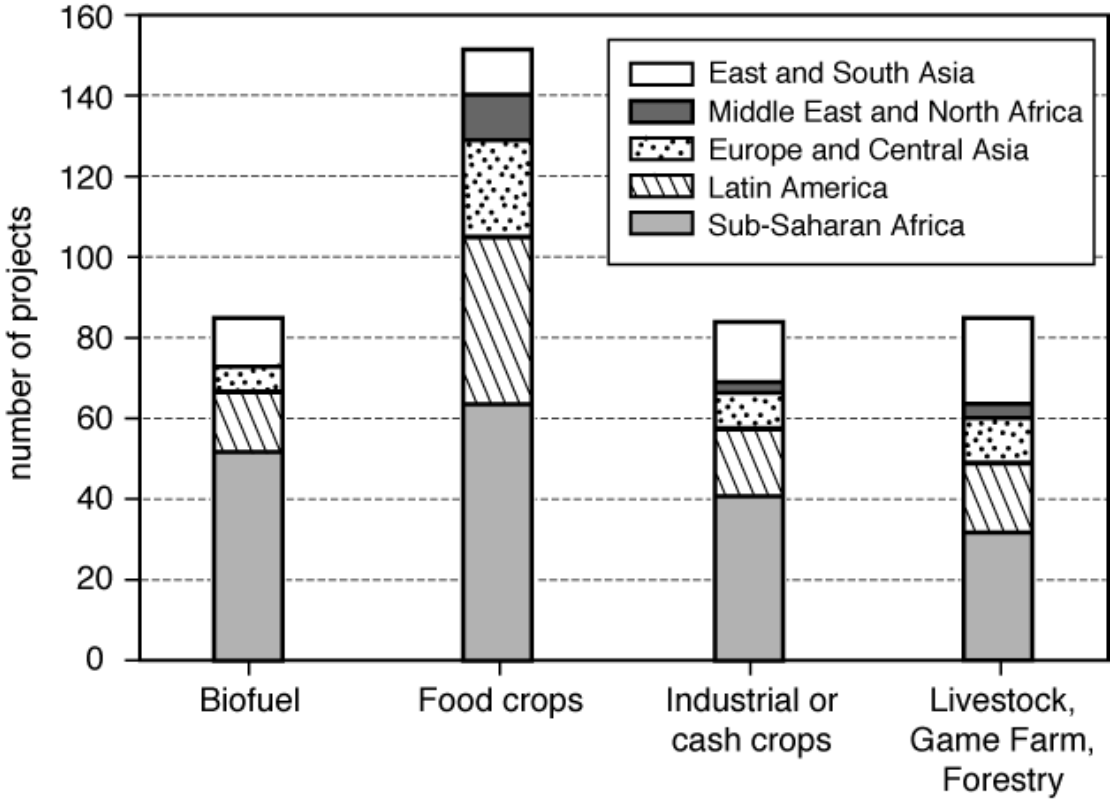
Due to the above-mentioned problems of data reliability, different reports reveal different numbers. One attempt to illustrate the trends in global large-scale land investment in recent years has been made by the World Bank (2010a). Based on media articles published on the GRAIN blog in the period between 1 October 2008 and 31 August 2009, combined with further field study, this organisation has come to the conclusion that most of the activity takes place in Africa with Latin America and East and South Asia also playing a significant role. Most projects focus on food production (37%), followed by an equal share of 21% for both industrial/cash crops and biofuel crops. Game reserves, livestock and forestry make up the remainder of the projects. Figures 3-5 and 3-6 illustrate these trends. My analysis of a large number of sources until mid-2011 shows foreign investors have shown interest in a total area of over 53 million hectare worldwide (see Appendix A).

Figure 3-5: Frequency distribution of projects and total land area by destination region



Source: Based on World Bank, 2010a

Figure 3-6: Frequency distribution of projects and total land area by crop



Source: Based on World Bank, 2010a

This section will analyse developments in South America, the former Soviet Union and South-East Asia in further detail. Table 3-1 gives a short overview of the reported large-scale foreign land investments in the main target countries in these regions. As Table 3-1 illustrates, African countries are amongst the most targeted by foreign investors, both in terms of number of deals, area covered and the percentage of agricultural land available in the country. Due to the large scale and the high diversity of projects across the African continent, this region will not be discussed here. Chapter 4 is dedicated to an in-depth analysis of the situation in sub-Saharan Africa.

One note on the information in Table 3-1 is that due to in-depth field studies such as those by Üllenberg on Cambodia (2009b) and Madagascar (2009a) and several studies on Mozambique (e.g. Albino, 2010), more information is available for these countries, which is likely to have a distorting effect on the overall picture. A detailed list of investment projectes is included in Appendix A.

Table 3-1: Main host countries of large-scale foreign land investment

Recipient Country	# deals	Area (1,000ha)	% Land Agriculture[a]
Ethiopia	28	1,456	4.2
Madagascar	27	3,720	9.1
Mozambique	22	11,066[b]	22.7
Sudan	12	2,151	1.6
Brazil	20	1,908	0.7
Argentina	9	510	0.4
Russia	18	3,780	1.8
Ukraine	8	922	2.2
Cambodia	12	906	16.3

[a] The FAO defines Agricultural land as the sum of arable land, permanent crop land and permanent meadows and pastures. It excludes forest, fallow and other land.
[b] This includes 10 million ha offered to farmers belonging to Agri SA, a commercial farming cooperation from South Africa, which could not be verified.
Source: Own compilation, FAOSTAT 2011b

Large-scale agriculture in South America developed at the time of SAPs in the 1980s (World Bank, 2010a). Enormous areas of land have been brought under cultivation, mainly in the *cerrado*[6] area to grow soya beans, and in the Amazon area where between 2001 and 2004 2.3 million ha of forest was cleared for pasture land (Morton et al., 2006). Amongst the biggest landowners in Brazil and Argentina are domestic entrepreneurs. The André Maggi Group owns over 245,000ha in the Brazilian state of Mato Grosso (Grupo Maggi, 2007) and El Tejar, which controls vast areas in its homeland Argentina, recently expanded into Brazil, where it plans to manage a total of 405,000ha for soya bean production ((El Tejar; 2011Gartlan, 2010).

Businesses from North America, Europe and Asia have invested in South America. Soya bean, sugar cane and wood are the dominant crops. The private sector, both agribusiness and investment funds, are the main investors, rather than government related entities. Both Brazil and Argentina have large tracts of land available. According to the World Bank (2007), the agricultural area available in Brazil is double that of Sudan, albeit due to the higher population this is less in terms of area per person (FAOSTAT, 2011b). Despite the large interest, plans for foreign investment in land are still less than 1% of the agricultural land available in both Argentina and Brazil. This region is interesting to investors not only due to the

[6] The cerrado is an area typified by savannah, shrubs and dry forests (World Bank, 2010a)

availability of land, but also because of the legal system open to foreign investment and clear regulations on environmental requirements (Highquest Partners, 2010).

In addition, South America has marketed itself as the global centre for soya bean production and, to a lesser extent, the rearing of cattle. In global terms Brazil, Argentina and Paraguay are ranked respectively second, third and fourth largest exporters of soya beans behind the USA (FAOSTAT, 2011c). Soya beans are used as fodder in the meat industry. With the increased demand for meat, global demand for soya beans has expanded considerably (Brown, 2009). Sugar cane is another crop that has grown rapidly, mainly to feed the increasing demand for ethanol. As section 3.2.2 illustrated, Brazil is the only country where sugar-based ethanol can compete with petroleum. The country is the world leader in sugar cane production (FAOSTAT, 2011c). The large infrastructure already in place attracts investors to supply sugar-based ethanol to other countries. In Argentina, investors also show interest in growing wheat.

The fact that Brazil and Argentina have well-functioning land markets, based on private ownership, makes these countries highly attractive to commercial investors. Although land prices are higher here than in the former Soviet Union and Africa, land rights are much more secure. Nevertheless, to curb the strong flow of foreign capital buying up land, the governments of both Brazil and Argentina consider policies designed to limit foreign land ownership. Since 1971 Brazil has attempted to limit the sale of land to foreigners although unsuccessfully. The government now intends to close existing loopholes by restricting non-Brazilians from gaining controlling shares in Brazilian businesses that own large areas of land (MercoPress, 2011). In 2011 the Argentinean president Cristina Kircher announced similar plans to curb foreign landownership (Downie, 2011).

Aside from commercially focused investments, one example of large-scale investment in South America by a foreign government is the agreement between the province of Río Negro in Argentina and the state-owned collective of agribusinesses Beidahuang from China. In this deal, Beidahuang will lease an area of up to 320,000ha for a period of 20 years for the production of soya beans, wheat and oilseed crops. Part of the agreement is that the Chinese consortium does not have to pay land fees or any

provincial taxes. Beidahuang has pledged an overall investment of US$1.45 billion, including a new port facility and irrigation system. This deal has caused concern amongst the local population who claim that the area cannot support water intensive, chemical agriculture and fear that when the land is returned to them, it will be degraded and unfit for further food production (GRAIN, 2011a).

Another region receiving agricultural FDI is the former Soviet Union. Russia attracted investment interest in nearly 3.8 million ha whereas Ukraine has received (planned) investment for close to 1 million ha. Amongst the published projects is a request by the government of Israel for an area covering 1.5 million ha in Russia for food production and cattle grazing to boost Israeli food security (Xinhua, 2010a). Further, the Libyan government has signed a deal for 100,000ha with Ukraine for similar purposes. Private businesses and investors are also active in the former Soviet Union.

After the collapse of the Soviet Union, an estimated 23 million ha of productive land was abandoned (FAO/EBRD, 2008), opening opportunities for foreign investors. Visser and Spoor (2011, 300) argue that this area "contains much more fertile and well-endowed agricultural land than the African continent", a view confirmed by the FAO (Davis, 2008). This region is also likely to be the least affected by climate change (Fischer, 2009).

Infrastructure in the region is relatively developed, as compared to Africa, albeit many bottlenecks still exist in storage facilities and port capacity. Thus, investors put part of their money into developing this network (Black Earth Farming, 2007). Domestic agro-holdings were the first private entities to secure the opportunities offered, followed by foreign states and foreign private investors/investment funds. Investors from China and Korea are government-related parties interested in the geographically closer region of eastern Russia, whereas private investors have a European base and mainly are active in the south-west of the country (Visser and Spoor, 2011).

A land market has been set up in Russia that allows ownership, transfer and sale of farmland. Foreigners are excluded from these rights and can only obtain ownership of farm enterprises, not the actual land. In contrast, the Ukraine has issued a moratorium on land sales, leaving land lease as the only (legal) option to obtain rights to land.

Both due to these limitations and the cumbersome process of acquiring land shares from numerous small individual holders, foreign investors choose to gain a share in large domestic landholdings, previously owned by the state (Visser and Spoor, 2011).

One often mentioned example of FDI in this region is the Swedish firm Black Earth Farming (BEF), established in 2005 and named after the Black Earth Region in south-west Russia, where it has acquired 328,000ha, mostly under direct ownership. In addition, BEF has invested in storage facilities and industrial processing capacity (Black Earth Farming, 2007). The company prefers to obtain land from individuals, rather than state owned farms because "acquisition of agricultural land owned by state bodies, local authorities or legal entities requires substantial financial expenditures" according to the company's website. This indicates either that obtaining land from state bodies is a highly bureaucratic process or that local landowners are not aware of the actual value of their land. The challenges of establishing a profitable operation are considerable as the Chief Executive of BEF acknowledges. Land needs to be restored before it can be brought under production (in 2010 just over half the land managed was under production) and yields are lower than expected (Dermy, 2009).

South-East Asia experiences mainly a growth in intra-regional investment that is oriented towards traditional cash crops such as palm oil and rubber. China has investment projects in Cambodia and Laos mainly for the growth of food and for industrial crops. Vietnam is a major investor in rubber plantations in neighbouring Cambodia (Üllenberg, 2009b). The largest investors are palm oil producers from Malaysia and Singapore which have moved into Indonesia and Papua New Guinea. For example, Golden Agri Resources controls land totalling over 442,000ha for palm oil production in Indonesia (Golden Agri Resources, 2011) and Wilmar is reported to have obtained rights of over 200,000ha for the growth of sugar cane in Papua New Guinea (Indonesia Today, 2010). Despite these large-scale investments, small-scale producers still play an important role in the palm oil sector. Due to the high income, palm oil is a lucrative crop for smallholders. Large investors depend on these small-scale farmers for part of their supply which is ensured through various contract arrangements (Rist et al., 2010). Despite the economic opportunities, large-scale plantation development has weakened the position of customary landholders and resulted in several conflicts over land rights (McCarthy and Cramb, 2009).

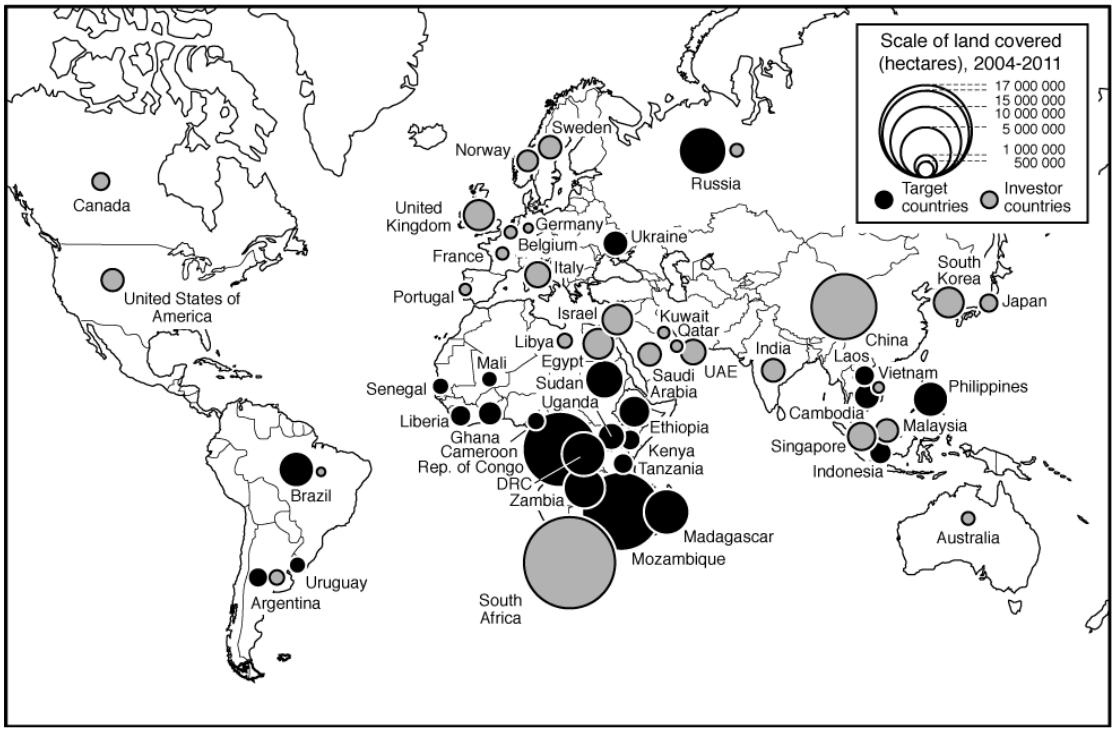
Malaysian business Sime Darby Berhad, one of the largest plantation companies in the world, shows the expansion drive coming from Asia (UNCTAD, 2009). Apart from the main palm oil operations in Malaysia and Indonesia, the company is involved in 20 countries across the world, managing not only the production of oils and rubber, but also downstream activities. In its bid for further growth, it has signed a contract for a 220,000ha rubber plantation in Liberia and is investigating options to acquire 300,000ha in Cameroon (Sime Darby, 2011).

Population density is much higher in South East Asia than in the other regions where large-scale FDI takes place. This limits the land available for large-scale foreign investors. As Table 3-2 illustrates, the investment plans for Cambodia are less than one million ha, smaller than in most other countries, but representing a total of 16.3% of agricultural land. Conflicts over land use are thus more likely to erupt. Indeed, 800 locals in Cambodia protested against a Korean rubber producer who was accused of clearing their cashew trees without compensation (Titthara, 2011).

The case of the Philippines illustrates the sensitive nature of large-scale investment by foreigners, especially in a densely populated country that is dependent on food imports. The Department of Agriculture signed a Memorandum of Understanding (MoU) with two Chinese investors for one million and 400,000ha respectively, a combined area equivalent to 10% of all agricultural land. Several organisations challenged the legality of these MoUs, calling them “confusing” and “ambiguous”. The MoUs do not specify what the implication is for local farmers. In addition, there is no clause that prevents the investors from exporting the entire production (Bagayaua, 2007). The Philippines is a country that despite high efficiency and rapid productivity gains during the Green Revolution and continued government support, has been an importer of its staple food, rice, for most of the 20th century (Dawe, 2006). Following these challenges, the Department of Agriculture has halted the further implementation of these contracts as explained by the department’s secretary “for deeper consultation with all possible stakeholders to come up with an acceptable mechanism” (Bagayaua, 2007).

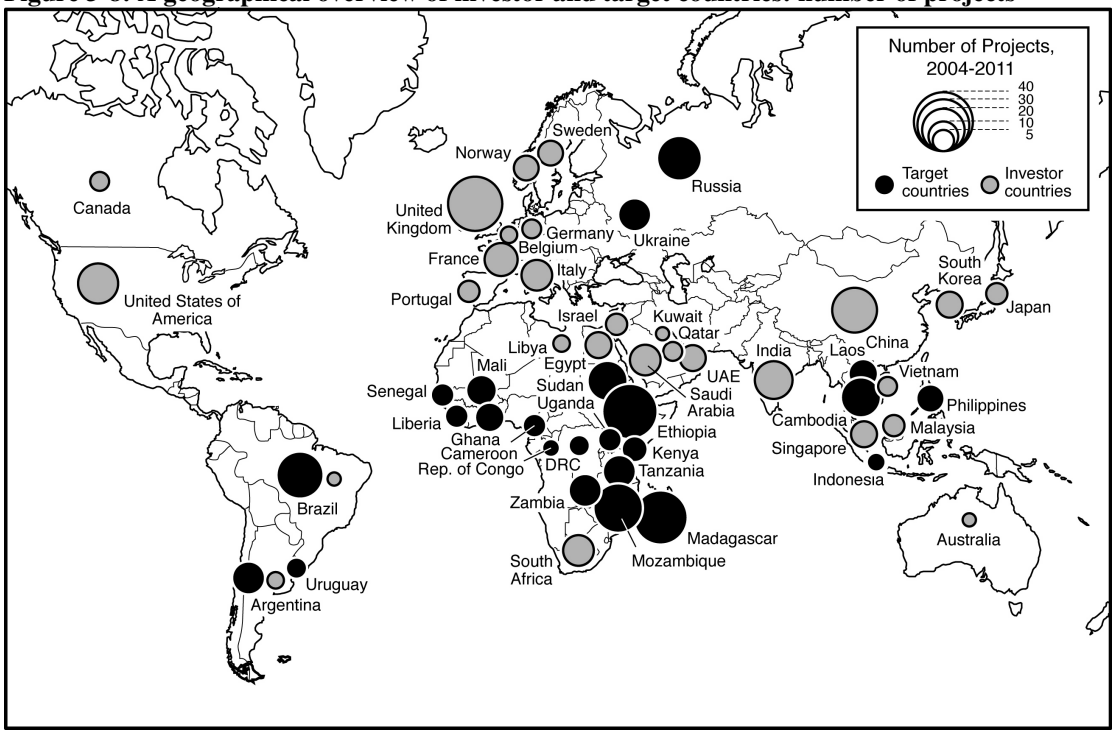
To summarise, Figures 3-7 and 3-8 give a geographical overview of both the target and investor countries and the scale of the land and number of projects involved.

Figure 3-7: A geographical overview of investor and target countries: land area covered (ha)



Source: own compilation

Figure 3-8: A geographical overview of investor and target countries: number of projects



Source: own compilation

3.3.3 What happens on the ground?

Developments published in the media do not necessarily have an equally large impact on the ground. The previous section mentioned issues of gathering reliable data on the size of large-scale investment deals such as reliability of sources, discrepancies between media and government information and incomplete data capturing by the host government, hampering efforts to get a clear picture of the extent of these projects. To determine the impact of large-scale foreign land investment, it is not only important to establish the size of the deals signed, but also to ascertain what happens on the ground after the signing of land deals.

First, there appears to be a large divide between intention and the actual signing of a land deal. Many intentions reported on in the media are never heard of again. One of the reasons why intentions do not translate into actual deals is that the investor changes plans due to perceived political risk (Cotula et al., 2009). This scenario can especially be the case in politically unstable countries, many of which are situated in Africa. Other potential reasons can be problems with financing the deal or a change in company/government strategies. For example, two very large projects which have been reported on, but could not be verified, are by Chinese based telecommunications company ZTE International. According to media reports this company showed interest in securing two million ha in Zambia and has signed a deal for 2.8 million ha in the Democratic Republic of Congo (DPA, 2009; Brautigam; 2010). The Zambian project has never been signed and no further information could be found on the deal in the DRC.

Second, those plans that are signed and reach the implementation stage in general do not cover the full amount of land acquired. In its overview on activities by corporate investors, GRAIN (2009) mentions several examples of projects that are only partly productive. For example, Agrifirma, a UK based investment firm backed by the Rothschilds, acquired 42,000ha of land in Brazil, but only 5,200ha has been brought under production. Another case is Black Earth Farming which in 2008 harvested only 141,900ha out of the 323,000ha they own in Russia.

The World Bank (2010a) reports that lack of consistent procedures and institutional capacity in the granting of land leads to insufficient screening of investment plans and limits the protection of local land rights. As a consequence, approved plans are not viable which leads to neglect of investment promises and land. In these cases, the government does not have the means to monitor investor activities and to enforce contractual agreements.

Many examples of unrealistic investment plans can be seen in the biofuel sector, mainly occurring in Africa. In 2005/06, GEM Biofuels, based in the United Kingdom, started growing jatropha in Madagascar. Its initial trials with growing this crop failed, forcing it to move to a different area in the country (Üllenberg, 2009a). The enterprise only managed to generate its first revenue from crude jatropha oil sales in 2010 and after four years is still running at a major loss (GEM Biofuels, 2010). Other companies, including Black Earth Farming, have blamed technical issues as the reason why they are not able to bring land under development as rapidly as hoped for.

Economic factors can also limit the extent to which a project is implemented. This has particularly been the case in the biofuel industry. In addition to the general drying up of investment money during the financial crisis, the drop in world oil prices in 2009 made biofuels uncompetitive, which aggravated the financial problems for biofuel producers (World Bank, 2010a). With technical difficulties being faced by many producers, returns on investment periods would be longer than initially anticipated. This led to a number of investors withdrawing their support and saw a number of biofuel companies become insolvent or largely reduced in size. For example, BioShape, which had obtained a 50 year lease for 81,000ha in Tanzania on which land clearing had already started went bankrupt in 2010 after a major investor pulled out due to doubts on the economic feasibility of the project. The share price of the German company Flora EcoPower, holder of a lease over 56,000ha in Ethiopia, fell from €18.40 in January 2009 to €1 at the end of that year. In addition to these financial problems, harvests by this company were nearly zero (Pohl, 2010).

Another reason why projects have been slow to develop is local protests. The cancellation of the 1.3million ha deal by South Korean based Daewoo Logistics in Madagascar is one of the most widely reported cases. When details of this investment

were published, affecting one-third of the country's arable land apparently at no land rental cost, the Malagasy population protested. It is believed these protests were part of a wider revolt against then president Ravalomanana, who was ousted shortly after the Daewoo news broke. Since then, the project has been suspended (Üllenberg, 2009a). The Daewoo Logistics investment is not the only project that has had to adjust due to pressure from local civil society. Conflicts have also been reported to obstruct projects in Liberia, Ukraine and Mozambique (World Bank, 2010a). This illustrates the importance to the investor of prior consultation with and agreement from the local community before signing deals with (national) governments.

Even without encountering any technical, economical or social issues, bringing large areas of previously uncultivated land under production takes a long time. In addition, depending on the level of mechanisation, a large number of labourers is required to maintain the land and the crops. Most projects start off with small plots and over a number of years increase the land being harvested. Only in the case of the take-over of already operating farms or with the extensive use of out-grower schemes can a large area be harvested in a fairly short time (World Bank, 2010a).

A final reason for limited action on the ground is the fact that several investors acquire land rights for speculative objectives. The World Bank (2010a) found that motivations why investors acquire much more land than they can (initially) use is to get a favourable deal or ward off potential competition. In addition, the value of land has increased rapidly in the last years and this trend is expected to continue. In the soya bean growing area of Mato Grosso, Brazil, land prices have increased roughly 700% between 2000 and 2010 (Sauer and Leite, 2011). GAIA Capital Advisors observed a doubling of land prices between 2006 and 2008 in the Black Earth region in Russia (Visser and Spoor, 2011). Speculative behaviour will be prevalent especially in countries with a developed land market or where a (long-term) lease can be transferred.

3.4 The stakeholders

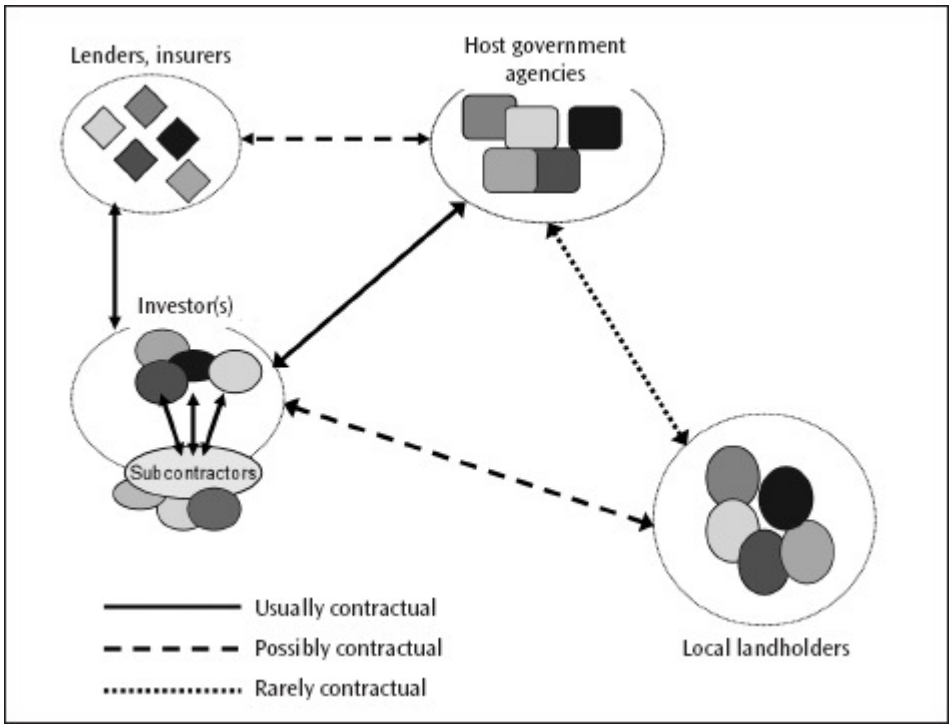
The previous section looked into the scale of the foreign land investments that has taken place from around 2004 until mid-2011. It touched briefly on a number of target countries, situated mainly in Africa, South America, the former Soviet Union and

Asia, and gave examples of a number of investors involved in the deals. This next section will look in greater detail into the stakeholders that have an interest in these projects and the reasons why they are engaged in them.

3.4.1 The investors

As is clear from section 3.3, a wide range of different investors is looking to secure land management in other countries than where they are based. The main investors are governments, private investors and investment funds and agribusiness. Often, there are complicated relationships between these parties which can all have an interest in the same investment project. In his analysis of a number of contracts pertaining to large-scale land transfer, Cotula (2011) finds examples of a government signing for the land ownership but leaving the operational management to a private operator, land rights effectively transferred to a third party controlled by a signatory to the contract but not signing itself, and an investor who gained control over a domestic party to execute the project. Figure 3-9 gives a schematic overview of (some of) the parties that can be involved in the deals.

Figure 3-9: Relationships between parties involved in land deals



Source: Cotula, 2011, 19

Section 3.2 illustrated that the increase in land FDI appears to be driven by food security issues and biofuel policies (e.g. World Bank, 2010a). Governments are concerned about their dependence on what is perceived to be an unreliable world food market or increasing oil prices. Among the largest investing governments are Saudi-Arabia, Qatar, the United Arab Emirates, South Korea and China. These investments are supported by ample financial means from oil income or trade balance surpluses (Görgen et al., 2009).

There are several ways in which governments can engage in land deals. In some cases, the government signs an agreement with the host government directly. For example, the Libyan government signed a lease of 100,000ha in Mali, although the land in effect is managed by a private enterprise, controlled by the Libyan government (Cotula, 2011). Another example is the north Chinese province of Heilongjiang which has obtained a lease of over 420,000ha across the border in Russia to grow agricultural crops (Xinhua, 2010b), indicating that it is not just national governments which are looking for food security overseas.

A Sovereign Wealth Fund (SWF) is an investment fund owned by the state which manages government money but in a market oriented manner (Cotula et al., 2009). SWFs are not commonly involved in land deals directly, but usually put their money towards private investment funds, either domestic or international. It is these private businesses that are more directly involved in the land deals, making it difficult to trace the actual involvement of SWFs (McNellis, 2009). The Kuwait Investment Authority is said to own a share in the Kuwait China Investment Co, an investment firm which supposedly is looking at obtaining land in South East Asia for food production (GRAIN, 2009).

Aside from direct involvement and through SWFs, governments also can be involved in overseas land deals through State Owned Enterprises, trade agreements and other ways of indirectly supporting private investors (Cotula et al., 2009). The case of Beidahuang in Argentina described in section 3.3.2 is one example. No matter which way governments invest in foreign land, the majority of the deals are implemented to ensure domestic food security.

Rising food prices, a continuous increase in population simultaneously moving up the food chain and a limited supply of arable land and water all contribute to make investment in agricultural land an attractive option for private investors. In addition, the market for biofuels is likely to grow, driven by government policies. As described earlier, many private investors have shown renewed interest in land investment as a way to diversify their portfolio, investing in hard assets. Blumenthal (2009, 58) argues: "land is limited and available prime production land is technically becoming scarcer. Capital flows to where it is rewarded the most, and nothing attracts investment better than a perceived market shortage".

Land prices in most of the target countries are much lower than in the developed world. Prices in Brazil are estimated to be between US$1,500 to 3,000 per ha and as low as US$300-500 per ha in Africa (HighQuest Partners, 2010). GAIA Capital advisors value land in Russia at less than US$800/ha (Watson, 2010). This compares to over US$9,000/ha in the USA (Institutional Investor, 2010). Many African governments even give away the land for free, in exchange for promises by the investor to build infrastructure or provide social services. For example, the cancelled deal by Daewoo in Madagascar mentioned in section 3.3.3 did not involve any land charges. Instead, the company pledged to invest US$ 6billion over a 25 year period in developing a range of infrastructure and social services such as schools, hospitals and power stations (Andrianirina-Ratsialonana et al., 2011).

It is for these reasons that a large range of private investors have initiated agricultural projects in developing countries, usually through the establishment of specific agriculture focussed funds. Amongst these investors are pension funds, hedge funds, private equity and banking institutions (McNellis, 2009). These enterprises are not traditionally involved with agriculture or land ventures. For the management of the actual operations, often professional farmers are hired for their farming expertise (HighQuest Partners, 2010). Aside from direct deals, these investors also support governments, agribusinesses or other private investors in their ventures. For example it was reported that an unnamed American pension fund had put a large amount of money towards the private equity African AgriLand Fund which was established by hedge fund manager Emergent Asset Management (Walsh, 2008).

The third type of investor is the agribusiness sector. This sector consists of companies in the agriculture business and involved with the production, processing and/or trading of food and non-food products on a commercial basis. Included in this industry are suppliers to the agricultural sector of inputs such as seeds, fertiliser and farming equipment (UNCTAD, 2009). Companies involved in the growth and production of biofuels also form part of the agribusiness sector.

Traditionally, the large players in the agribusiness sector originated from the developed world with large trading houses such as Archers-Daniel-Midland (ADM), Bunge, Cargill and Louis Dreyfus (together called the ABCD group), processors like Nestlé and Unilever, and suppliers such as Monsanto (seeds), Potash (fertiliser) and Du Pont (agro-chemicals). These companies have achieved a high level of dominance in the supply chain of certain crops which is illustrated by the soya bean sector. The ABCD group controls 43% of the crushing capacity for soya beans in Brazil and 80% of that in the EU (Dros, 2004). Not only are these companies involved in processing and trading, but they also provide support to small-scale farmers in the form of farm inputs and credit. For example, Nestlé sourced crops from over 600,000 farms in more than 80 developing countries (UNCTAD, 2009).

Although these companies traditionally were not engaged in actual crop production activities, since the early 2000s they have become involved in land management deals. ADM and Bunge both have shown interest in acquiring large areas of land in Brazil to grow palm oil and sugar respectively. Louis Dreyfus is already active in Brazil, growing citrus on an area of 30,000ha it has under its own management, whilst it also grows soya beans, cotton and sugar through its subsidiary CalyxAgro (GRAIN, 2009b). Cargill has set up its own hedge fund Black River Management through which it invests in the agricultural sector. According to Selby (2009) the current agricultural supply chain has increased returns combined with reduced risks in the production stage whereas in the historical supply chain this used to be the link with low returns and high risks. This change in risk/return pattern is a major driving force behind the vertical integration which was exhibited by these large trading companies.

Large agribusinesses from South East Asia also have become involved in global agriculture activities: Sime Darby (Malaysia), Wilmar (Singapore) and Karuturi

(India) are several examples of companies based in developing countries and now ranked in the top 25 of TNCs in the agribusiness sector, based on foreign assets (UNCTAD, 2009, 124). These companies either started out as businesses involved in the growth of agricultural products (Sime Darby and Karuturi) or as trading companies (Wilmar and Olam), but have sought to incorporate upstream activities into their business by operating their own plantations (UNCTAD, 2009). These companies are involved in large-scale land projects, initially in their own region, but recently all have ventured into Africa. Sime Darby operates a rubber plantation on 220,000ha in Liberia and has plans to develop land in Cameroon and Madagascar; Olam is active in Gabon and, through a joint venture with Wilmar, in Ivory Coast; Karuturi grows roses and food crops on its approximately 300,000 ha in Ethiopia (GRAIN, 2009a).

The production of biofuels is a new niche in the agribusiness industry. The list of large-scale foreign land deals given in Appendix A, shows that most biofuel companies are located in the developed countries, with China also playing an important role. Most biofuel enterprises have considerable land interests, predominantly in Africa. Europe is a leader in this sector in terms of overseas land acquisitions with companies such as Sun Biofuels (UK), Skebab (Sweden) and Flora EcoPower (Germany). The financial crisis and falling oil prices have placed these companies under severe strain. In addition, for new crops such as jatropha, it has proven more difficult than originally envisaged to bring these lands into production on a large-scale. It is especially in the biofuel sector that planned operations have not been implemented.

More success for biofuel companies is evident in “traditional” food crops that are turned into fuel. For example, Latin American sugar production is growing fast, partly driven by the demand for ethanol. Palm oil, soya and maize are other crops that are used as feedstock for biofuel production. Agribusiness companies such as South African based Illovo Sugar are involved with growing these crops and now use part of their harvest for biofuel production rather than for the food industry (Illovo Sugar, 2010).

As this section has illustrated, a wide range of actors is involved in large-scale land deals, each with their own objectives, which will impact on the host country. Governments concerned with their own food security generally invest for the longer term whereas hedge funds driven by profit objectives are more 'footloose'. In addition, food projects growing crops already proven to thrive in the target area are less risky than ventures with new crops. The host country must be aware of these risks linked to the proposed land deals.

3.4.2 The hosts

As illustrated in section 3.3, a large number of countries across the world host large-scale land investors, although with a major focus on developing countries. The host countries have a range of motives to try to attract foreign investors.

In many African countries, the number of people employed in agriculture is extremely high (World Bank, 2007). Nevertheless, they are still dependent on food imports to feed their population and expect to import even bigger quantities in the future (Rosegrant et al., 2006). In order to change this situation, many governments are seeking to focus on enhancing their food self-sufficiency by expanding their agricultural sector. Both during the ISI policy and the SAPs, money flows into the sector have been limited, both from domestic governments and through ODA (Alpert et al., 2009). Thus, large external investments are now required to increase agricultural production. Host governments expect private investors, and specifically FDI, to bring new technology, infrastructure, jobs and an increased supply of food to the local market (Cotula et al., 2009; von Braun and Meinzen-Dick, 2009). In addition, FDI is expected to give developing countries access to export markets and in this way an inflow of much needed foreign currency (World Bank, 2010a). Lastly, a country can be motivated to develop its agricultural sector to diversify its economy as is the case in both Angola and Zambia (Cotula et al., 2009).

Cotula et al. (2009) point out that a host country's benefits mainly are in the form of investor commitments on investment levels, employment creation and infrastructure development. Land fees and monetary transfers do not seem to be the main benefit. Land fees are usually less than US$10/ha/year and many foreign investors have negotiated tax incentives. On the other hand, most deals involve promises by the

foreign party to invest in irrigation infrastructure, roads and/or social services such as schools and hospitals (Cotula et al., 2009).

Foreign ownership of land, either through direct purchase or long-term lease contracts, is a sensitive issue. Therefore, governments in Brazil, Argentina, Australia and New Zealand are reviewing laws to limit access to land by foreign parties (GRAIN, 2009a). In Africa, where large areas of land are held under communal ownership, land allocation can become highly controversial. Host countries have been criticised for their neglect of the requirements of the local (rural) population. Land is allocated to investors under the assumption that the respective area is under-utilised or not utilised at all. Often, these land uses and claims can go unrecognised because land users are marginalised from formal land rights and access to the law and institutions (Cotula et. al., 2009). Such land might be used for animal grazing, fire wood or as the source of medicinal plants. Also, the land might be lying fallow in order to restore the nutrients in the soil. The government might not perceive this as being productive, although it plays an essential role to the livelihood of the local population (Spieldoch and Murphy, 2009).

Even if in most cases it is the host country government (in the case of large-scale land deals, the national government) that allocates the land to the investor, private landholders are also involved in these ventures. Where the state is the landowner and users do not have protected land rights, these landholders only have a marginal say in the contract proceedings (Cotula, 2011). In the case of private sales, it is up to the landholder to directly engage in contract negotiations. In these situations, the investor usually pays a much higher price for the land than the nominal rental fees charged by the government (Cotula et al., 2009). Due to the fact that details of these private deals are mainly confidential, it is difficult to obtain an indication of land prices.

Even though countries might have several reasons for attracting FDI into their agricultural sector and put policies in place to make it easier for investors to enter, this does not guarantee that the private sector will be persuaded to start operations. The World Bank analysed four different factors to determine the likelihood of countries being able to attract investors. It finds that:

- "investors are more likely to target countries with abundant non-forested but not forested land";
- "rule of law and a favourable investment climate […] has only a weak effect on planned and none on implemented investment";
- "the impact of rural land tenure recognition is negative, strongly significant for intended investment and still significant for implemented projects"; and,
- "the yield gap is not relevant to explain interest in large-scale land acquisition, but is negatively associated with implemented investments" (World Bank, 2010a, 37).

This indicates that the World Bank's own policies of enabling private parties to do business has little effect on actually attracting investors and that weak land policies seem to increase the attractiveness of a country, contrary to what the World Bank is aiming for with its advice to support more secure land rights for foreigners. Nevertheless, the finding that this negative correlation is stronger for planned projects than for actual implementations is a sign that the more serious investors do require security over their land.

Political stability in the host country can be a major risk for private investors (Hardman and Co, 2010). In case a country becomes unstable, sometimes triggered by the land investment, the investor can lose control over its enterprise. For example, Daewoo had to leave Madagascar for this reason and after the 2011 turmoil in Egypt, the new rulers are contesting the legality of a land claim by a Saudi investor (Reuters, 2011b).

3.5 The impacts of large-scale foreign land investment

This section will give an overview of outcomes of large-scale FDI in land. Due to the fact that many projects have not yet been realised on the large scale as envisaged, it is difficult to assess the full and final impacts of these deals. The section will start with a review of past investment experiences from which certain lessons can be learned.

As mentioned at the beginning of this chapter, large-scale foreign investment in agricultural land is not a new phenomenon. Even though previously investors were

interested in cash crops such as bananas, rubber and coffee, the intention was similar: to use land available in countries with the right resources to produce goods for export to markets in the developed world. History has shown that export orientated agricultural policies in underdeveloped countries make these countries extremely vulnerable. George (1976) and Barnet (1980) argued as much as 30 years ago why a high-technology, export-crop model increases rather than decreases hunger amongst the local population. Scarce land and water are reserved for the growth of export crops instead of feeding the local population. In addition, this model relies on high-yielding seeds and fertiliser, inputs that poor local farmers cannot afford. Lastly, due to the high degree of mechanisation, the labour requirements are much lower than traditional ways of farming. The results are an increasing, landless, rural population and a higher degree of concentration of resources in the hands of a rich (foreign) minority.

Because resources are used for the production of export crops, one consequence is that the host country can no longer grow sufficient food domestically and becomes dependent on the world market for the import of basic food crops. When the prices of the cash crops fall, when the importing countries decide to source their produce from somewhere else, or when the price of food staples increases, the picture indeed becomes very bleak. This is line with the arguments put forward in Chapter 2 to put domestic food production before export crops. The same scenario can emerge for host governments opening up to foreign agricultural investment as seen recently. It seems essential that scarce resources must be shared equally, labour opportunities for the rural population must remain and the yields should initially be used for domestic food supply in order not to become dependent on an uncontrollable world market.

Daniel and Mittal (2009) illustrate how large fruit companies have benefited from unequal power relationships in Honduras during the early 1900s and in the Philippines throughout most of the last century. These companies have been able to manipulate local land rights, marginalising the local population. In their analysis on oil palm plantations in Malaysia and Indonesia McCarthy and Cramb (2009) point out the negative impact these operations have had on the local population: expropriation of land without sufficient compensation and unclear contracts which resulted in limited benefits for the smallholder farmers who handed over part of their land to the

plantations. This resulted in conflicts between the plantation operators and the local population. On the other hand, palm oil is a crop that can be economically profitable for small-scale farmers, and hence many farmers are willing to get involved in this crop (Rist et al., 2010).

As the experience with oil palm in South-East Asia illustrates, the outcome of large-scale agriculture on the local population can be manifold. In literature published since the 'hype on land grabbing' surfaced, much discussion has taken place on the possible impact of FDI. Potential benefits of large-scale private investment mentioned are:

- Increased investment in rural areas in countries with small government funds;
- Job creation both on and off the farm;
- Development of rural infrastructure like irrigation and roads;
- Investment in poverty reduction infrastructure such as schools and health clinics;
- Improved technology based on local agricultural environment through R&D done by the investor in order to increase outputs; and,
- Increased food supply to the local/domestic market (World Bank, 2010a; von Braun and Meinzen-Dick, 2009).

It is important to note that these are *potential* benefits and thus will not necessarily be realised. Many organisations are much more critical of large-scale land deals. They point out that host governments often do not have the legal or labour capacity to protect local rights and enforce contract agreements (Cotula et al., 2009). Negotiations either take place on unequal terms with the local population or they are left out of the consultation process altogether. As a result, organisations such as IFPRI and the Oakland Institute, point out a range of probable negative results of large-scale investments, amongst which are:

- Displacement, especially in case of communal land ownership, often without compensation;
- Farmers lease their land to the investor against unfavourable terms;

- Loss of access to communal resources such as water and grazing land, which serve as a safety net to the poor;
- Promised investments/jobs do not occur;
- Ecological disruption such as deforestation;
- Land reform, aimed at increasing land security for small-scale farmers, is taken off the agenda;
- Increased gender inequities; and,
- Reduced food supply to local market if crops are grown for export or food crops are replaced by fuel/feed/industrial crops (Daniel and Mittel, 2009; von Braun and Meinzen-Dick, 2009).

The issue of displacement is extremely sensitive. Investors and governments perceive land as un- or under-productive and therefore are of the opinion that commercial agriculture will increase output (Cotula et al., 2009). As stated by the World Bank (2010a, 27) "If rights are well defined, if land markets function competitively, and if information is accessible to all, land prices should ensure that a mutually satisfying outcome is achieved". Nevertheless, the weakness of local land rights, the absence of a land market and a complete lack of information make this a hypothetical situation. Chapters 4 and 5 will look in more detail into examples of large-scale land investment in Africa and Zambia in particular and the impact these have had.

3.6 Conclusion

Large-scale foreign land investment has increased considerably in recent years and in some target countries involves substantial areas of their arable land. Although in itself this is not a new phenomenon, the players, the dimensions and the driving forces behind the current ventures are different. Historically, private agro-companies gained control over land in foreign countries to take advantage of suitable growing conditions for cash crops. Although these plantations still exist, new players with different objectives have emerged.

Governments concerned about their food security through rising food prices and new unpredictability of the world food market have adopted policies to obtain land in 'land abundant' countries to grow basic food crops for export back to their own market.

This is done either through direct investment or via SWFs, state owned enterprises or other institutions. The main players are the Gulf States (such as Saudi Arabia and Qatar), South Korea and China.

Private investment funds, banks and other financial organisations are attracted by the portfolio diversification that land investments offer and the anti-cyclical behaviour of agricultural products. Many funds have been established, and new ones are regularly advertised to entice investors to put money into agriculture, specifically into land in developing countries. These financial businesses either obtain control over land directly or fund agricultural operations.

Finally, agribusinesses traditionally involved with downstream activities such as trading and processing, are increasingly moving their business upstream and acquire management of the land on which their crops are grown. The perceived risk-return ratio has changed significantly to make downstream activities more attractive. In addition, a range of new businesses has been founded to focus on the production of biofuels, a rapidly growing market. These businesses are interested to obtain land to grow the (food) crops to be used as input for fuel production.

It was shown that internationally, the main regions targeted by these investors are the developing countries in Africa, South-East Asia and South America and the transition countries of the former Soviet Union. These countries are attractive either because of extremely low land costs, high perceived land availability, geographic proximity or fairly stable land markets at competitive prices. Under pressure of institutional organisations such as the World Bank and the IMF, many host governments have opened up their land for foreign investment in agriculture. For many years, despite the importance of the agricultural sector, government investment in this sector has been lacking, resulting in low productivity and an increased dependence on food imports. The host governments hope that FDI will bring increased food production for the local market, investments in infrastructure and jobs in rural areas. A win-win scenario seems to be the ideal outcome.

Opposition has been raised to this development through large-scale land investment. Accusations have been made towards both host governments and investors that

current land use and land rights of the local population have not been taken into account. In addition, promises on jobs and investments are vague and often not enforceable. Opponents fear for the environmental impact of large-scale land clearing and mono-cropping. Lastly, there are no guarantees that the (food) crops are grown for the domestic market. Mechanisms are hardly ever in place to prevent the export of (part of) the harvest and in some cases exports are even stimulated. In the case of biofuel crops, these are in direct competition for resources with food crops. Instead of increasing the food security of the host country, this might be adversely affected.

To mitigate the risks of powerful investors taking advantage of weak government structures and to protect local land rights, a guideline has been recommended by many organisations (World Bank, 2010a). Nevertheless, such voluntary principles are hard to agree on and challenging to implement to full benefit. As a result, these investments are still highly controversial. Although countries cannot feed their own population, an increasing number of people live in poverty and are dependent on food aid, companies from developed countries are openly welcomed to use the scarce resources available for their own benefit.

It is against the backdrop of this analysis of the global picture regarding the drivers, impacts and geography of large-scale land investment that attention narrows in chapters 4 and 5 to the African situation in detail. More specifically, the next chapters will illustrate what impact large-scale land investments have had so far in Africa and particularly in Zambia, a country with a low population density but which has been neglected in debates with regards to large-scale agricultural FDI.

Chapter 4

LARGE-SCALE FOREIGN LAND INVESTMENT IN AFRICA

4.1 Introduction

As was illustrated in Chapter 3, Africa is the continent with the largest number of projects, covering the largest area when it comes to foreign large-scale land investment. Africa is a diverse continent, which is reflected in the large variety of investment projects, in size, crop and stakeholder. This chapter aims to give a detailed picture of the extent of large-scale foreign land investment in sub-Saharan Africa, the nature of these projects and the stakeholders. The base of the analysis is a wide range of literature studies, both in-depth case studies of a particular country and more global studies covering the whole continent. By collating and triangulating the information from these studies, a detailed database was created. Based on this data a comprehensive picture up to mid-2011 can be given. It must be cautioned that despite the triangulation, data is still unreliable in a number of cases due to the factors that were explained in Chapter 3. The detailed set of data is available in Appendix A.

As the analysis will illustrate, the extent of large-scale land investment differs widely per country. Some countries, such as Ethiopia, Mozambique and Madagascar, receive much interest, whereas other countries, for example Namibia, have no reports of foreign land investment. The nature of the investments also varies greatly with some nations receiving more food investment, whereas other are mainly targeted for fuel crop production. It is also shown that the investors come from a wide range of countries. Last, it is argued that despite the large interest shown, the number of projects that have progressed to the implementation stage is limited.

After analysing the overall situation with regards to large-scale foreign land investment, a more in-depth study is done on Ethiopia and Madagascar, two countries that have received much interest from foreign investors. Several researchers have looked into the developments occurring in these countries and have established the

impact of large-scale investments in both nations. It is argued that benefits to these countries, and in particular to the local population where investments occur, are limited. Other African countries, such as Zambia, can learn from the experiences of both Ethiopia and Madagascar.

4.2 The scale of investments

In total, nearly 39 million ha of land across the continent has been reported to be the topic of negotiation or is already managed by foreign investors. Table 4-1 lists the eight countries with the largest land area targeted by foreign investors. The table also includes the number of projects and the percentage of agricultural land[7] that is covered by the reported deals. In some cases, such as Madagascar and Ethiopia, numerous investors have shown intentions to procure land, whereas in others, for example the Republic of the Congo and Uganda, the number of projects is limited and dominated by a single, very large, investment.

Table 4-1: Top-8 host countries in Africa

Host	Area (1,000 ha)	# projects	% Land Agriculture
Mozambique	11,036	22	22.4
Rep of Congo	10,040	3	95.1
Madagascar	3,719	28	8.3
DR Congo	3,048	3	13.6
Zambia	2,677	9	11.5
Sudan	2,151	12	1.6
Ethiopia	1,456	28	4.2
Uganda	1,024	4	7.3

Source: Own compilation, FAOSTAT 2011b

The large figures for Mozambique and especially the Republic of the Congo are skewed due to the enormous areas (10 million ha in both countries) potentially assigned to the South African farmers organisation Agri SA, which will be discussed in more detail in section 4.2.

[7] The FAO defines Agricultural land as the sum of arable land, permanent crop land and permanent meadows and pastures. It excludes forest, fallow and other land (FAOSTAT, 2011b).

The countries listed in Table 4-1 are amongst those with the highest area of land available for cropping, currently not cultivated and with low population density as identified by Fischer and Shah (2010). This implies that these countries have large areas with agricultural potential. Nevertheless, Table 4-1 also shows that the area earmarked for foreign investors can cover a significant amount of agricultural land available in a country. The amount ranges from a mere 1.6% in Sudan to nearly all the agricultural land available in the Republic of the Congo. Several reports examine the percentage of land planned for foreign investment as compared to arable land. Arable land only takes into account land under temporary crops and pastures and market gardens, it does not include land under permanent crops and pastures. In Madagascar, Mozambique and the Republic of Congo, more than all arable land is potentially allocated to overseas investment projects. This means that to accommodate all the plans from foreign investors, land currently under permanent grazing (mostly communal grazing grounds) and possibly forests, will have to be converted into crop land. The large percentage of agricultural land potentially allocated to foreign investors can indicate a lack of coordination by the national governments that fail to integrate foreign investment into a wider land and agricultural policy and can have severe impacts on the land available to local, smallholder, farmers.

There are numerous examples which illustrate that despite the perceived abundance of land, conflicts do arise. In their study on the (now discontinued) operation of ProCana in southern Mozambique, Borras et al. (2011) note that not only did the company receive leases over high potential agricultural land, part of the land allocation was already assigned to the relocation of people previously living in the newly formed Limpopo National Park. It was observed that "The fact that ProCana was nonetheless allocated land in conflict with pre-existing land use planning raises issues … as to which of the competing interests (biofuels, natural park, resettled communities) were being prioritised" (Nhantumbo and Salomão, 2010, 27). In addition, the company was reported to encroach on the land the local population used to get wood to build their houses (Nhantumbo and Salomão, 2010). The ProCana case has led Borras et al. (2011, 216) to conclude that "the notion of existing, available marginal lands is fundamentally flawed".

Despite the large figures shown in Table 4-1, the actual situation on the ground is not as dramatic. This is due to the fact that numerous projects have been discontinued, are not yet signed or not yet operational as illustrated in Table 4-2. In Mozambique and the Republic of the Congo only a small amount of the 10 million ha has been signed over to Agri SA. Out of the 10 million ha *potentially* available, only contracts covering one million ha in Mozambique and 200,000ha in the Republic of the Congo have been signed over by the national government (Hall, 2011; Pearce, 2011). In Madagascar under 15% of the reported investments are operational, possibly due to the volatile political situation. Ethiopia is the country with the highest percentage of operational projects covering more than 45% of the area with an additional 32.3% as signed deals.

Table 4-2: Land area by status of investment (1,000ha)

Host Country	Planned	Signed	Operational	Discontinued	Unknown	Total
Mozambique	9,100	1,780	55	101		11,036
Rep of Congo	9,800	200			40	10,040
Madagascar	140		498	2,145	937	3,720
DRC		2,868			180	3,048
Zambia	445	25	172	2,035		2,678
Sudan	500	954	672	25		2,151
Ethiopia	225	470	662		100	1,456
Uganda	1,020		5			1,025
Ghana		50	576	150	10	786
Gabon		300	400			700
Total top 10	**21,335**	**6,987**	**2,858**	**4,451**	**1,267**	**36,898**

Source: own compilation

One example of a deal surrounded by much rumours is that between the Qatar and Kenyan governments. In return for a loan to build a deep-sea port in the Kenyan city of Lamu, Qatar would receive 40,000ha in the fertile Tana River Delta. The Qatar operations would encompass horticultural produce to be grown for the Qatari market. Since the signing of the deal was announced in 2008, however, nothing further has been heard regarding this project (FIAN, 2010).

As was pointed out in Chapter 3, once operations start, it takes a number of years to bring the full land area under production. Green Resources, a company focussed on forest products, has numerous plantations across Tanzania under operation. These plantations total over 55,000ha of which more than 30,000ha is considered as plantable (the remaining land is set aside for conservation and other purposes). By 2009 only 8,000ha had been planted with around 2,000ha additionally planted per year (Green Resources, 2012). The private equity fund Citadel Capital had only less than 1,000ha out of a total of 211,000ha under production on its Sudan land in 2011 (Citadel Capital, 2011). Three years after signing the land deal, Sino Cam Iko, a Chinese company owning 10,000ha in Cameroon for the production of rice and other food crops, was still in the "experimental phase", according to the ad interim company director, (Afronline, 2009).

Even after deals have become operational, difficulties can cause early closure. In 2007 a London-based company signed a 30,000ha, US$510 million dollar projects under the name of ProCana to grow sugar cane for ethanol production in Mozambique. Despite the aim of the Mozambican government to replace fossil fuels, up to 80% of the ethanol produced by ProCana would be exported to other countries in the region, mainly to South Africa (Borras et al, 2011). Although situated in a dry part of the country, the company was given land with high agricultural potential, next to a large dam from which water could be extracted for irrigation purposes required for the production of sugar cane. The activities would offer 7,000 employment opportunities, although this would depend on the laws regarding environmental, labour and safety regulations posed by the government. By August 2009 ProCana had cleared 850ha of land and planted a 25ha nursery with several varieties of sugar cane (Borras et al., 2011). In October 2009 the main investor withdrew from the project and at the end of that year, after less then three years since the signing of the contract, the Mozambican government closed down the ProCana operations due to non-compliance with the investment plan. Apparently the loans required for the investment became difficult to obtain at a time when oil prices increased and the world economy turned into recession (Nhantumbo and Salomão, 2010).

4.3 The investors

A large number of investors from many countries have signed land deals across Africa. As Table 4-3 shows, most projects are driven by European investors, followed by Asian, African and Middle Eastern investors. Due to the two Agri SA projects, the largest land area covered is by African investors. Asian projects cover a larger area than European; the average size of an Asian investment, over 270,000ha, is considerably larger than that of a European project, under 70,000ha. Middle Eastern investors are between these two with an average of over 110,000ha per project.

Table 4-3: Number of projects and area covered (1,000ha) by host region and investor region

Host region	East		South		West		North	
Investor region	**# proj.**	**Area**	**# proj.**	**Area**	**# proj.**	**Area**	**# proj.**	**Area**
Europe	15	631	38	2,790	15	1,191		
Asia	15	734	12	7,150	7	1,336		
Africa	10	1,817	12	20,435	2	240	1	35
Mid. East	18	1,894	3	135	1	100	4	762
N.America	6	812	4	338	2	82		
Pacific			1	120				
S. America	1	17						
Unknown			1	80				

Note: This data includes discontinued projects

Source: Own compilation

The UK is the base of most European investors. UK companies are reported to have interests in 23 projects spread over 11 African countries. The majority of investors are privately owned biofuel companies such as D1 Oils and Sun Biofuels. D1 Oils has initiated projects in four countries: Madagascar, Malawi, Tanzania and Zambia. By 2011 however, the company had discontinued its activities in Madagascar and Tanzania and greatly reduced their operation in Zambia (Ross, 2011). Somdiaa, a French based sugar company, grows sugar cane in four countries in West Africa. The average size of their operation is less than 10,000ha, relatively small compared to other projects. GEM Biofuels from the UK with a 492,500ha holding in Madagascar

(GEM Biofuels Plc, 2009) and Norwegian based ScanFuel Africa, which has signed a deal for 400,000ha in Ghana for jatropha production (Dogbevi, 2010), manage the existing largest African operations. Due to the ScanFuel deal, Ghana is the country with the second largest area (partly) under operation, after Ethiopia as is shown in Table 4-2.

China and India are the most prolific investors from Asia with a total of 11 and 14 projects respectively. Whereas Chinese investments are spread across the continent, Indian investments are concentrated in Ethiopia. The largest investments are 2.8million ha signed by Chinese telecommunications firm ZTE International in the Democratic Republic of Congo, plans for a two million hectare deal for biofuel by an undisclosed Chinese company in Zambia which have not been pursued, and the much reported 1.3million ha leased by South Korean Daewoo in Madagascar, which has been cancelled. These three projects explain the large area covered by Asian investors in southern Africa. Not all projects from Asian investors are on such an enormous scale. A growing number of commercial farmers from the Indian state of Punjab, where farm land is becoming scarce, are relocating to land secured in Ethiopia (The Economic Times, 2010).

Other large investors from Asia are palm oil companies originally from Singapore and Malaysia, which are diversifying into other industrial (food) crops. For example, Sime Darby has shown interest in establishing rubber plantations in Liberia and Cameroon totalling 550,000ha (Sime Darby, 2011), whereas Singapore based Olam International has signed two deals in Gabon totalling an area of 700,000ha for timber and palm oil production (Olam International, 2007). These companies operate equally large areas in South-East Asia, an experience that can decrease the risk of non-usage as seen with other investments of such a scale.

Investment from the Middle East is largely concentrated in the East African countries of Ethiopia and Sudan. It has been argued that this portion of investments is due to the close geographical proximity (Cotula et al., 2009). Due to their limited water resources, these countries are highly dependent on the world market for their food crops, a dependency they want to reduce after the food price increases from 2008 (Rice, 2009; Smaller and Mann, 2009). Investors range from private investment

funds such as Tiris Euro Arab from the UAE which manages 700,000ha in Morocco for the growth of crops for the Middle Eastern and European markets (Gulf Times, 2010), to government related investors such as Qatari based Hassad Food which operates a 100,000ha food growing venture in Sudan (Hassad, 2010).

Not all investment in Africa is made by investors from outside the continent. South Africa and Egypt are reported to plan, have signed or are operating 20.5million ha and 1.7million ha respectively. This finding makes South Africa the largest investor in the continent as measured by land area allocations. Although South Africa is the largest investor from a surface point of view, the number of deals linked to this country is smaller than that of the UK and India. This is due to the fact that the projects are concentrated on one investor: commercial farmers organisation Agri SA. This organisation reportedly has signed deals for 200,000ha in the Republic of Congo (Brazzaville) with the option to expand this to 10 million ha (Hall, 2011; Reuters, 2011a). The government of the Republic of Congo aims to decrease the import of food through this project, although the deal also incorporates concessions for export (Hall, 2011). Furthermore, farmers belonging to Agri SA are in the process of developing one million ha in neighbouring Mozambique (Pearce, 2011). It is reported that the total area to be used by South African farmers will cover 10 million ha at a later stage (Görgen et al., 2009). According to the Econergy International Corporation (2008, 22), “Five million hectares of land are currently under production, and land available for expansion of production ranges from 10 million to as much as 19 million hectares”. The deal with Agri SA would occupy most of this available land. Overall, by early 2010, the organisation was in negotiation with 22 countries across the continent for proposed land deals (Reuters, 2010b). Because the details on these plans other than the Republic of the Congo and Mozambique are unknown, they are not included in this study.

What sets the nature of the largest South African deals apart from other projects is the fact that the agreements are made by an umbrella organisation that represents individual farmers rather than a single investor looking for land to farm as one operation. The farming organisation is involved in signing agreements with host countries, which in turn simplifies the process for individual farmers to establish themselves in a new country, especially in terms of title deeds (Agri SA, 2010). The

organisation has launched AgriSaMoz "to create a single platform which will represent the interests of RSA farmers and agribusinesses (AgriSaMoz, 2011, 1). According to Agri SA deputy president De Jager, over 800 South African farmers had already established themselves in Mozambique with a further 800 in the process of finalising deals (Reuters, 2011a).

Not only is the set up of these investments, using an umbrella organisation for individual farmers, different from other large-scale investments, the drivers also differ from those elaborated on earlier in this chapter. During the apartheid period before 1994, the government heavily supported white commercial farmers. This support consisted of subsidies, favourable pricing, and cheap credit (Hall, 2011). With the end of apartheid, commercial farmers not only had to deal with deregulation of the agricultural sector, but they were also faced with an increase in prices for inputs (Hall, 2011). In addition, the rights of farm workers were extended and land distribution became a topic on the political agenda (Atkinson, 2007; Walker et al., 2010). These changes have led numerous white farmers to look at potential farming opportunities in other African countries to continue farming (Hall, 2011). Agri SA also sees the expansion into the continent as a way to contribute to the development of the host countries (Agri SA, 2010). The aim of the Republic of Congo government to increase food security illustrates this intention.

4.4 The crops

The majority of the investments are for fuel production; in total 63 out of the total 139 projects. A total of 42 deals are reported to be for food production with a further 19 for industrial crops such as rubber and palm oil; 8 projects combine food and fuel crops, mostly sugar production that can be used for bioethanol. Table 4-4 gives an overview of the number of projects per country grouped by crop for the ten African countries with the highest number of deals, whereas Table 4-5 lists the area covered for these countries. From an area perspective, it is clear that most land is being targeted for food production. This situation is mainly due to the two large deals being negotiated by Agri SA as discussed in the previous section.

Table 4-4: Number of projects by crop for top-10 African countries

	Fuel	Food	Food + Fuel	Industrial	Unknown
Madagascar	17	3	2	6	
Ethiopia	16	6	2	1	3
Mozambique	10	5		6	1
Sudan		9	1		2
Tanzania	4	4		1	
Zambia	4	3	2		
Ghana	5	2			
Kenya	3	2			
DRC	1			2	
Rep of Congo	1	2			
Total	**61**	**36**	**7**	**16**	**6**

Source: Own compilation

Table 4-5: Area covered by crop for top-10 African countries (1,000ha)

	Fuel	Food	Food + Fuel	Industrial	Unknown
Madagascar	1,518	435	1,310	457	
Ethiopia	957	361	42	25	71
Mozambique	288	10,097		641	10
Sudan		1,189	84		878
Tanzania	148	196		100	
Zambia	2,535	53	90		
Ghana	765	21			
Kenya	503	47			
DRC	2,800			248	
Rep of Congo	40	10,000			
Total	**9,553**	**22,389**	**1,526**	**1,471**	**959**

Source: Own compilation

Deals regarding fuel crops, especially jatropha, are concentrated in Madagscar, Ethiopia and Mozambique. Many host countries in Africa actively seek to attract biofuel companies through incorporating land FDI in their policies (Görgen et al., 2009; FIAN, 2010). For example, after actively promoting biofuels as part of the

Rural Development Strategy of 2007, the Mozambique government tried to balance the large demand for land by biofuel producers with social and environmental considerations through the publication in 2009 of a National Policy and Strategy for Biofuels document (Nhantumbo and Salomão, 2010). Despite the aim of the government to replace biofuels, it still allowed ProCana to lease 30,000ha for ethanol production of which 80% would be exported, thus contributing only marginally to national fossil fuel replacement and possible electrification of rural areas (Borras et al., 2011). In Ethiopia, although not actively pursuing biofuel growth, the government does not object to these projects as they are in line with the wider agricultural strategy to earn foreign exchange and to produce input for the domestic industry (Lavers, 2011). Before the political unrest in 2009, Madagascar followed a general policy to attract foreign investment as a generator of economic growth and welcomed biofuel investment as part of this strategy (Perrine et al., 2011).

Kenya illustrates that government endorsement for biofuels in itself is not enough. After emphasising the strategic position of jatropha in particular (Government of Kenya, 2008), a concise policy to channel this support has not been forthcoming. Kenya only has a limited number of international jatropha investors. The few companies that did initiate projects were pulling out in 2010 due to high costs and a lack of markets (Hunsberger, 2010).

Table4-6: Investments in biofuel crops by major investor country

	# projects	**Area (1,000 ha)**	**Average size (1,000ha)**
United Kingdom	16	1,567	98
Italy	9	351	39
Israel	4	270	68
India	4	142	36
China	3	5,200	1,733
France	3	60	20
Germany	3	125	42
Norway	3	560	187
USA	3	85	28

Source: Own compilation

It is evident that Africa's biofuel investors are mainly based in Europe, specifically the UK and Italy, followed by Israel, India and China (see Table 4-6). The average size of European biofuel projects is significantly smaller than those of Chinese investors at over 1.7million ha. In the DRC, telecommunications firm ZTE reportedly signed a contract covering 2.8million ha (The Associated Press, 2008). Aiming to verify this deal, Brautigam (2010) finds little proof, certainly not on the large scale claimed in the Associated Press article. Similar reports of a 2million ha investment in Zambia are being denied by the Biofuel Association of Zambia (BAZ, 2010). This leaves the actual activities by the Chinese considerably less than is often reported.

As Table 4-4 illustrates, investments in food production are concentrated in Sudan and Ethiopia. Table 4-7 lists the main food investor countries. After South Africa, which has been discussed earlier, Egyptian investors have claimed the larges area of land for food crop production in other African countries. All four projects by Egyptian investors are in neighbouring Sudan. Egypt, a water scarce country reliant on water from the Nile River, imports most of its staple food, wheat (Brown, 2011). In a time of a growing population, the amount of water flowing into the country is reducing with more water being used for large agricultural schemes in upstream Sudan and Ethiopia (Brown, 2011). The private equity firm Citadel Capital has acknowledged the potential of the Sudanese agricultural sector and set up farming operations that cover approximately 100,000ha in both Sudan and the newly established South Sudan (Ombok, 2011). Controversially, a large contributor to Citadel's funds is the IFC, the private investment arm of the World Bank (McNellis, 2009). The World Bank advises African countries to establish easy access for FDI to generate development. Through the IFC, the World Bank then benefits from this advice (Daniel, 2011). Aside from these private investments, the Egyptian government, wanting to secure food supply for its population, has signed a number of agreements with the Sudanese government to boost trade between the countries and is aiming to set up cooperation aimed at food security (AFP, 2011).

Table 4-7: Investments in food crops by major investor country

	# projects	Area (1,000 ha)	Average size (1,000ha)
South Africa	9	20,387	2,265
United Arab Emir.	7	842	120
China	6	283	47
India	6	591	98
Saudi Arabia	5	54	11
UK	5	275	55
Egypt	4	1,420	355
USA	4	444	111

Source: Own compilation

It is observed that India is a major food investor in Ethiopia. The Indian government, aiming to reduce its reliance on the world market for its food supply, encourages its businesses to set up operations in Ethiopia through the provision of cheap credit to the Ethiopian government and the establishment of preferential trade agreements for food imports from the country (Cherian, 2010). Apart from a number of large-scale businesses, farmers from the state of Punjab also are encouraged to move their activities to Ethiopia (The Economic Times, 2010). Section 4.5.1 will look in more detail into Karuturi, the largest Indian investor in Ethiopia.

One country with a high concentration of sugar projects is Mali. It is observed that sugar production takes place on a smaller scale than wheat or rice production. Therefore Mali is not included in Tables 4-4 and 4-5, which focus on the leading countries. Apart from hosting a number of foreign sugar companies, the Mali government has also signed a much reported, and highly controversial, deal called the MaLibya project, in which the Libyan government has obtained 100,000ha to grow rice and rear cattle in the fertile area of Office du Niger in order to obtain food self-sufficiency for Libya (e.g. Aarts, 2009; Diallo and Mushinzimana, 2009). This particular deal was signed without public consultations and has led to the displacement of local farmers who have not been compensated either for their loss of land or relocation costs (Diallo and Mushinzimana, 2009).

4.5 Case studies: Ethiopia and Madagascar

As Table 3-1 illustrated, Ethiopia and Madagascar are amongst the countries with the largest areas allocated to foreign investors globally. This section looks into government policies and large-scale projects in these two countries to obtain a better understanding of the nature of foreign FDI, the role of the host government and the impacts on the local population.

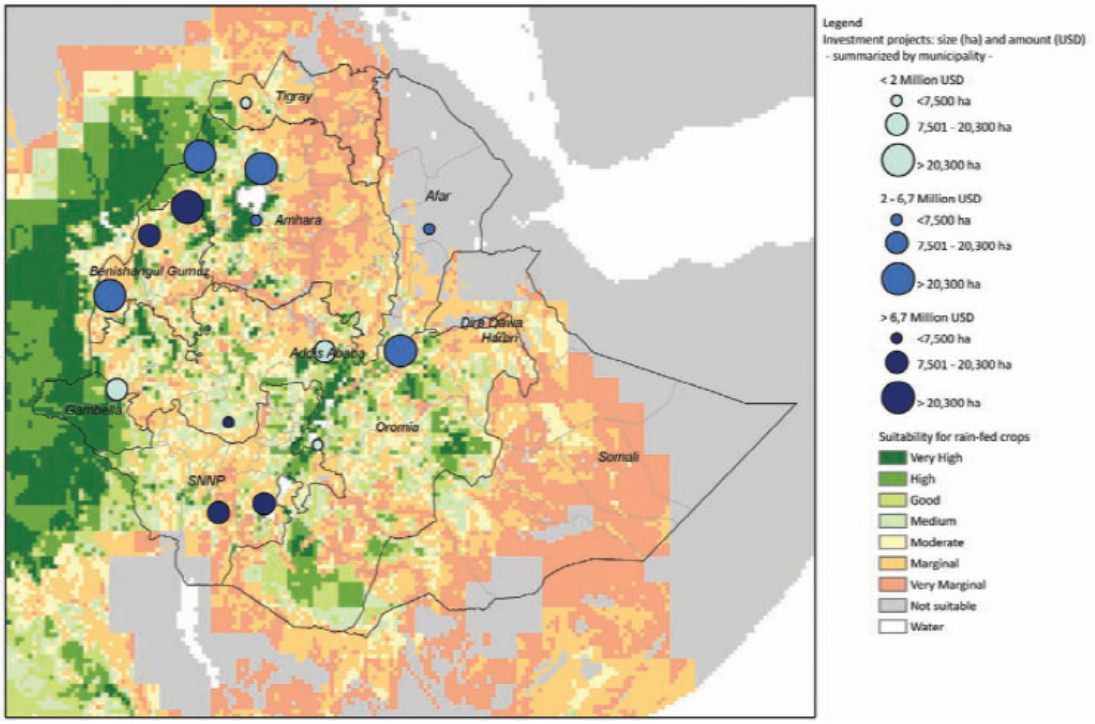
4.5.1 Ethiopia

According to the World Bank (2010a), nearly 1.2 million ha of land in Ethiopia was allocated to investors in the five years between 2004 and 2009. More than half of this land was for foreign investors which had applied for an average of 4,000ha per project. My analysis based on data collected from a large number of sources, puts the total area at more than 2.2 million ha, equal to 6.4% of agricultural land and 16.2% of arable land. This figure includes all projects larger than 5,000ha from the planning stage until the operational stage and discontinued projects. As pointed out earlier in this chapter, these figures are open to questions. Nevertheless, they illustrate the large-scale extent of foreign land investment in Ethiopia. Figure 4-1 provides a geographical overview of reported investments in Ethiopia.

The largest foreign investors in Ethiopia are based in India, Saudi Arabia, Israel and the UK, with the majority being private investors. Dutch investors are also active, albeit on a much smaller scale in the more labour-intensive floriculture occurring in the highlands of the country (Meles and Helmsing, 2010). Saudi and Indian investors concentrate on food, whereas European investors are more interested in fuel crops. Overall, there seems to be a balance between the two kinds of crops. Nearly half of the area leased to large-scale foreign agricultural investors is destined for export production, with more land used for a combination of export and domestic sales (Cotula et al., 2009; Lavers, 2011). This is despite the fact that cereal production for export purposes is severely limited by high transportation costs with the only access for this land-locked country to a reliable sea port being through Djibouti (Lavers, 2011) and the ban on the export of cereals imposed by the government in an attempt to secure national food security (Rashid, 2010). Exceptions to this ban are made under

political pressure[8] (Lavers, 2011). As will be illustrated, large investors are not hampered by these policies and even are stimulated to export part of their crops.

Figure 4-1: Documented land acquisitions in Ethiopia 2004-2009



Note: the Karuturi and Saudi Star projects are not identified on this map as they were not documented by the Ethiopia Investment Agency (Lavers, 2011).

Source: Cotula et al., 2009, 44

The majority of foreign large-scale land investment occurs in the lowland regions of the west of the country (see Figure 4-1). This area has a significantly lower population density than the highlands where 80% of the population lives (World Bank, 2010a). The Ethiopian government is aware of the importance of smallholder farming and sees migration as the "source of economic, political and social instabilities"[9] (MoFed, 2002, 56). Whereas the government has put the commercialisation of smallholder farmers at the heart of its policy for the highland areas, the lowland regions are targeted for large-scale agriculture (Makki and Geisler, 2011). Limited infrastructure and the prevalence of malaria and the tsetse fly have so far made these areas

[8] The government of Djibouti has been assigned a 3,000ha plot to grow wheat for export to Djibouti. The Ethiopian government most likely made an exception to maintain friendly relationships with the neighbouring country and in this way ensure continued access to Djibouti's port (Lavers, 2011).

[9] It nevertheless aims to voluntarily resettle 440,000 households to achieve food security at household level (MoFED, 2006).

inaccessible for small-scale farmers (Makki and Geisler, 2011). Pastoralists are using these lowlands extensively for grazing purposes, although the government classifies these areas as 'unused', indicating the low status of this group (Lavers, 2011). Permanent settlement is the only option seen for pastoralists, as was suggested by Dr Abera Deressa, Minister of Agriculture. He remarked that "… we are not appreciating pastoralists remaining as they are. We have to improve their livelihood by creating job opportunities. Pastoralism, as it is, is not sustainable. We want to change the environment" (Butler, 2010). Whereas sedentary farmers by law should receive compensation for loss of land equalling ten times the average annual income over the previous five years (FDRE, 2005), this regulation does not apply to pastoralists who do not hold a registered land deed.

The Ethiopian government has linked agriculture and FDI in several policy documents. For example, in the Plan for Accelerated and Sustained Development to End Poverty, the Ministry of Finance and Economic Development states that "the ultimate goal of field crop production and productivity increases is twofold: to make the country food self-sufficient and ensure household food security for the rapidly growing population, as well as to improve the provision of quality products for the local agro-industry and for the export market" (MoFED, 2006, 72). On the other hand, several policies and incentives have been put in place to stimulate an export-driven development of the agricultural sector, without displacing smallholder farmers. Under Ethiopian Investment Incentive regulation, investors exporting at least 50% of their production are eligible for a five year exemption from income tax payments, extended for one more year if the investment is located in "relatively underdeveloped areas" (FDRE, 2003). In addition, import of capital goods is exempt from any import duties. The Investment Proclamation allows for generous remittance of funds (FDRE, 2002). Since all land is owned by the government, it holds the sole right to allocate land to investors through the Agricultural Investment Support Directorate. The national government draws from a land bank set up by the regions and has identified 3.7 million ha of land to be allocated to private investment (Lavers, 2011). So far, it appears this allocation has mostly taken place in less densely populated areas (Lavers, 2011). As Makki and Geisler (2011) point out, the land policy and land bank creation have enabled government to use the "Terra Nulius" concept to allocate land to commercial agriculture, leaving the current land users with little rights.

All regulations together indicate the wish of the Ethiopian government to increase exports as a way to obtain foreign currency. This aim was underwritten by Minister Abera Deressa saying "If we get money, we can buy food anywhere. Then we can solve the food problem" (Butler, 2010). As was illustrated in the previous chapter, however, a policy reliant on agricultural exports for a country where many people are food insecure is extremely risky. As soon as the prices for the export crops fall or the prices for staple crops that need to be imported increase, a large share of the population can no longer afford the minimum consumption (Chang, 2009).

High profile investment projects in Ethiopia are those of Karuturi and Saudi Star. Karuturi is an Indian based business and global leader in the production of roses and operates in Ethiopia under the name of Karuturi Agro Products Plc (UNCTAD, 2009; MoARD, 2010a). This firm obtained a 50-year lease over 100,000ha in the south-western region of Gambella, with the option of a further 200,000ha if the company manages to develop the first plot within a two year period (MoARD, 2010a). In addition, it operates a 11,000ha farm in the Bako area. The company has invested US$100 million in the Gambella project so far. In the three years since its inception, the company has brought a total of 65,000ha under cultivation with crops including rice, cereals and palm oil. The harvest is projected to be sold both on the domestic market and the regional East African markets according to the company (Davison, 2011a).

Karuturi pays a very low land rental of around US$1.20/ha/year to the local districts where the project is situated[10]. Some claim the first six years are rent free (Rice, 2010), although no mention of this exists in the contract. The Ministry of Agriculture and Rural Development reserves the right to change the land rental during the 50 year lease period (MoARD, 2010a). In return, the company receives the right to "develop the land […] use irrigation water from rivers or ground water […], develop or administer the leased land [… and] develop and cultivate the land and harvest the crop and carry on all other activities by mechanisation or such means that the lessee in its own discretion deem fit and proper in the circumstances" (MoARD, 2010a, 2-3).

[10] The rental fee for the plot in Bako is around US$8.00/ha/year because of the more central location (Rice, 2010).

The company plans to invest up to US$1billion in Ethiopia, including by bringing in over 1,000 tractors to work the land. It aims for a total of 20,000 jobs, generating employment in this remote area (Rice, 2010). Although the company claims to pay above the minimum wage, the rate of US$60cent per day is still extremely low. This was confirmed by a local farmer who admitted that it was good that local people now had jobs, but that the wage was too small (Rice, 2010).

Despite the low population density, one local inhabitant commented that “all the land round my family village of Illia has been taken over and is being cleared. People now have to work for an Indian company. Their land has been compulsorily taken and they have been given no compensation. People cannot believe what is happening. Thousands of people will be affected and people will go hungry” (Vidal, 2010). Nevertheless, the Gambella department of investment claims that relocations are voluntary: "This year we will relocate 15,000 people to give them better access to water, schools and transport. [But] it is a coincidence that the investors are coming at the same time as the villages are being relocated" (quoted in Vidal, 2011).

After three years of operation, the Ministry of Agriculture and Rural Development claims it has revoked the second concession of 200,000ha, arguing that the original land allocation was too large to manage (Davison, 2011a). This position was denied by Karuturi and only a few days later the MoARD announced it might issue the 200,000ha of land according to the contract (Davison, 2011b). The turn-around by the MoARD indicates the power that these large international investors can hold over African governments.

Another company that has received much publicity is Saudi Star Agricultural Development. Saudi Star is owned by Ethiopian-born (but Saudi based) billionaire Sheikh Mohammed al-Amoudi who plans to invest US$2.5 billion by 2020 in a rice producing enterprise (Davison, 2011c). In 2009 the company signed a 50-year lease for 10,000ha in the Gambela region for which it pays around US$1,80 per ha per year (MoARD, 2010b). According to CEO Haile Assegide, a former minister of Trade and Industry, the intention is to rent a further 290,000ha (Davison, 2011c). The venture is most likely supported by the ‘King Abdullah Initiative for Saudi Agricultural Investment Abroad’ initiative which was launched by the Saudi government to

stimulate national and international food security (Cotula et al., 2009). In order to ensure optimal productivity from its land holding, the company is building a 20-mile canal for irrigation purposes (Vidal, 2011).

It is estimated that the portion of produce to be exported is at least 60% of the total harvest, although precise figures are lacking (Davison, 2011c; Capital Newspaper, 2010), thus classifying the company to be exempt of import tax for six years according to the Ethiopian investment regulations. Mr. Assegide acknowledged that Saudi Arabia was expected to be a "dominant" destination (Davison, 2011c). Indeed, in 2009 Al-Amoudi presented the first shipment of Ethiopian grown rice to the Saudi King Abdullah (Rice, 2009). Lavers (2011) expects small food exports by Saudi Star not to be an issue as long as food prices stay relatively low and as Saudi Arabia can easily source grains from the world food market. However, when Saudi Arabia faces issues feeding its own population, Saudi Star might export a larger share of its harvest, preferring exports to its domestic market over sales in the host country. It is suggested that the Ethiopian government might prevent this contractually if and when it grants the company a larger land concession (Sisay, 2011).

Saudi Star envisages employing up to 250,000 people directly when it has reached its full operation. The company states that its strategy is to find a balance between mechanisation and labour. It was remarked by CEO Assegide that "we don't want to make it capital intensive. We want to make it a mix of labour and capital" (Davison, 2011c). Nevertheless, employees do not seem to be fully content with the jobs offered. The company pays them around US$75 cents a day, barely enough to survive. As with the Karuturi operation, locals complain that they no longer have access to land that they previously used (Rice, 2009). The company insists that there was no original settlement when the farm started, despite the government plan to relocate 45,000 households from the region (Davison, 2011c).

As a further investment to the Gambela project, Saudi Star acquired a small plot of land closer to Addis Ababa in order to set up a rice polishing and packing facility where it will process the rice produced from the Gambela region (Alemu, 2010). Aside from Saudi Star, Al-Amoudi has major business interests in Ethiopia through his MIDROC Ethiopia company, involved in sectors across the economy. One of the

companies under this umbrella group is Ethio Agri-CEFT which operates coffee plantations, grows food crops, medicinal and biopesticides and produces cut flowers (MIDROC Ethiopia, 2009). Lavers (2011) claims that Sheik Al-Amoudi has sufficient power to influence policy and trade relations between Ethiopia and Saudi Arabia.

In his critical assessment of the role of foreign investment in Ethiopia, Lavers (2011) argues that these kinds of large-scale projects which are operated by foreign companies are not without considerable risks. Flora EcoPower[11], a German based company, started with an 8,000ha plot for the growth of castor seeds to be used for biofuel production. Upon arrival in the area, the company found smallholders were actively farming the land despite the government's 'unused' classification. It was decided that these smallholders would be incorporated in the project. They were offered a three year contract with a fixed price for castor seeds that they would grow for Flora EcoPower. The smallholders would have to convert half their land from food production (mainly sorghum) to castor. The Ethiopian government was highly supportive of this investment that they saw as in line with their strategy to domestically produce industrial input, earn foreign exchange and, by processing the seeds locally into biofuel, reduce the country's dependence on imported fuel. Small farmers were also forthcoming in great numbers, enabling this project to quickly expand to an area of 72,000ha, mainly using smallholders (Lavers, 2011).

Nevertheless, this investment soon encountered serious problems. First, the expected castor yields were highly overestimated. Second, the local prices for sorghum increased rapidly. This left the smallholders with an income from castor much lower than what they would have received for sorghum. In addition, they now had too little money and had grown too little food to feed their families. As a result, the site managers left the company and activities were halted for nearly a year. Only in late 2011 were activities expected to resume (Acazis, 2011). The experience of this project illustrates the risks that smallholders run when converting from subsistence crops to commercial outgrower schemes. Furthermore, it confirms what the World Bank found in its field study in Ethiopia: "Many project proposals, even in regions with more advanced governance, only vaguely indicated intended land uses and lack key

[11] Lavers does not reveal the identity of this company in his publication

information, such as the value of the investment and the type of production. Moreover, checks on economic viability do not exist" (World Bank, 2010a, 42).

Overall, it has been suggested that large-scale foreign land investment does not seem to benefit Ethiopia to a great extent. Due to the policy focus on export, the impact of FDI on food security is limited. Cereal production for the domestic market is not a first priority for foreign investors and certainly not for those who are supported by their home government to ensure better access to these crops for their own country (such as the case of Saudi Arabia). The alternative to increasing domestic food security would be through the generation of jobs, giving people the opportunity to earn money in order to buy (imported) food. As the three cases have illustrated, wages on the plantations are extremely low and possibly lower than what these labourers could have earned by subsistence farming. The World Bank (2010a, 45) calculated an expected job creation of only 0.005 jobs/ha. It is significant that none of the contracts made public by the MoARD includes any clauses with regards to job creation.

Spin-offs from these investments are likely to be minimal. Equipment such as tractors is imported from abroad (Rice, 2010), and both Karuturi and Agri-CEFT employ foreign experts to manage their farms (Rice, 2009). The rice processing plant for Saudi Star is to be built by a Japanese firm (Alemu, 2010). Local farmers look envious at the tractors brought in, but most have issues just buying subsidised fertiliser from the government. It is unclear how they will benefit from the investors. "We think they might be beneficial to us in the future, but so far we have not benefited anything," said one local farmer referring to the newly established foreign companies (McCrummen, 2009).

The Ethiopian government does not accrue many financial gains from these investors. Land fees are extremely low, generous tax holidays are offered and profits can be remitted to the investors' home country without limitations. It also does not seem to be able to ensure only projects with a high chance of success are selected as the castor oil case and the World Bank findings confirm. The latter organisation also concluded from its field work that "few agricultural investment projects had an EIA study as required by law" (World Bank, 2010a, 41). The rather flimsy contracts do not contain the exact location of the areas allocated, potentially leading to conflicts with the local

land users. Lastly, through its negative attitude towards pastoralism, FDI in land greatly jeopardises the traditional way of life of minority groups in the rural south-western lowlands.

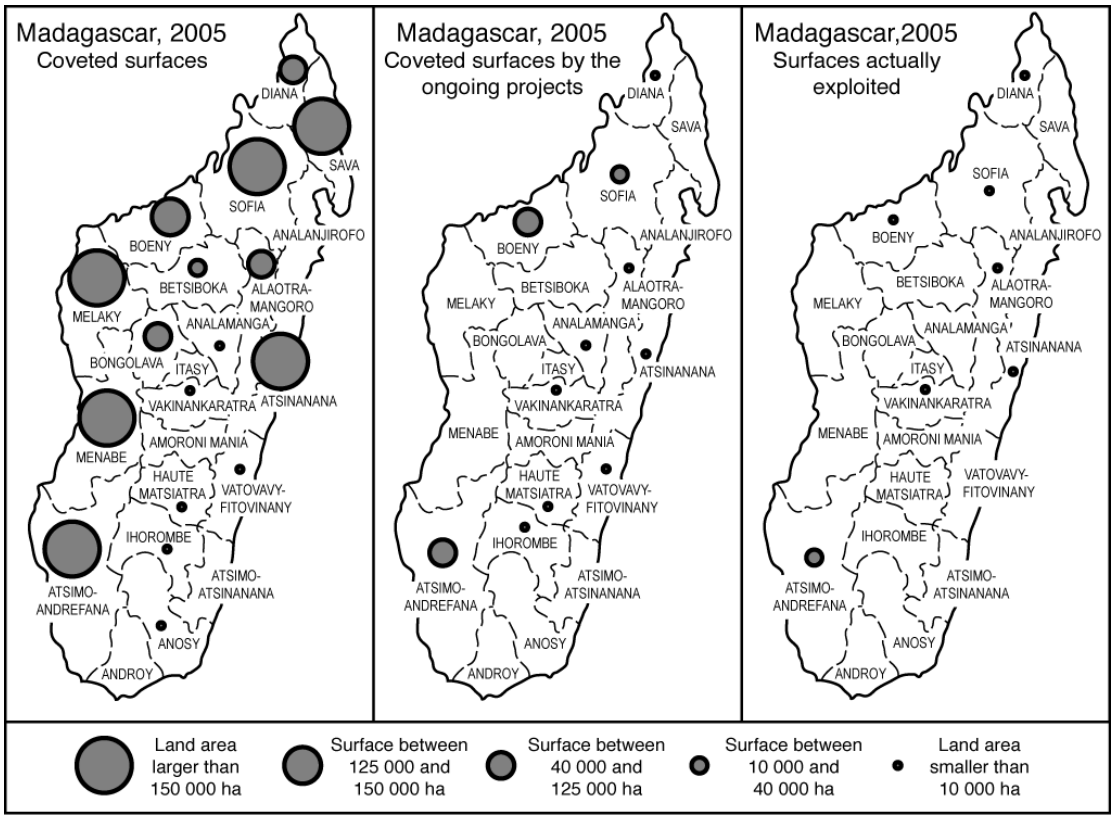
4.5.2 Madagascar

In March 2009 Malagasy president Ravalomanana was overthrown by a population dissatisfied with his government. One of the reasons underlying the anger of the Malagasy population was the rumoured allocation of 1.3million ha of land to Daewoo Logistics, a large South Korean conglomerate. The rural population feared for their "ancestor's land" and participated in protests in order to prevent the loss of access to these lands and their livelihoods (Andrianirina-Ratsialonana et al., 2011).

The situation of political instability has reduced the interest of foreign investors in Madagascar. In an analysis on the status of large-scale investment, the ILC found that beyond the Daewoo Logistics and Varun projects, another five investments have been halted. The total area of all cancelled projects is over 2 million ha, roughly the same as the area cultivated by the country's 2.5 million family farmers (Andrianirina-Ratsialonana et al., 2011). The reasons for cancellation are not only related to the political situation, but also include the financial crisis (see Chapter 3) and the drop in world food prices (Burnod et al., 2011). Nevertheless, another one million ha of land in Madagascar is still either controlled by or planned to be handed over to foreign investors. The data in this section is largely based on information from this ILC study.

By far the largest share of the land is targeted for the biofuel sector. Food only takes up a minor part, made up of a single project Madabeef, a UK financed operation which intends to raise beef cattle on 200,000ha for the export market. All other investors are in Madagascar to grow mostly jatropha and sugar for biofuel production. Initially, Sime Darby planned to grow palm oil and rubber on a total of 200,000ha (Üllenberg, 2009a) but it appears the company has cancelled these plans and instead plans to focus on West Africa (Sime Darby, 2011). Most investors in Madagascar are based in Europe, with the UK leading. Without exception, they all aim to sell their harvest outside Madagascar.

Figure 4-2: Surfaces announced, ongoing and cultivated, Madagascar 2005



Source: Andrianirina-Ratsialonana et al., 2011, 12

Despite the large number of investment deals signed, once again little activity is in evidence on the ground in implementing these large-scale agricultural projects. The ILC study found that many investors took more than two years to finalise procedures in order to obtain their land lease, a result of both the cumbersome regulations and the political uncertainty. In the interim, investors have developed a small pilot plot on land rented on an informal basis from willing landowners (Andrianirina-Ratsialonana et al., 2011). Figure 4-2 shows the location and scale of projects as originally requested, projects still continuing, and the land actually cultivated as in 2005. These figures include domestic projects and all projects from 1,000ha upwards.

In 2005 the Malagasy government under president Ravalomanana initiated a land reform policy with the most important change concerning non-titled land. Whereas previously this land belonged to the state, this new legislation stipulated that all untitled land that was unused by the state for specific purposes was transferred to the local communities and the individuals cultivating the land and to be categorised as "untitled private property" (Andrianirina-Ratsialonana, 2011). The administration at

local government level is in the hands of the land registry office which is responsible for the allocation of land titles to individuals or communities depending on historical use. In the five years since the inception of the land reforms, only one-fifth of local councils have set up a land registry office. Although the new legislation does accord the local population higher security over their land, most local land rights have not been legalised as yet (Burnod, 2011).

The majority of international investors looking for large areas of agricultural land in Madagascar target State-owned land (Andrianirina-Ratsialonana, 2011), both to limit transaction costs and not get involved with potential local tensions over land ownership. During the process of obtaining land rights, the investors in general use a top-down approach, starting with building relationships with the State government before approaching regional administrators, although certain direct negotiations with lower levels of government also occur. Usually the local population is not informed about plans until at a late stage, despite the requirement in the Environmental Impact Assessment policy to consult with the local population (Andrianirina-Ratsialonana, 2011). Further, the role of the mayor is most important on the local level and it depends on this person how and when the locals are involved in the land allocation process (Burnod, 2011). International investors prefer land lease rather than buying land, both to limit start-up costs and to reduce potential controversy with the population.

Since the political change-over in 2009, international investment in Madagascar has reduced significantly and the remaining projects are making slow progress (Andrianirina-Ratsialonana, 2011). It is thus difficult to determine precisely the effects of large-scale agricultural FDI on the country and the local population. The only case with significant activity and for which limited information is available is GEM BioFuels Plc.

GEM started operating in Madagascar in 2005 and since has planted over 55,700ha with jatropha trees (GEM BioFuels Plc, 2010). In addition, it has secured land rights for a further 396,800ha and the rights to 40,000ha of natural forest that contain a considerable number of mature jatropha trees for harvesting. The company operates on a managed plantation model, rather than incorporating outgrowers. Land access for

exclusive rights to establish plantations has been negotiated directly with 18 local communities in the south-west of the country (GEM BioFuels Plc, 2009). Figure 4-3 shows the location and size of the operations located around the city of Toliaru.

Figure 4-3: GEM BioFuels Plc land holdings in South-West Madagascar, 2010

Source: GEM BioFuels Plc, 2009

The company by-passed the State owned Land Services bureau in the process of acquiring land, indicating the many different ways that an investor can use to evade central planning agencies (Andrianirina-Ratsialonana, 2011). No information is currently available on the length of these land rights. According to the CEO of GEM, the company does not pay rental fees but instead gives the local community the chance of development through employment of 4,500 part-time workers and other benefits (Benotti, quoted in Vermeulen and Cotula, 2010). According to Vermeulen and Cotula (2010, 912) "these jobs tend to be unskilled, short-term and small in number relative to the size of the investment". Despite the low cost of land and labour, it has taken the company four years to produce its first crop for sale and no profits have been made since the start of the project (GEM BioFuels Plc, 2010).

Additional criticism has been made of the way GEM has conducted negotiations with the local communities. It was observed that "the GEM negotiation was very short, like

a simulation, because rural communities were not in a good position to negotiate with the investor. Extreme poverty, joblessness, drought, and absence of immediate alternatives basically oblige people and the regional and commune authorities to accept investor proposals rapidly" according to one researcher quoted by Vermeulen and Cotula (2010, 913). Both the apparent lack of proper consultation and the small compensation in the form of temporary, low-paid jobs does not indicate a situation which can be beneficial to the local farmers who have surrendered their land rights.

Nevertheless, investors can bring positive change to a region, depending on the position a mayor takes and his negotiating skills. This is shown by an anonymous mayor remarking on an unidentified investor:

> "Why are we giving our land to project C.? The Malagasy state doesn't even look at our village whereas we have lots of concrete advantages thanks to C. It pays the land fees that strongly increase the financial resource of my local government. Several times I asked the Minister: we need schools, we need hospitals. But they haven't done it. But on the contrary, C. did a lot. They built a school, they pay a teacher, and there are already 30 pupils. They also support a local association" (as quoted in Burnod et al., 2011, 13).

The final impact on the local region, therefore, seems to be more dependent on the investor and local government than the overall stance taken by the State government of Madagascar which does not seem to have a clear strategy or process in place with regards to large-scale land investment.

4.6 Conclusion

It has been shown in this chapter that Africa does receive considerable interest from international investors around the globe. Some governments allocate a large proportion of their agricultural land to foreign businesses or governments. This can indicate that either these governments do not have a clear policy on land and agriculture or that the reports published are much larger than the deals actually signed. As was observed by the World Bank (2010) and the IIED/FAO/IFAD (Cotula et al., 2009), this analysis confirms that most reports are on projects in the planning stage. Only a limited number of land deals are signed and even less become operational.

Projects range from a few thousand hectares to, in two cases, ten million hectares. The largest projects, such as the Agri SA deals, and those by Chinese biofuel producers, either are still in the planning stage or have been discontinued. Due to the large land offers made to commercial farmers organisation Agri SA, currently South Africa is the largest investor in the African continent. At present Mozambique and the Republic of the Congo are the largest hosts for FDI in land. Madagascar, Mozambique, Ethiopia and Sudan are host to the highest number of deals.

It was shown that most deals are being initiated by Europeans investors, in particular from the United Kingdom. In addition, investors from China and India play a major role, although not as large as is frequently reported. In general Asian investments cover a larger area than projects undertaken by European investors. Both European and Asian investors largely are interested in countries in the region of southern Africa. By contrast, Middle Eastern investors, a number of which are connected to national governments, prefer to target land in eastern Africa. India, through several government initiated policies, is actively pursuing private businesses to enter into land deals in Ethiopia in order to increase Indian food security.

The evidence reveals that African countries are targeted for both the production of food and fuel crops, with the highest number of projects designated for fuel production, particularly jatropha. Projects for both kinds of crops range considerably in size from a few thousand ha to over a million ha. Most biofuel investors originate from the UK and Italy, although Chinese investors operate on the largest scale. Apart from the large projects by South African commercial farmers union Agri SA, Middle Eastern and Asian governments and businesses are the largest food investors. This situation is in line with the observations made in Chapter 3 that these countries are the most dependent on the world market for their food security.

The documented case studies of Ethiopia and Madagascar demonstrate that opponents of large-scale land FDI are rightly concerned about the effects of such land deals. It was shown that several projects operate on a much smaller scale than the area under the company's control, if projects are implemented at all. Foreign investors are 'footloose' and do not necessarily stay for a long period of time. One of the largest risks for African host governments and the local population is the loss of land to

investors not cultivating it due to unrealistic plans. Jobs created on these large-scale operations often are lowly paid and generally do not compensate for the loss of income from their small plots of land which the local population surrenders to the foreign operator. Income for the country overall is limited due to low land fees and generous tax holidays granted by the host governments and crops which are grown for export rather than for the domestic market. The case studies seem to indicate that the impact on the local population is greatly dependent on the attitude of the investor. Host governments so far have not been able to regulate foreign investors sufficiently to ensure the country as a whole gains maximum benefits and certainly has not given the interests of the local population priority.

With these conclusions the analysis narrows in Chapter 5 to examine the specific case of Zambia. An analysis in undertaken of the scope, patterns and unfolding impacts of large-scale land investments in Zambia.

CHAPTER FIVE

LARGE-SCALE FOREIGN LAND INVESTMENT IN ZAMBIA

5.1 Introduction

In earlier studies on large-scale foreign land investment, Zambia received relatively little attention. This is despite the fact that Zambia has been identified as one of the countries with a high potential for agricultural growth (Bruinsma, 2009). This chapter aims to establish the scale of large-scale foreign land investment, the key actors, and analyse the impacts of these investments on the country and the local population.

Before analysing available investment data, the broad directions of Zambia's agricultural policies and performance since independence will be discussed, followed by policies related to land and biofuels. As will be illustrated, Zambia went through similar stages of agricultural planning to other developing countries, albeit with mixed results. Although the agricultural sector has opened up to private sector investment, there are still major barriers to ensure both efficiency and rural development. Once the framework for agricultural FDI has been described, details of these investments are analysed. This chapter will include an analysis on domestic investment and smaller scale agricultural FDI in order to complete the investigation of agricultural projects.

Based on fieldwork and previously published studies, it is argued in this chapter that Zambia can benefit from large-scale foreign land investment, although there are certain negative considerations and care needs to be taken for future investments. The chapter concludes with a set of suggested recommendations to enable Zambia to increase possible benefits, whilst reducing the negative impact of large-scale agricultural FDI.

5.2 Economic and agricultural policies and performance

In order to understand the current environment in Zambia with regards to both agriculture and foreign investments, it is necessary to provide the historic background. This section looks into general macro-economic policies and more specific changing

policies with regards to agriculture, land, biofuels and foreign investment since Zambian independence in 1964. In addition, it will analyse the effects of the several policies by demonstrating how the agricultural sector has performed.

5.2.1 Economic and agricultural policies

It is possible to differentiate a series of different macro-economic policy periods in Zambia, each impacting on how the agricultural sector was managed. The first period, from de-colonisation in 1964 until the financial crisis of the late 1970s, was characterised by import-substitution industrialisation (Gulhati and Sekhar, 1982). As with other developing countries, Zambia faced severe balance of payment issues in the later half of the 1970s, in this case mainly triggered by a drop in copper prices (UNDP, 2007). Reforms were (partially) implemented under President Kaunda who had been in power since independence. More drastic reforms took place under the new government that was elected in 1991, heavily leaning on Structural Adjustment Programmes from the IMF (UNDP, 2007). Three different periods will be described in further detail in this section.

5.2.1.1 Import Substitution (1964-1978)

The newly independent socialist government under Kaunda inherited an economy that was largely dependent on copper exports and concentrated along the 'line of rail' stretching from Lusaka in the south to the Copperbelt in the north (Hawkins, 1991). A large role for the government in national planning was envisaged through the various National Development Plans, the first of which was published in 1966. In these National Development Plans, Kaunda expressed the aim to diversify the economy away from copper and implemented a strategy of import-substitution industrialisation (Gulhati and Sekhar, 1982; Osei-Hwedie, 2003). The way to achieve this was through government-led development which expressed itself in a programme of nationalisation and market intervention. Parastatal enterprises grew considerably, absorbing a large share of the labour force (Hawkins, 1991; Gulhati and Sekhar, 1982). Although the Zambian government tried to become less dependent on copper, it was copper revenues that kept the parastatals operational, the value of the kwacha up, and food prices down (Hawkins, 1991). Overall, the implementation of the ISI policy failed as most manufacturing business became greatly dependent on import of

components and hence "there has been very little genuine import substitution" (GRZ, 1979, iii) as admitted by Kaunda.

During the Third National Development Plan which was launched in 1979, President Kaunda stated that "While the public sector will continue occupying the commanding heights of the economy and supply the main driving force behind development, there is a clear recognition in the plan that, in the transitional period from capitalism to socialism, the private sector, both domestic and foreign, will play an important role in fostering increased investment and rapid growth of the economy (GRZ, 1979, iv). Nevertheless, the process of nationalisation drove away many foreign investors, having lost the ability to reap profits in a largely state controlled market and harmed by an over-valued Kwacha (Hawkins, 1991). Amongst the foreign investors who left Zambia were the expatriate farmers, arguably one of the reasons behind the poor performance of the agricultural sector during the first years of independence (Dodge, 1977).

Zambia's agricultural sector fared badly under the economic policy of ISI, despite the importance of the rural areas and farmers expressed in the first three national development programmes (GRZ, 1966, 1972 and 1979). Whereas in the First National Development Plan the focus was on developing large-scale state farming and cooperatives driven by technology, this was changed to make the labour-intensive, small-scale family farm the centre of development in the Second National Development Plan (GRZ, 1972). Both approaches failed to increase production (Dodge, 1977). The largest share of the budget went into maize, the staple food source for most Zambians in line with the government's aim to keep consumer prices low and secure popularity amongst the urban population (Hawkins, 1991). Tight control of the market through the parastatal National Agricultural Marketing Board, NAMBOARD, and an over-valued kwacha meant that farmers had little option but to sell crops at the low prices set by government. All incentives to optimise maize production were removed, leading to a hugely under-performing agricultural sector (Hawkins, 1991). To make matters worse, the government did not provide NAMBOARD with sufficient funds and thus the marketing board frequently could not pay farmers on time and experienced problems with transport and storage of crops. Fertiliser distribution was another area where the parastatal under-performed

often with late deliveries (Dodge, 1977). Between 1965 and 1970, agricultural exports dropped whilst imports increased. Overall, the agricultural sector and the majority of small-scale farmers became largely dependent on imports (Hawkins, 1991). Despite most agricultural programmes targeting maize production for the domestic market, in this period agriculture was not given the priority it required in order to ensure sufficient food production to stimulate industrial growth and economic growth in general. As was illustrated in Chapter 2, throughout much of the developing world, the agricultural sector generally suffered under ISI policies and with stagnating food production, overall economic growth stagnated. Zambia proved not to be an exception.

5.2.1.2 Reform under Kaunda (1978-1991)

The economic system implemented after decolonisation and driven by high copper prices collapsed in 1975 along with the collapse of the world market price for this commodity. Zambia's copper industry was affected even more because of the high price of inputs caused by the high exchange rate of the kwacha, high transportation costs after the Rhodesia border closure[12] and a lack of investment and skills faced by the commercial mining corporations which were unsure of their future after independence (UNDP, 2007). The impacts of the copper price drop were dramatic. Foreign exchange income was limited, hampering the import of inputs for several sectors. The drop in inputs led to a fall in production and hence a sharp rise in unemployment. Further, it led to a shortage in consumer goods, driving up inflation. In addition, the government no longer had funds to subsidise food in order to keep consumer prices low. Overall, between 1975 and 1984, GDP contracted in six years and only showed minor growth in the other three years (Hawkins, 1991).

Faced by this economic crisis, Zambia required assistance from the IMF. Conditional loans given by the IMF required the government to cut food subsidies, reduce government spending and devalue the kwacha. Despite a short improvement in 1979 (Bank of Zambia, 1980), the first half of the 1980s continued to see high inflation, a drop in jobs, a lack of foreign exchange, and an increasingly large debt burden (Bank

[12] The border with Rhodesia, current Zimbabwe, was closed after the unilateral declaration of independence by Rhodesia. As a result, Zambia lost access to its main sea ports in South Africa both for the export of copper and for the import of other goods. This increased transportation costs considerably (UNDP, 2007).

of Zambia, 1984). Further IMF assistance in 1983 required the government to freeze wages and surrender more price controls (Hawkins, 1991). These additional methods also had limited impact.

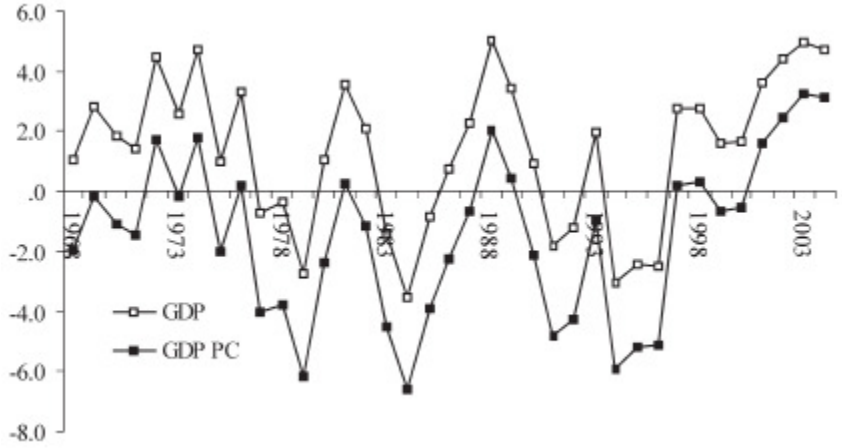
Input and price subsidies, the main instruments to support the agricultural sector, were abolished under pressure by the World Bank, which argued that these put too much strain on the government's budget (UNDP, 2007). Reforms in the agricultural sector included an increase in producer prices combined with a reduction in consumer price subsidies. Subsidies on fertilisers were also reduced and maize marketing was opened up to other parties than NAMBOARD. These liberalisation efforts triggered an increase in maize and wheat production and a diversification trend towards export crops (Thomas and Weidemann, 1988; Hawkins, 1991). Despite liberalisation efforts, the national government could not allow consumer prices to rise as fast as producer prices, or risk losing the support of the politically important urban population. Subsidy payments therefore remained unsustainably high (Thomas and Weidemann, 1988). At its peak, the government dedicated 17% of its total expenditure on consumer and producer subsidies for maize (Howard and Mungoma, 1996). In 1986, the government finally decontrolled the maize prices completely and prices increased 120%, resulting in a wave of political riots which left 15 people dead (Thomas and Weidemann, 1988). Widespread protests eventually made the Kaunda government capitulate to political pressure, cooperation with the IMF was terminated and pre-reform policies were re-introduced (Hawkins, 1991). Nevertheless, the macro-economic performance remained dismal and characterised by high inflation, stagnation of GDP, and high budgetary deficits. Eventually, Kaunda and his UNIP party lost the national elections in 1991 after 27 years in power. This result paved the way for a change in policy away from state intervention and towards greater liberalisation (Hampwaye, 2008).

5.2.1.3 Structural Adjustment and Liberalisation (1991 – Current)

The newly elected Movement for Multiparty Democracy MMD fully embraced the policies of liberalisation as propagated by the World Bank and the IMF and, with their support, embarked on a radical path of structural adjustment (UNDP, 2007). The aim of the reforms was to diversify the economy away from copper, a goal not achieved since independence, and to stabilise the macro-economic environment. The changes

focussed on three key areas: abolishing subsidies, liberalisation and stabilisation, and privatisation of the large parastatals (UNCTAD, 2006, 17). Initially, the policy reforms had a negative impact. Floating of the exchange rate triggered a rapid devaluation of the kwacha which, in turn, caused inflation to spiral upwards. Domestic players were no match for increased foreign competition and further were hampered by high borrowing rates (UNDP, 2007). In addition, debt repayments continued to put a heavy burden on the government budget. As Figure 5-1 shows, it was not until the early 2000s that per capita GDP figures finally went into positive growth.

Figure 5-1: GDP and GDP per capita, % growth rates, 1968-2004 (3 year moving average)



Source: UNDP, 2007, 26

One of the largest operations to be privatised was the Zambia Consolidated Copper Mines (ZCCM) which was brought under government control in 1969. Under extreme pressure from the international community, this privatisation process was finalised in 2000 but with disastrous consequences. Investors who obtained a majority share either withdrew a few years after making their investment or proved to have very limited experience and funds to invest in the mining industry. In addition, to attract foreign investors, very favourable conditions of purchase were offered, including tax reductions and customs exemptions (UNDP, 2007). This severely reduced the amount the government could have received from the copper mining activities, one of the main contributors to GDP and responsible for the large majority of exports, a situation which still continued in 2011 (Haglund, 2010; Torkelson, 2011).

Liberalisation policies did trigger an increase in FDI inflows. Most of the mines owned by ZCCM were taken over by foreign investors. In addition, the service sector, especially banking and communication, and the tourism sector have large shares of foreign ownership (UNCTAD, 2006). Early foreign investors in Zambia originated from the United Kingdom and South Africa with the subsequent investment funds coming from China, which was eager to secure mineral resources for its economic growth (UNCTAD, 2006; Haglund, 2010). By 2007 China was the largest foreign investor in Zambia, with a total pledged investment more than the second, third and fourth investors combined. As part of its investment strategy, the Chinese government has supported the development of a Special Economic Zone, situated in the Copperbelt, which enables Chinese companies to qualify for favourable tax breaks (Carmody et al., 2011).

After a decade of liberalisation, the MMD government realised that "even in a liberalized economy, development planning is necessary for guiding priority setting and resource allocation" (GRZ, 2006, p.i). It published its first plan, the Fifth National Development Plan (FNDP), in 2006 in which it identified a number of strategic sectors: infrastructure, tourism, mining manufacturing and energy, the same sectors it would continue to focus on during the Sixth National Development Plan (SNDP). The agricultural sector was seen as the cornerstone for economic and social development. Despite the increased role the MMD sees for the public sector, this should mainly be as an enabler aiming to stimulate the private sector to generate most of the economic growth (GRZ, 2006).

The continued policy of liberalisation led to improvements in the economy. During the Fifth National Development Plan period from 2006-2010 GDP grew steadily at around 6% per annum, exports rose, inflation decreased and the balance of payments was positive (World Bank, 2010a; GRZ, 2011a). Poverty levels, both rural and urban, also were reduced (World Bank, 2010a). This positive economic performance was largely driven by a steady increase in the price of copper (CSO, 2011b).

From 1991, important changes were made in the heavily regulated agricultural sector. Consumer subsidies on maize were abolished, fertiliser subsidies were reduced, export of maize was freed, and the import of agricultural inputs was partially

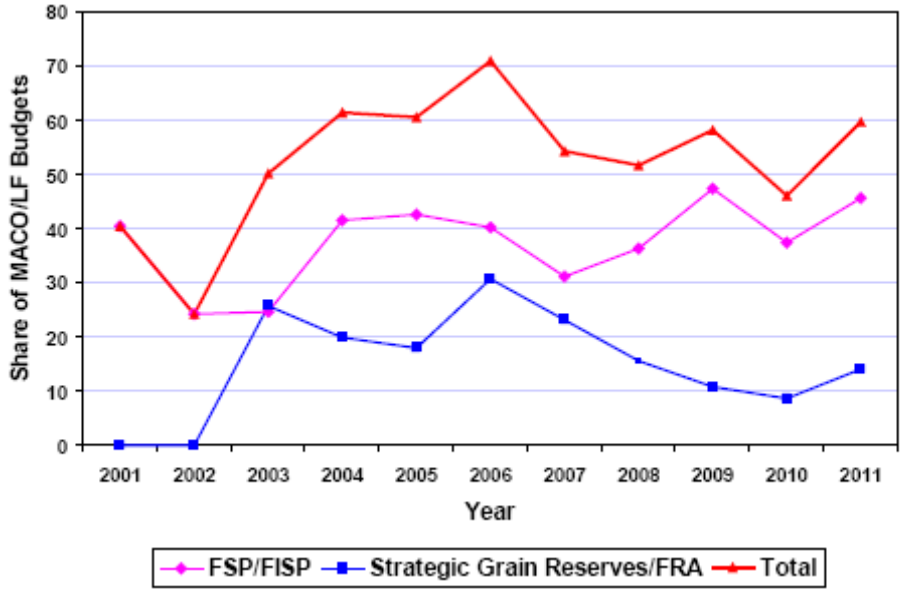
liberalised (GRZ, 2002). Further, the state marketing board, NAMBOARD, was dismantled and replaced by the Food Reserve Agency (FRA) tasked to "efficiently manage sustainable National Strategic Food Reserves, ensuring National Food Security and income through the provision of complementary and high quality marketing and storage services, in line with international standards" (FRA, 2010).

Initially, these changes had a dramatic effect on small-scale farmers, the large majority of the country's population. Inputs became more expensive and hence the use of fertiliser and hybrid seeds reduced, leading to a decline in production (Deininger and Olinto, 2000). By the first decade of the 21st century, the agricultural sector was performing relatively well with an increase in production, a diversification away from maize in areas not suitable for this crop, a rise in the growth of export crops driven by private investment, and a decline in rural poverty (Jayne et al., 2007). Overall, however, the growth of the agricultural sector averaged less than 2% per annum, far below the target of 6% set in the Comprehensive Africa Agriculture Development Programme, CAADP (CSO, 2010).

The Zambian government continues to view agriculture as a driving force for economic growth and poverty reduction, as reflected in the Poverty Reduction Strategy Paper from 2002, the National Agriculture Policy from 2004, the Fifth National Development Plan from 2006 and the recently published Sixth National Development Plan (GRZ, 2002, 2006 and 2011a; MACO 2004). Within current policy, there is a shared focus on the small-scale farmers and commercial farmers with the aim of building linkages between agribusiness and smallholders. To facilitate this, the government implemented a Farm Block plan where the public sector provides basic infrastructure to develop large areas across the country. On these farm blocks both large and small-scale farms will operate, offering jobs and land to the rural population (MFNP, 2005). The core venture with a size of around 10,000ha will mostly grow crops for exports, with further support for food crops and it will offer outgrower opportunities to the small-scale farmers situated on the Farm Block (MFNP, 2005). Biofuel production is discouraged (Sichembe, 2011). Although the plan aims to have a Farm Block in every province, by 2011 only the first block, Nansanga in Central Province, had been advertised to investors (GRZ, 2011b), mainly due to a lack of funds to develop required infrastructure (Sichembe, 2011).

Notwithstanding the continuous expression of the potential of the agricultural sector, budgetary support has been small at around 7% (Chapoto, 2010). In addition, the majority of government funds have been allocated towards the Fertiliser Support Programme (FSP), its successor the Farmer Input Support Programme (FISP) and crop purchases by the FRA (Chapoto, 2010). This has occured despite the policy that government "will not ordinarily intervene in inputs distribution or crop marketing in a way that will undermine or undercut private sector participation especially if the private sector has the will or capacity to do so" (MACO, 2004, vi). Figure 5-2 shows the budgetary allocation to the FISP and the FRA.

Figure 5-2: Proportion of MACO, Livestock and Fisheries Budget Allocation Devoted to FRA and FSP 2001-2011 in % (Excluding donor funds)



Source: Chapoto, 2010

Illustrative of the impact maize has on the government budget is the outcome of improved crop output in 2010. In order to purchase maize from smallholders, the FRA had to spend over one trillion Kwacha (Miti, 2010). This amount was nearly ZK700 million more than budgeted and took the allocated MACO budget from ZK1.2 billion to over ZK1.8 billion, putting a heavy strain on government finances (Chipoto, 2010). An even bigger harvest was expected in 2011 on the back of high prices received by small-scale farmers from the FRA in 2010 and an increase in farmers benefiting from the FISP (CSO, 2011a). The above market prices paid by FRA make maize exports uncompetitive (Munro and Fynn, 2010). In order to sell excess stocks to neighbouring countries, the government makes an additional loss selling below the price it bought

for (Burke et al., 2010). With the signing of the CAAPD, Zambia committed itself to a 10% budget allocation to the agricultural sector, a target it is working towards, although with the high percentage going to maize marketing and input subsidies, not necessarily in the most productive manner.

Since the liberalisation of the agricultural sector, a number of private enterprises have sprung up, offering farmers access to inputs and markets for several cash crops through the use of outgrower schemes. Some crops like cotton and tobacco continued from privatised programmes previously run by the government. Other crops such as sugar and horticulture are fully established by the private sector (Likulunga, 2005; UNCTAD, 2006). Foreign investors such as the cotton producer, Dunavant, and Zambia Sugar[13], are the major drivers in the development of the agribusiness sector (UNCTAD, 2006). Growth in these crops, which are mainly destined for export, has given smallholder farmers in rural areas a source of income, thereby assisting in the reduction of rural poverty (UNCTAD, 2006; Jayne et al., 2007). Nevertheless, these crops remain small in volume compared to the heavily subsidised maize.

A large role was envisaged for the private sector that would take the place of the retreating government in areas such as maize marketing, fertiliser supply and credit facilitation (Deininger and Olinto, 2000). Lack of clarity in government policies however, created an uncertain environment for private enterprises to establish and operate (e.g. GRZ, 2002; Jayne et al., 2007). Despite some efforts to liberalise the market, fertiliser subsidies continued to exist (Jayne et al., 2007). More damaging were the interventions in the maize market. The FRA became an increasingly dominant buyer, especially in remote areas, where maize production was uncompetitive (Jayne et al., 2007). In addition, the government continues to intervene in the import and export of maize (Dorosh et al., 2009). As a result, of the six international grain-trading companies that entered the Zambian market after 1991, four have since closed down (Nijhoff et al., 2003).

Another disincentive to the private sector to get involved in the Zambian agricultural sector is inconsistent trade policies that the government has followed, especially with

[13] South Africa based Illovo Sugar has an 82% share in Zambia Sugar. In turn, Illovo Sugar is 51% owned by Associated British Foods (Illovo Sugar, 2010).

regards to the import and export of food crops such as maize and wheat. In both 2002 and 2003 the government remained unclear on the pricing and levels of its maize imports which were needed due to low domestic harvests. The uncertainty of government actions led the private sector to hold off decisions on its own imports. Ultimately, this resulted in domestic maize prices going up to unnecessary high levels, even higher than import parity prices (Nijhoff et al., 2002, 2003). Similar indecisiveness on the governments' part drove up prices again in 2005-06 (Mwanaumo et. al. 2005). Although no export ban was in place after the record 2010 harvest and large stocks were available, exports have still been limited. Private traders have been uncertain throughout the season of the quantity available in the market after the FRA adjusted its target quantity to buy upwards numerous times during the season. Once again, the high involvement of the FRA in the maize market had a negative impact on the private sector (Nkonde et al., 2011).

One indirect effect on the private sector resulting from continuous government intervention in the maize market can be seen in the cotton industry. Cotton production increased considerably since the privatisation of the parastatal LINTCO and liberalisation of the cotton market. Output of cotton seed increased from 42,000 metric tonnes in 1994/95 to 227,000 metric tonnes in 2003/04. Since then, farmers have reduced the area dedicated to this crop, resulting in reduced crops and over-capacity of processing facilities operated by the private sector. Apart from a decline in world cotton prices, it is argued that increased government support for maize made it more attractive for farmers to convert their land to maize production (CDT, 2008). This example illustrates how the private sector is influenced by government intervention, and demonstrates how reliance of processing companies on outgrowers can make these companies extremely vulnerable.

Despite a largely positive performance of the agricultural sector in Zambia, a number of issues still exist. Amongst others, productivity is low and crops are largely rain-fed; post-harvest losses are extremely high due to lack of proper storage facilities both at the household and the FRA level; inadequate infrastructure; grain markets are functioning inefficiently, and, the land tenure system is insecure (GRZ, 2006; FAO, 2009). This makes it challenging for farmers to produce crops at a competitive price for exports and limits the possible outlets to mainly the domestic market.

5.2.2 Land Policy

Land policy in Zambia is regulated through the Land Act of 1995. According to this Act, all land is vested in the President who holds the land on behalf of all Zambian citizens. There are two categories of land classification: Statutory or State Land and Customary Land (ZLA, 1995). State Land is mostly titled land and used for urban areas or commercial farming. During colonisation, these areas used to be Crown Land from which Africans were excluded (Jayne et al., 2008). The majority of State Land is located on the railway line between Lusaka and Copperbelt provinces. It is an area rich in minerals and enjoys the highest agricultural potential (Adams, 2003). In total, State Land covers around 6% of the total Zambian land area.

The remaining 94% of Zambia's land surface is classified as Customary Land. Out of this, 8% is allocated as National Park, another 8% is used as forest reserves, 22% is designated as Game Management Area, 2% is under urban use and 12% is unspecified (e.g. state farms, military, research stations) (Metcalfe, 2005). This leaves a mere 42%, to be classified as 'arable', part of which is marshland or too hilly to use for agricultural production (Chizyuka et al., 2006). Smallholders generally farm on communal land. Jayne et al. (2008) conclude that despite the apparent abundance of land, many Zambian farmers perceive there is no land with agricultural potential available to them, mainly due to lack of access to infrastructure, services and markets.

Customary Land is subject to customary law and under the authority of the local Chief. The Chief and Headmen allocate land to individuals. Under the Lands Act of 1995 it is possible for the President to transfer communal land to Statutory Land and consequently to issue it under leasehold. The traditional rulers need to give their written consent before they surrender their land rights. The President will also have to consult those that are occupying and/or using the land. This process has been subject to much debate. Several press reports exist on irregularities and fraudulent transactions (e.g. Sunday Mail 2007, The Post, 2007). Chiefs have protested that they are insufficiently engaged in consultations with government officials, including around large-scale land deals (Changala, 2010). The Lands Act of 1995 does not make any provision for the return of Statutory Land to Customary Land. Once land is owned by the State, it is not possible for traditional leaders to regain control. This

situation is a source of great frustration to some chiefs who observe large areas not being fully utilised without having the possibility to claim this back for more productive use by the community (Changala, 2010).

Under the Lands Act of 1995, the President can allocate land to foreign investors. The foreigner must be an "investor" according to the Zambian Investment Act or a company registered under the Companies Act. The President can also issue his personal consent to issue land to a non-Zambian in writing. If land to be allocated to a foreign investor is classified as Customary Land, the local Chief will have to give his approval to convert this land to State Land. The maximum leasehold is 99 years (GRZ, 1995).

In the absence of a proper functioning Lands Act and limited availability of State Land, the Ministry of Agriculture and Co-operatives (MACO) intends to open up new farm blocks across the country to "facilitate availability and accessibility of land for agriculture in potentially productive agricultural areas" (MACO, 2004, 11). Farm blocks are large areas of customary land of minimum 100,000ha identified by the Ministry which are then converted to Statutory land with the help of the Ministry of Lands (MFNP, 2005; Jayne et al., 2008).

Several opinions exist on whether customary land hampers agricultural development or offers a vital safety net for poor families. It is beyond the scope of this research project to assess whether this transfer from customary land to state land and the development of farm blocks are the best way for Zambia to develop the productivity of its agricultural sector, to ensure food security for the country or to attract (foreign) investment.

5.2.3 Biofuel policy

There is great potential in Zambia to establish a biofuel industry. It can serve as a generator of revenue for small-scale farmers growing biofuel crops, offer employment on commercial farms, attract foreign capital and knowledge in the processing of biofuel crops into bio-diesel or ethanol, and reduce the expenditure of foreign exchange on imports of petroleum and diesel. In the Energy Chapter of the Fifth NDP of 2006, the Government recognises the role that biofuel can play as a renewable

source of energy and also as a means of income for small-scale farmers. It has therefore identified the need to develop a strategy for the promotion of biofuel use (GRZ, 2006). Following up on these ideas, a Revised National Energy Policy was approved by Cabinet making biofuel an accepted part of the national fuel mix and can therefore be managed by the Energy Regulator Board (ERB) and distributed by companies with a petroleum license (Kalumiana, 2009). The Sixth NDP published in 2011 stipulates fixed blending targets for both biodiesel and bioethanol (GRZ, 2011a), creating a guaranteed market for biofuel producers, which is one of the major impediments to the growth of the biofuel sector according to the Biofuels Association of Zambia (Sinkala, 2011). Although some progress has been made, Richardson (2010) notes that little has actually been achieved by the Government to regulate the biofuel sector and stimulate private investors. He mentions that by early 2010 "no blend mandates, no government concessions for start-up costs and no commitments on infrastructure had been agreed" (Richardson, 2010, 930). In a 2009 report, Oxfam cites indifference by the Ministry of Agriculture and Co-operatives as hindering the Ministries of Commerce and Energy to move forward (Oxfam, 2009). In addition, the current players in the oil industry are extremely powerful and unwilling to give up even a small fraction of their market share (Richardson, 2010). Lack of regulation, especially with regards to the tax regime, has been mentioned by a number of biofuel producers as increasing the risk of their investment.

5.3 Land investment in Zambia

This section aims to identify the large-scale investors, agricultural sub-sectors they invest in, the scale they operate on and the reasons why they selected Zambia. Data is based on interviews held during a field visit in early 2011 and numerous media and other publications. In addition, data supplied by the ZDA is used. Since its foundation in 2007, the ZDA has maintained a database with all the pledged investment in the country, subdivided by sector, building on data collection by the Zambia Investment Centre (ZIC) since 1993. Unfortunately this database does not capture the land surface area involved but only the US$ amount planned to be invested and the number of jobs pledged to be created. The number of projects is therefore substantial and the majority concerns projects smaller than 5,000ha. In the general analysis, all pledges other than those without foreign involvement are incorporated. When going into

further detail however, only information from identified large-scale projects is included in the analysis.

In addition to the lack of area information, numerous large-scale projects, both by domestic and foreign investors, have been arranged without the assistance of the ZIC or the ZDA and therefore do not feature in the database. Even when deals are signed through these organisations, they are not always captured in the database. For example, in January 2010 the ZDA signed a land lease of 5,200ha with a Saudi firm for the production of pineapples. This deal was published in the press in early 2011 (Zambian Watchdog, 2011). Nevertheless, no mention is made of this project in the ZDA database, even though the ZDA representative did discuss this project during a personal interview (Lungu, 2011). In this analysis all known projects are included, regardless of whether they are included in the ZDA database. It is noted that the database captures pledges and not actual investments, which might be smaller. In general, issues regarding data collection in Zambia are similar to those problems encountered by other researchers and which were explained in Chapter 3.

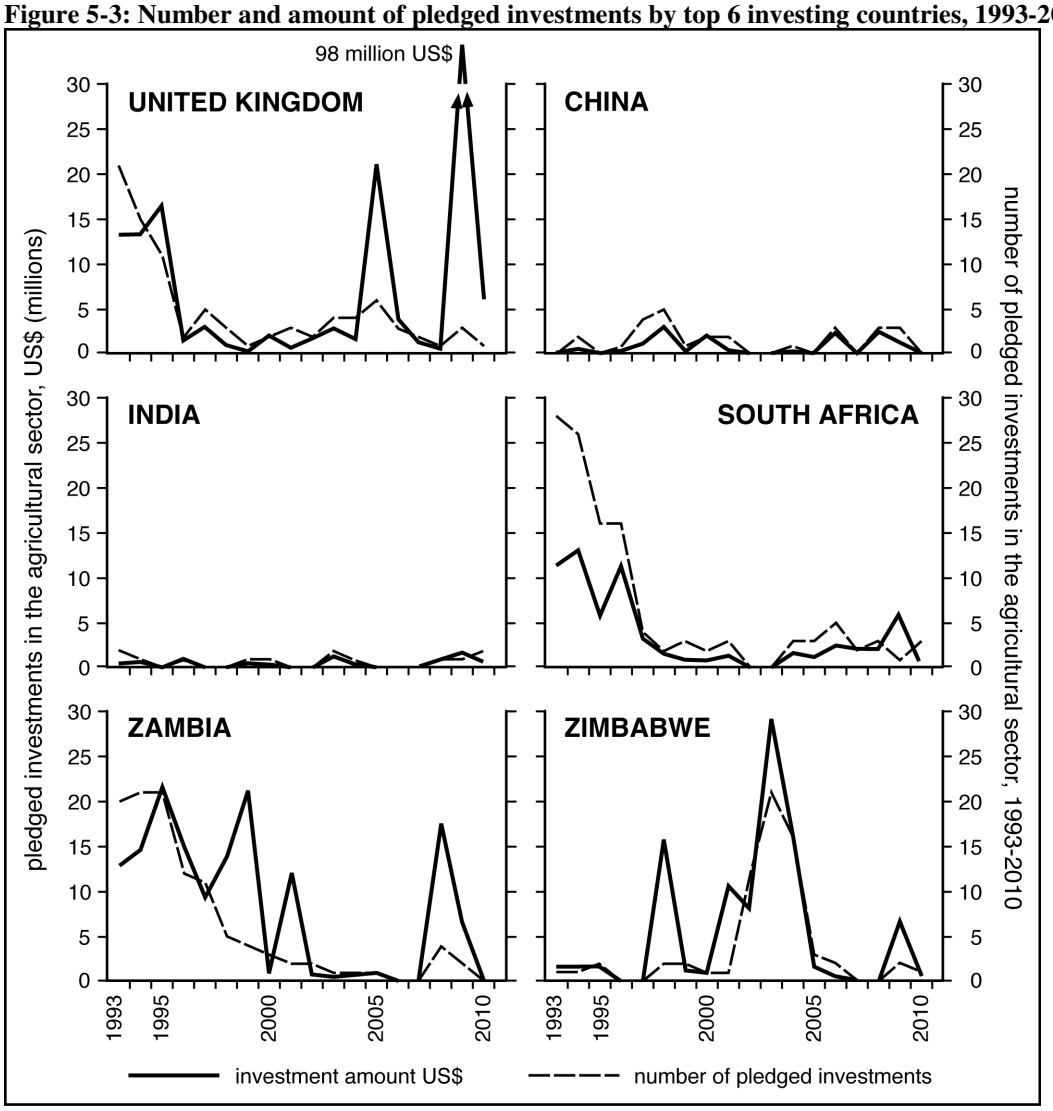
5.3.1 The actors

The largest numbers of investors in Zambian agriculture are from South Africa, UK and Zimbabwe. Domestic investors also play an important role. As Figure 5-3 illustrates, the number of pledged investments in the agricultural sector was considerable in the first half of the 1990s. This situation might have been due to the liberalisation process undertaken by the new government under the Structural Adjustment Programme that could have attracted initial investors. The consecutive drop in pledges later in the 1990s can be attributed to the revision of the investment act in 1996, revoking import duty exemption on capital goods[14]. Due to the colonial ties, Britain traditionally has been an important investor in Zambia (UNCTAD, 2006). The Commonwealth Development Corporation (CDC) was involved in many rural development programmes. For example, the CDC assisted the Industrial Development Corporation, run by the state, in the nationalisation process of Zambia Sugar which was envisaged by President Kaunda to be fully supplied by smallholders in the Mazabuka area (Richardson, 2010). It also set up the Mpongwe Development

[14] Investment incentives were reinstated in 2006 after which projects investing at least US$500,000 in a priority sector qualify for several incentives including duty free import of capital goods (ZDA, 2011)

Company in the Copperbelt area. Both these projects will be discussed in further detail later in this section. Since the late 1990s, the CDC has reduced greatly its investments such that private firms now account for the majority of agricultural investments in Zambia (The Economist, 2001; Scott, 2010).

Figure 5-3: Number and amount of pledged investments by top 6 investing countries, 1993-2010



Source: ZDA and own research.

Overall, from Figure 5-3 it is evident that British investors account for most of the pledged investment projects, and also lead when it comes to US$ planned to invest these projects. Total anticipated inflow of funds from British investors between 1993-2010 is estimated at around US$186 million, nearly double that of Zimbabwe, the second biggest foreign investor. One major contributor is Chayton Capital, an investment company based in Britain, currently owner of two smaller commercial

farms but planning to expand to a much larger scale, investing an estimated US$85 million (Chobe Agrivision Limited, 2011; Nyagah, 2011).

During the transition from apartheid to democracy from 1992 onwards, South African commercial white farmers faced uncertainty about their land rights and general impact of majority rule on their farms. It is argued that this caused them to look at other countries to continue farming, and explains the high number of projects in this early period (Hall, 2011). If this is the case, the fact that most projects are based on individual farmers rather than by firms explains the low average investment amount of under US$650,000 of South African projects as compared to investment pledges from other countries which average over US$4 million. As a whole, the years 2002-2004 saw an influx of investment pledges from neighbouring Zimbabwe, where farmers fled their farms because of land dispossession under the Mugabe government. Most of the pledges registered by the ZDA concern relatively small commercial farms, which is reflected by the low average investment of just over US$1 million during these three years versus more than US$1.4 million over the total period from 1993-2010.

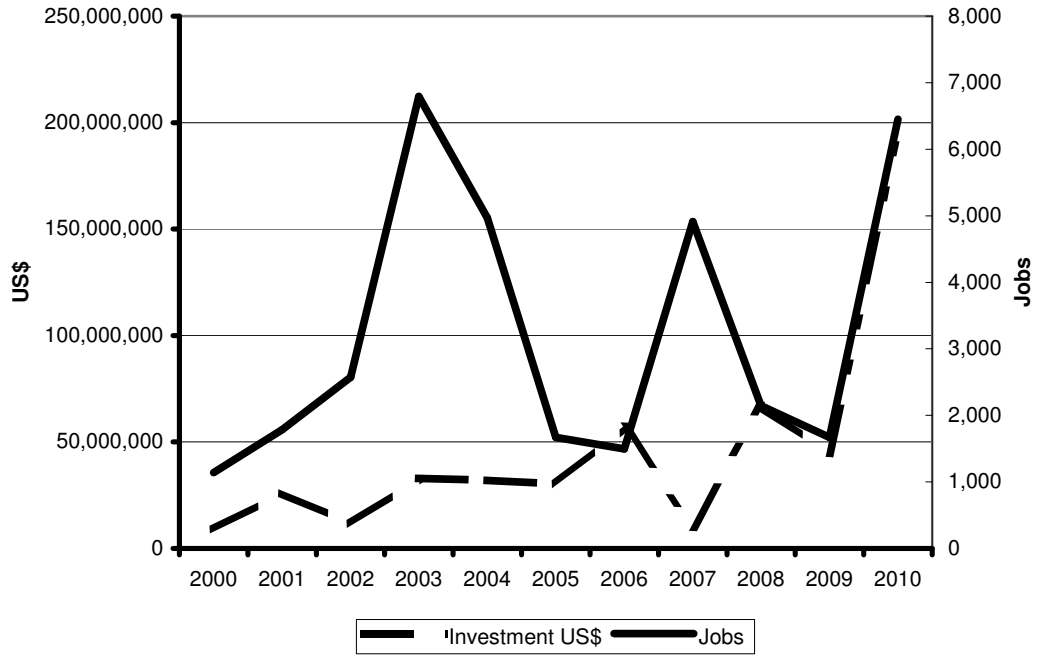
Many people interviewed during the fieldwork period, perceive both China and India as large investors (e.g. Muijs, D., 2011, Levin, 2011; Lungu, 2011; ZNFU, 2011). The ZDA database, however, does not reflect this perception. Although these countries are large investors in the mining, construction and manufacturing sectors (ZDA, 2010; Carmody et al., 2011, Mutumweno, 2011), their involvement in Zambian agriculture until 2010 is recorded as small. The number of pledged projects from China and India also do not seem to be increasing over the captured data period. According to a ZDA representative, there are a number of very large-scale projects in the pipeline which have not yet been captured, such as a 400,000ha project for a Chinese biofuel company as well as plans by an Indian firm to establish a 45,000ha sugar plantation (Lungu, 2011). Carmody et al. (2011) confirm the increase in Chinese activity in Zambia through the establishment of a Special Economic Zone, the first Chinese SEZ in Africa. Although the Chinese were amongst the first to enter the agricultural market, their operations are of moderate size and produce mainly for the domestic market rather than for export (Marks, 2008; Bastholm and Kragelund, 2009).

5.3.2 Profile

Compared to foreign investment in the mining industry, agricultural FDI is relatively small. In the period from 2000-2010, agriculture consisted of a mere average of 3% of pledged investment value, a percentage that has dropped considerably after 2006 (ZDA, 2010). Nevertheless, in absolute figures, FDI in agriculture has increased consistently over this period from under US$9 million in 2000 to nearly US$195 million in 2010.

Despite the relatively low investment amount, FDI in the agricultural sector is important in terms of employment. The 3% of investment value creates on average 23% of all the pledged jobs in the period from 2000-2010. Despite the growth in investment value, the number of jobs created by these investments has not grown considerably. Whereas in 1993 an average of US$3,500 created one job, this increased to US$7,732 by 2000 and over US$30,000 by 2010. These findings indicate that projects have a higher degree of mechanisation rather than being dependent on manual labour (see Plate 5-1 on page 122). Figure 5-4 summarises the employment data and shows that investment in agriculture is increasing once again after a dip in 2007.

Figure 5-4: Value and employment of agricultural FDI pledges, 2000-2010



Source: ZDA, 2010

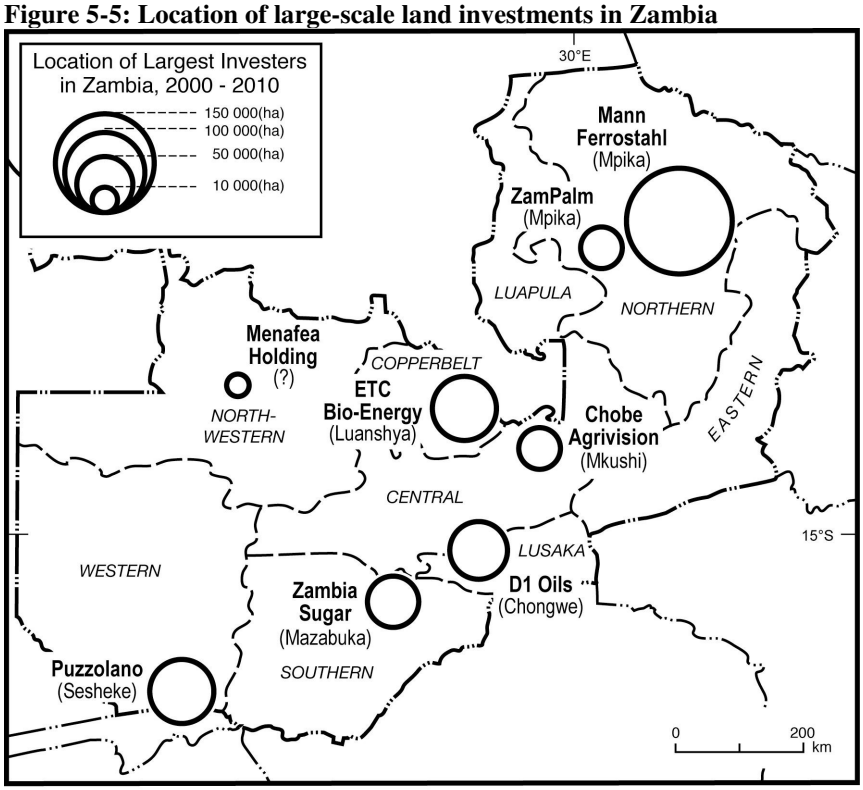
Another observation is an increase in the average size of projects in Zambia after 2005. In 2006 ETC Bio-Energy bought the 45,000ha Mpongwe Development farm from the CDC pledging an investment of nearly US$ 60 million. In 2009 Chayton Capital made its first investment pledge under the name of Chobe Agrivision Company Limited. In total, this investor predicts to require US$85 million to expand its operation to 20,000ha for crop production (Nyagah, 2011). The German based Mann Ferrostaal signed a concession with the ZDA in 2009 for 120,000ha although at a relatively low investment value of US$1 million. In 2010 and 2011 a number of additional large-scale investments were announced. For example, the expansion of the Zambia Sugar operation increasing its total area to 27,500ha (Illovo Sugar, 2010), a 5,200ha pineapple farm funded by a Saudi businessman (Zambian Watchdog, 2011), 45,000ha for a planned sugar plantation by the Indian company Puzzolana (Mutumweno, 2011) and a massive 400,000ha for Chinese based Wuhan Kaidi which entered a joint venture with a Zambian partner under the name of Kaidi Biomass to set up biofuel production. All these plans were confirmed in an interview with a ZDA representative (Lungu, 2011). Table 5-1 gives an overview of large-scale investment projects in Zambia with the geographical spread across the country shown in Figure 5-5.

Table 5-1: Large-scale foreign land investment projects in Zambia

Investor	Nationality	Sub sector	Area (ha)	Status
D1 Oils	UK	Biofuel	35,000	Reduced
ETC Bio-Energy	Tanzanian / South African	Crop Farming / Biofuel	45,000	Operational
Zambia Sugar	British / South African	Crop Farming	27,500	Operational
Mann Ferrostaal	German	Biofuel	120,000	Pilot
Chobe Agrivision	British	Crop Farming	20,000	Operational
Menafea Holding	Saudi Arabia	Crop Farming	5,200	Signed
Kaidi Biomass	Chinese / Zambian	Biofuel	400,000	Planned
Puzzolana	Indian	Biofuel	45,000	Planned

Source: ZDA and own research

Figure 5-5: Location of large-scale land investments in Zambia



Source: own compilation

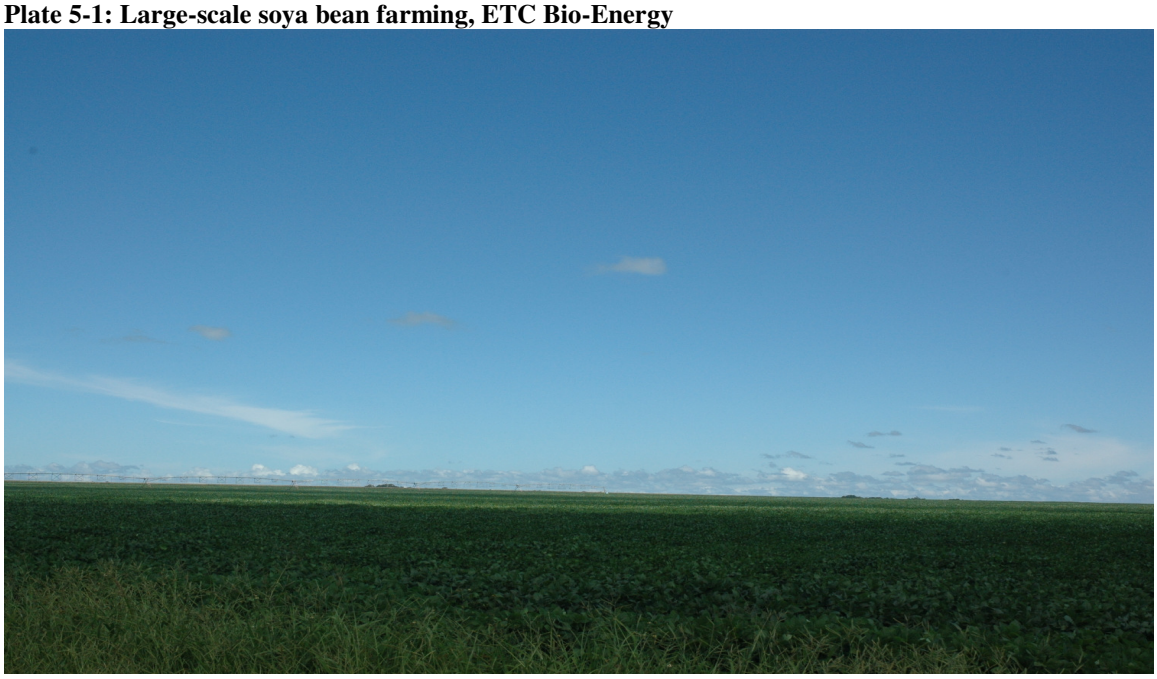
The available data indicates that large-scale foreign investment in Zambia is increasing, albeit not on as great a scale which is reported in countries such as Ethiopia, Madagascar and Sudan. The 700,000ha identified in Table 5-1 covers 3% of total agricultural land, although due to the low arable land[15] area, investments would take up over 28% based on this category (based on FAOSTAT data). This is more an indication of the limited usable land rather than the large scale of investment.

As Table 5-1 shows, the largest areas of land are allocated in Zambia to the biofuel sub-sector. Most biofuel projects are situated on previously customary land in rural areas, secured through the ZDA. This has been the case for all of the examples above, with the exception of the biofuel activities undertaken by ETC Bio-Energy. Several biofuel companies have chosen the business strategy of partially or fully depending on outgrowers for their input. D1 Oils, Oval, Southern Biofuel and domestic Marli all

[15] The FAO defines arable land as "the land under temporary agricultural crops (multiple-cropped areas are counted only once), temporary meadows for mowing or pasture, land under market and kitchen gardens and land temporarily fallow (less than five years). The abandoned land resulting from shifting cultivation is not included in this category. Data for "arable land" are not meant to indicate the amount of land that is potentially cultiviable" (FAOSTAT, 2011b).

chose to incorporate outgrowers to produce their input rather than purchase large areas of land (Freim, 2008; GEXSI, 2008; Chongo, 2010).

Plate 5-1: Large-scale soya bean farming, ETC Bio-Energy



Source: Author's photograph

By contrast, crop farming investors usually target land which already is under leasehold. For example, ETC Bio-Energy took over the Mpongwe Development Company and it grows maize, soya beans and wheat, partially on irrigated land. Plate 5-1 illustrates a large-scale soya bean field at ETC Bio-Energy. This plot is mechanically sewn, irrigated and harvested. Illovo Sugar took over the sugar operation initially set up with the assistance of the CDC and in 2009 completed the acquisition of a neighbouring farm previously owned by Zambeef (Lusaka Times, 2009; Richardson, 2010). Chayton Capital operates on at least two previously established farms (Mutumweno, 2011). Amongst the major crops that are grown on large-scale farms are maize, soya beans, wheat and sugar. Whereas the first three crops are for the domestic market, a significant part of the sugar production is exported and has potential for the generation of bioethanol (Illovo Sugar, 2010).

A different picture emerges if the analysis is undertaken of all agricultural FDI, regardless of land area. An analysis of ZDA data from 2000-2010 reveals that crop farming dominates, accounting for over 70% of the pledged investment value. Mixed

farming and poultry each take up around 8% respectively. Horticulture and floriculture appear to be growing with pledged investment for three consecutive years from 2008-2010. Overall, however, biofuel production accounts for only 2% of the pledged investment value. This figure could increase considerably once further data becomes available on the Puzzolana and Kaidi Biomass projects. In addition, ETC Bio-Energy has invested a large part of their funds into establishing a jatropha plantation, but this is classified under the category of crop farming. Therefore, the impact of the biofuel industry is potentially on a larger scale than the ZDA figures reveal. In the discussion below, only the five sub-sectors of crop farming, mixed farming, poultry, horti-and floriculture, and biofuel are taken into account.

Several sub-sectors have a different effect in terms of foreign exchange earnings and jobs, two of the main objectives for a government in seeking to attract FDI. The average US$ investment pledge per project is highest in the crop farming sector at over US$5.5 million followed by the biofuel sector with just under US$5 million average per project. Mixed farming averages less than US$ 700,000 per project. If the aim of the Zambian government is to try to create employment, the biofuel and crop sectors once again seem to be attractive, pledging an average of 314 and 173 jobs per project respectively. These figures are dependent on the actual crop grown. Biofuel crops either can be the labour-intensive jatropha or the highly mechanised sugar. In the crop sector, grains such as maize and soya beans largely are mechanised whereas cotton requires more hand labour. The poultry sector is the most capital-intensive, averaging nearly US$ 60,000 per job created. Table 5-2 contains an overview of the economic impact of the five main sub-sectors.

Table 5-2: Economic development indicators, averages per project for several sub-sectors

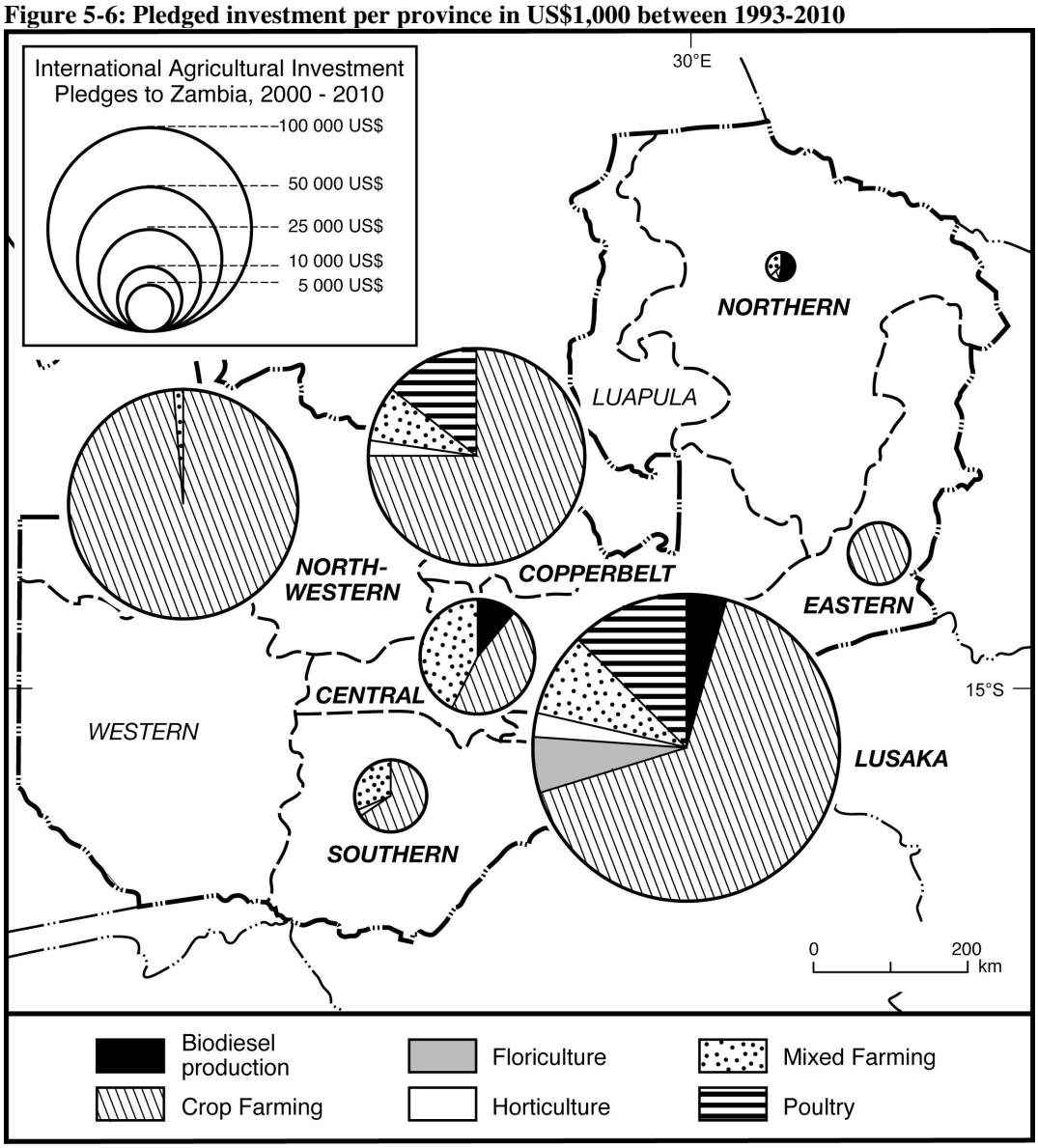
Sub-sector	Avg employment	Avg investment (US$ x 1,000)	Avg investment per job created (US$)
Crop farming	173	5,687	32,960
Biofuel production	314	4,867	15,483
Mixed farming	85	639	7,568
Poultry	188	3,142	58,665
Horti- & floriculture	68	2,209	32,636

Source: Based on ZDA data

Geographically, most investment still takes place along the historically developed 'line of rail' provinces. Lusaka receives the largest amount of investment, over US$ 225 million in the period 2000-2010 (see Figure 5-6). This result is skewed because of the fact that companies register in Lusaka whereas their main activities take place outside this province. For example, D1 Oils is registered by the ZDA as a Lusaka project, but its main operations were located in the Northern and Eastern Provinces before the company reduced its activities in Zambia. There is a large dominance of crop farming in Lusaka province. Also, Lusaka is the main centre for horticulture and poultry farming, expected to be driven by the large market of the capital city. The Copperbelt attracted US$126 million in the five main sectors between 2000-2010, which was equally distributed between crop and mixed farming. The Copperbelt is a densely populated area where demand for food is high. In the Central province, agricultural activity mainly is centred in the Mkushi district, where 54 investment pledges have been made in the period 2000-2010. As in the Copperbelt, almost all projects focus on crop and mixed farming.

The picture looks different when only large-scale FDI (larger than 5,000ha) is analysed. Although crop farming enterprises focus on the more densely populated areas and prefer to acquire established farms, such as ETC Bio-Energy in the Copperbelt province and Chayton Capital in the Mkushi district, Central province, the biofuel enterprises seek out virgin land which is usually only available on a large scale in the more rural provinces. For example, Mann Ferrostaal has set up in the Northern Province, together with domestic firm Zambeef which started a palm oil plantation in the same region. Puzzolana plans its plantation in the Western Province, whereas Menafea will produce pineapples in the North West. Sugar production is concentrated around the farms operated by Zambia Sugar in Mazabuka, Southern Province. For crop farming investors, it is important that a farm exists with an established infrastructure, such as roads and irrigation, enabling them to quickly generate income. In addition, the property rights for established farms are likely to be more secure with less risk of other people inhabiting the property. By contrast, the priority for large-scale fuel producers is large areas of uncultivated land which are easy to clear and cheap. These fuel producers do not depend on irrigation for their crops. Large areas of cheap land are mostly available only in the provinces furthest away from the line of rail.

Figure 5-6: Pledged investment per province in US$1,000 between 1993-2010



Source: based on ZDA data

In Chapter 3, one observation was that whilst the reported scale of FDI in agriculture was very large, actual operations on the ground seemed to be of a lesser scale. This situation is also the case in Zambia. For example, whilst Mann Ferrostaal acquired 120,000ha of land in 2009, by the beginning of 2011 it was reported to have only a number of nurseries to determine which crop to grow (Lungu, 2011). In addition, D1 Oils (as many other biofuel investors who entered the Zambian market around 2006) has withdrawn from the large areas where they distributed inputs to outgrowers and only works now with a handful of small farmers covering an area not more than a few hundred hectares (Ross, 2011). Even large-scale, established, commercial farms such as ETC Bio-Energy, only use part of the available land. Of its 45,000ha only 15,000ha

is used for cropping (Verus, 2011). The remainder of the land is kept as unused bush land, although it was envisaged to convertpart of this land to jatropha plantations. According to one interviewee, as long as 5% of the allocated land area is used within a period of three years, the state cannot take back the land (Muijs, A., 2011). The ZDA states that if within 24 months the investor has not lived up to its promises, it can take the land back. Nevertheless, so far the organisation has not acted on this statement, mostly due to the fact that projects for which they have acquired land are less than two years old. In general, ZDA claims that for those companies whom they grant an investment license, 50% of the pledged investment is made in the first year and the full project should be 'up and running' within three years (Lungu, 2011). Experience with large-scale agriculture does not seem to confirm these figures, although for smaller projects this appears to be the case.

The reaction to the efforts by the government to attract foreign investors to the newly developed Nansanga Farm block appears disappointing. After receiving pre-applications from ten foreign and six domestic companies in February 2011 (Simpelwe, 2011a), only two final bids were made respectively by one domestic and one foreign investor, namely Bonafarm Group from Hungary (Simpelwe, 2011b). The Hungarian group was assigned as the winner of the tender (Lusaka Times, 2012).

5.3.3 Drivers

Chapter 3 identified a large number of drivers for increased global large-scale agricultural investment. These were all linked to the financial, oil or credit crises or to the longer-term changes in the world climate. These global drivers are also underpinnings of investments in Zambia. There are a number of factors that make Zambia particularly attractive for large-scale land investments.

First, Zambia has been identified as one of the countries with the highest gross land balances, land with crop potential that is not currently used for agriculture (Bruinsma, 2009). Although amongst the people interviewed for this research opinions differ whether land is actually abundant, the general opinion amongst the interviewees is that large areas of land are available (Hamusimbi, 2011; Muijs, D., 2011). This was also the viewpoint which was communicated by several government officials (Lungu, 2011; Sichembe, 2011).

Second, Zambia has sufficient water resources to be used in agricultural production. Investors looking at crop farming also indicate that land is available which is well developed with irrigation and other infrastructure already available on the farms (Chobe Agrivision Limited, 2011; Nyagah, 2011). The Zambia Land Alliance (ZLA) is of the opinion, however, that most land in Zambia is used in many ways such as for grazing, fire wood collection or for future generations. It claims it is impossible to find an area of 45,000 ha anywhere where there is no settlement (ZLA, 2011).

Third, not only is land perceived as abundant, it is also cheap. Land rental fees, to be paid to the central government in 2011 are around US$1.00 per hectare per year[16]. If land is obtained through the ZDA, no other charges are applicable to the purchase of a land leasehold. In the case of a market transfer between private parties concerning statutory land a purchase price for the use of the actual land can be applicable. Land prices have gone up considerably, according to some of the interviewees (Huddy, 2011; Muijs, D., 2011; ZNFU, 2011).

The fourth driver of agricultural investment is a growing market, both domestically and regionally. Zambia, and many of its neighbours, is mostly dependent on rain-fed agriculture, which leads to instability in the production of the main food crops and can lead to food imports (Burke et al., 2010; Munro and Fynn, 2010). With land and water available, there is the potential to grow sufficient crops domestically. Not only is there an opportunity for farmers to substitute imports. With a growing population and increase in incomes, the demand for food increases, enlarging the potential market. In addition, the demise of the Zimbabwean agricultural sector under the Mugabe government in the first decade of the 21st century left a gap in regional production which investors in neighbouring countries are keen to take advantage of.

The fifth factor making Zambia attractive to agricultural FDI is the increased role of the private sector since the liberalisation processes implemented during the early 1990s. This stimulated infrastructure development in support of commercial farming. Examples are private millers and seed companies. The sugar sector specifically can take advantage of preferential access to the European Union (Illovo Sugar, 2010).

[16] None of the interviewees could verify a proposed increase to US$4.00 per ha per year.

Sixth, for biofuel investors, Zambia offers an attractive market. Without its own resources, Zambia imports all of its fuel. Being a land-locked country, the costs of these imports are significant. The largest source of energy in the country is wood fuel, making Zambia a country with a high deforestation rate and desertification already a threat in some areas (GRZ, 2008; World Bank, 2010a). The government has acknowledged the fact that the current rate of deforestation is not environmentally sustainable, whereas the import of petroleum at an ever-increasing rate is a heavy burden on foreign exchange reserves (GRZ, 2008). Biofuel investors believe that domestically produced biodiesel and bioethanol can compete with the high prices of imported fuels.

Finally, investors are attracted by the positive business climate of Zambia. The government of Zambia is supportive of foreign investment and has established the ZDA to assist investors in setting up operations in the country. Amongst others, the ZDA acquires land for investors or can allocate land from a land bank it has established. In the Fifth and Sixth National Development Plan, the agricultural sector has been labelled as a priority sector and investors in this sector therefore can apply for a number of tax incentives (GRZ, 2006; 2008). For example, the import of capital goods required for the operation is tax free and the investor is exempt from corporate tax for the first five years of profit making. Overall, the investment climate in Zambia is perceived as good with high potential (Nyagah, 2011; Verus, 2011). In addition, the political situation in Zambia is considered as stable. Despite the perceived stability, Chayton Capital, operating in Zambia under the name of Chobe Agrivision, has signed an agreement with the Multilateral Investment Guarantee Agency (MIGA), an agency within the World Bank Group, focussed amongst others on insuring investors in developing countries against political risk (Daniel and Mittal, 2010; Nyagah, 2011).

5.3.4 Issues

Despite the perceived availability of cheap land and water and a beneficial investment climate, investors face a number of challenges that might limit the full potential of an agricultural investment. Several of these issues are general, whereas others are specifically crop-related. The investors who were interviewed raised a number of problems they face, which are reflected in several other studies.

The first problem is that Zambia is a land-locked country. This makes the cost of transportation higher than for neighbouring countries such as Mozambique and especially South Africa. High transportation costs mean higher prices for imported inputs such as fertiliser and capital equipment, thus increasing the total cost of production. In addition, there are higher costs involved to export finished products especially to countries outside the region (Munro and Fynn, 2010; Verus, 2011).

Second, not only do transportation costs make production uncompetitive, the infrastructure in general is seen as inadequate. Many rural areas are not easily accessible and, especially in the rainy season, roads become impassable. As a result, inputs under the FISP do not arrive in time (World Bank, 2010c). The Cotton Development Trust (CDT) identifies both high transportation costs and inadequate infrastructure as reasons for making the production of cotton less competitive, especially in rural areas (CDT, 2008, 4). The government has long recognised the need to develop rural infrastructure in order to grow the agricultural sector (MACO, 2004; GRZ, 2006, 2011a). The Farm Block policy stipulates that the government will provide basic infrastructure, supplemented by additional investment by the core venture (GRZ, 2011b). ETC Bio-Energy, although benefiting from a good road to Mpongwe village, indicated that they maintain their own access road rather than depending on the district council despite significant contributions to the district budget through grain levies[17].

Third, human resources are identified as another challenge for investors. Minimum wage levels went up from ZK268,000 to ZK419,000 or just under US$90 per month in 2011 (Wangwe, 2011). Although this rate is still extremely low and barely above the US$2 a day poverty line, it is higher than for other sub-Saharan countries, such as Malawi and Madagascar. Employment problems are not limited to high costs. Petty crime is a problem many investors have to deal with and manifests itself mainly in employee theft (Chingola, 2011). Furthermore, one investor identified people as one of the main issues they faced, stating corruption, honesty and reliability as particular challenges (Ross, 2011) whereas ETC Bio-Energy also indicate that petty crime,

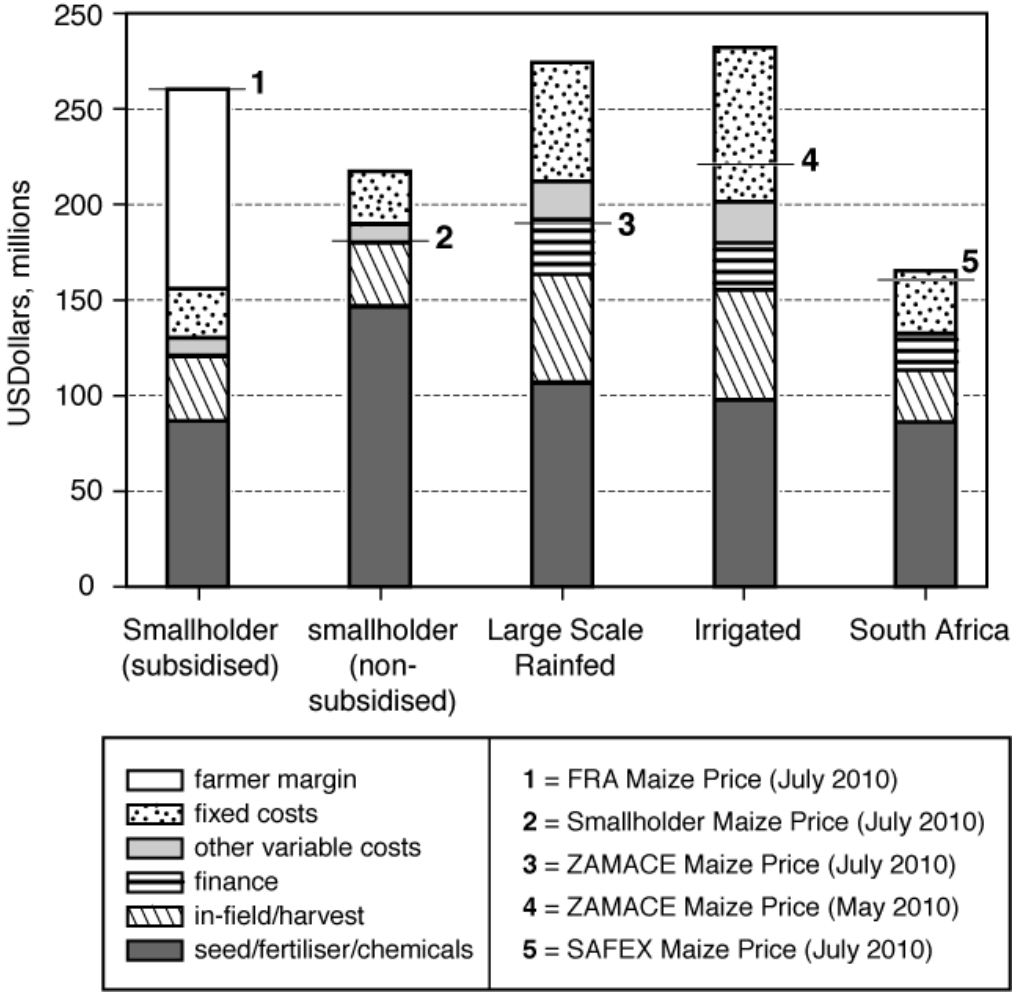
[17] Grain levies are paid for those quantities of grain transported out of the district. In the case of ETC, most grains go to commercial millers outside Mpongwe. In 2010 the central government decided to abolish the grain levy. Districts are now dependent on centrally allocated funds for road maintenance.

mainly theft, is impacting their business negatively and they do not get support from the police in dealing with the offenders (Huddy, 2011). Commercial cattle farmer D. Muijs indicated in an interview the loss of a number of animals worth several tens of thousand US dollars, without the cases ever been pursued by the police.

Overall, it is disclosed that operating costs in Zambia are high as compared to neighbouring countries, whether it is for transportation, labour, inputs or financing. This is the same for all farmers, large or small, and for all sectors, food or fuel, export or domestic. Aside from these sector-wide issues, certain investors face a number of problems specific to their field of operation.

It is expected that large-scale food producers are hampered by inconsistent and often changing government policies on trade and pricing. Export and import bans are implemented on an ad-hoc basis, raising uncertainty for producers and damaging the reliability of Zambian export supply (Munro and Fynn, 2010). Maize is particularly sensitive and price controls for this crop are a major political instrument. Erratic policies include the import restriction of maize after a deficit harvest followed by strictly managed exports in excess harvest years such as 2007 and 2008 (Dorosh et al., 2009). Tembo et al. (2009) illustrate the damaging dynamics between uncertain government policies and the private sector behaviour. Policy uncertainty and ad-hoc changes, especially with regards to export policies and purchase quantity targets of the FRA, translate into a restraint attitude by private players, leading in turn to excessively high prices for maize. In addition, the strong support for maize production to smallholder farmers through subsidised inputs and guaranteed high prizes set by the FRA have a large impact on the market (Tembo et al., 2009). Figure 5-7 illustrates both the market distortions created by government policies and the high costs faced by maize producers as compared to their South African counterparts.

Figure 5-7: Cost breakdown of Market Price per million tonnes Maize

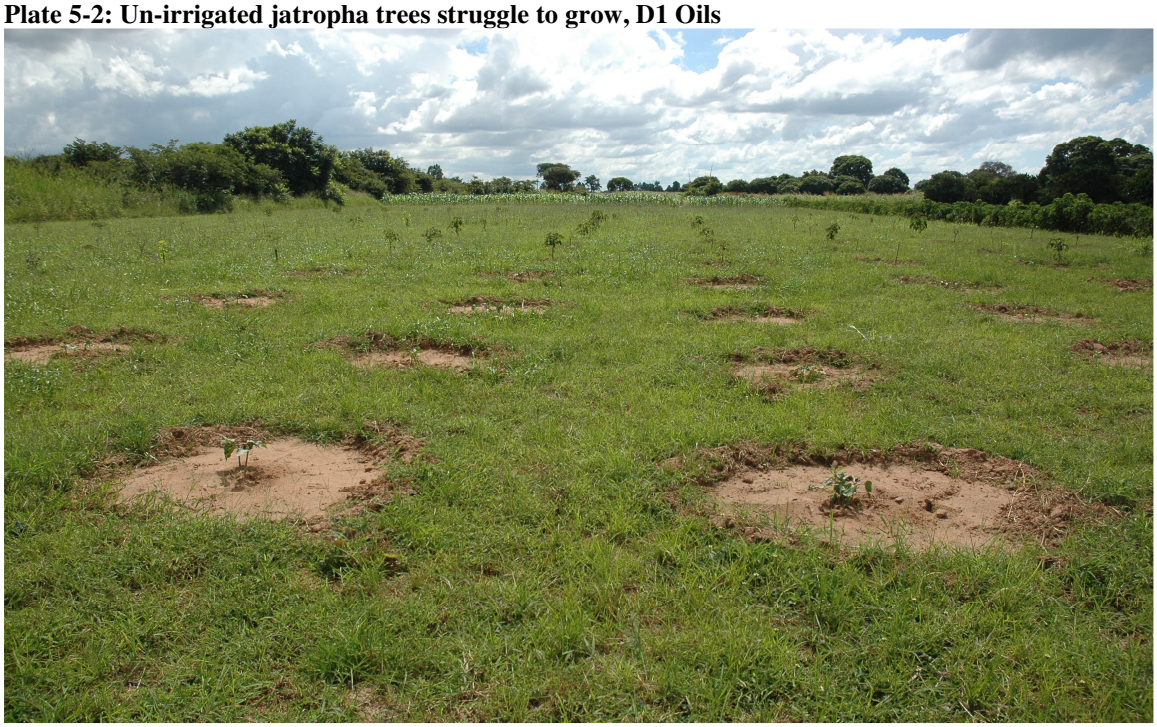


Source: Munro and Fynn, 2010, 17

As noted earlier, many large-scale land investments in Zambia have taken place in the biofuel sector, particularly in the growth of jatropha. These investors have had to deal with numerous challenges specific to the growth of this particular crop. Whereas it was expected that this oil-seed bearing tree would readily grow on marginal soils, farmers have been experiencing many diseases and pests (see Plate 5-2). Due to the large scale of the intended operations with smallholders, companies were unable to supply sufficient support to these small farmers when they had to face these unexpected challenges. As a result, the harvests expected after a three-year period, have been limited. This situation occurs for both companies that have obtained large areas of land in leasehold and for those who rely on outgrowers for their input. Following these initial disappointing results, shareholders withdrew funds, adding further problems for biofuel producers. Another example of a large-scale investment suffering from unexpected problems, in this case pests, is ZamPalm, a subsidiary of

ZamBeef. An area of 20,000ha has been secured by this company in the Mpika district for the production of palm oil, 80% of which is currently imported from Asia. If the company is successful, this area can be increased to 100,000ha. Rats decimated the first set of plantings of the company, but after a year, the second set is reported to do better (Muijs, A., 2011).

Plate 5-2: Un-irrigated jatropha trees struggle to grow, D1 Oils



Source: Author's photograph

Biofuel producers point to problems relating to the lack of clear government policy. Some interviewees indicate that a fixed blending target is required to ensure a market for both biodiesel and bioethanol (Sinkala, 2011). These targets have since been set in the Sixth NDP (GRZ, 2011). Other parties state that regardless of targets, the market is there already and unrefined biofuel can compete with conventional fuels (Huddy, 2011). One interviewee pointed out that if targets would be set, the government could face a situation where domestic production of biofuels was insufficient to fulfil these quantities taking into account the issues that producers face (Ross, 2011). Rather than set targets, some investors mention that it is more important to know what government will do with regards to tax policies (Huddy, 2011). This is considered as significant because if tax levels were similar to conventional fuel taxes, biofuel would not be competitive (Huddy, 2011; Ross, 2011).

5.3.5 Impact of large-scale foreign investment

Due to the limited size of actual activities on the large land areas obtained by foreign investors, the impact of these projects cannot be fully evaluated at present. Nevertheless, based on the experience of ETC Bio-Energy and Zambia Sugar, two entities that have been operating for a longer period, certain tentative conclusions can be offered. The fact that large-scale investments take a considerable time to come off the ground is one finding which is insightful in itself.

The most obvious impact of large-scale investment, whether this is by a domestic or foreign investor, is that of job creation. ETC Bio-Energy employs over 500 people on a permanent basis, and Zambia Sugar creates employment for just under 2,000 permanent staff (Illovo Sugar, 2010) making both companies significant employers in their respective regions. In addition to permanent staff, both farm operations offer large numbers of casual jobs: around 1,500 at ETC Bio-Energy and over 4,000 at Zambia Sugar (Illovo Sugar, 2010) at the peak of their activities. ETC Bio-Energy expects this number of casual jobs to increase once they start to harvest jatropha seeds on a commercial scale as this is a labour-intensive process.

As the numbers above show, most jobs created are seasonal, and only offer people an income for a short time of the year[18]. In addition, most casual jobs, such as weeding and harvesting, are low skilled and therefore lowly paid. Casual workers at ETC Bio-Energy receive around US$1.90 per day, under the US$2.00 a day poverty threshold. Contract workers earn an income above the legal minimum wage. In addition, they receive benefits such as free housing on the farm estate, free electricity and water, and a 25kg bag of maize meal per month to assist with feeding their families (Chingola, 2011). Even though employees complain this is insufficient for them, they do indicate that they are ‘happy’ to be employed (Anonymous employee, 2011).

Not only do investors employ people directly, they can also provide work and income for outgrower farmers if this is part of their business strategy. Zambia Sugar operates according to the so-called Nucleus Estate model in which part of the sugar cane is grown on its own plantation, ensuring stability of supply to its processing plant

[18] A casual worker can work for a maximum of six months during the year before having to be taken on as a permanent employee according to the HR manager of ETC Bio-Energy (Chingola, 2011).

(McCarthy and Cramb, 2009). The remainder is grown by smallholder farmers in the vicinity, which reduces the investment in land for the company and offers market access of a commercial crop to small farmers. Outgrowers in the Mazabuka area provide about one-third of total cane input for the Zambia Sugar plant, earning a total of nearly ZK140,000 million or around US$30 million (Zambia Sugar, 2009). There are multiple risks involved for small-scale farmers when committing themselves to an outgrower contract. If their bargaining position is weak, the terms under which they operate can be highly exploitative. They can become trapped in a vicious circle in which they have to keep growing for the company in order to pay off their debts for inputs received (Vermeulen and Cotula, 2010). In his analysis on the sugar industry, Richardson (2010) does not observe this phenomenon but rather points out that, whilst some problems exist between Zambia Sugar and outgrowers, small-scale farmers can earn considerably more from growing sugar than maize.

ETC Bio-Energy planned to incorporate 4,000 smallholders once they had proven the viability of growing jatropha on their own plantation (Huddy, 2011). With the sale of the farm to Zambeef, it is unsure if this plan will be realised. Other biofuel companies in Zambia chose a strategy to rely completely on outgrowers. In this way, they did not have to invest a large amount of money upfront in land acquisition. D1 Oils, a UK based biofuel company, and Marli, Zambian registered, are amongst the companies which operate according to this particular business model (Chipokolo and Matongo, 2007). Both companies started their operations on a large scale, incorporating over 20,000 outgrowers countrywide (Freim, 2008). If the crop had grown as expected, this would have generated substantial income across the country, more importantly during a time in the season when no other income is available to the farmers. Due to numerous issues including pests, lack of extension services and limited financial resources, however, these operations largely have come to a halt. Although an outgrower scheme can offer access to the market and inputs to resource-poor smallholder farmers, which has been observed in several industries in Zambia, the risks can also be considerable if adequate support is lacking. This is especially the case for a new crop such as jatropha. If business turns out to be unprofitable, companies might pull out, leaving the contract farmers without a market for their product and land partially converted away from other crops that they could have used for either food or sale to established markets. The castor oil operation of Flora

EcoPower in Ethiopia (see Chapter 4) is one example of a failed investment with severe consequences for the local farmers (Lavers, 2011). The D1 Oils project in Zambia has also been downscaled considerably, although according to a D1 Oils representative, farmers have not suffered greatly from the collapse of the biofuel companies due to the fact that they received all the inputs for free and mostly used the land on which they planted the jatropha seedlings for intercropping with maize (Ross, 2011). In order to reduce potential negative impacts on their own food security, the company now has limited the number of trees which a smallholder can plant and only intercropping with food crops is allowed (Ross, 2011).

Investors have indicated that a lack of skills does hamper their operations (D1 Oils, 2011; Huddy, 2011). The interviewed large-scale investors spend considerable time and effort on training staff. This training can relate to specific technical abilities for employees working in the workshops or general farming skills. ETC Bio-Energy indicated that farming skills then are transferred by the employee to his/her own small farm plot, where they might increase the yields of small farmers (Chingola, 2011). Skilled employees are sought after and easily can be headhunted by other companies, which is one reason why ETC Bio-Energy claims to pay skilled employees higher wages than other commercial farmers (Huddy, 2011). Not only does ETC Bio-Energy transfer skills to their own employees, even the local representative of the Department of Agriculture and Co-operatives states that he has learned from their activities (Mweemba, 2011).

Through job creation and outgrower income, several spin-off businesses have the chance to establish. In general, small shops selling food, mobile phone credits and the like often become established around the large-scale investment. ETC Bio-Energy has a market space and a few shop facilities on the estate that it rents out to small entrepreneurs. In total 24 stalls were operated at the time of the field research, mostly by people living in the neighbouring village of Mwanga. Most stallholders sell fish vegetables, or second hand clothes. Although their incomes are low, the majority of the stallholders welcome the opportunity offered by ETC Bio-Energy (Anonymous market, 2011). According to one interviewed investor, the biggest contribution their project made to the area was to ‘bring money into the community’. Whereas previously locals bartered whatever they had available, “they now can go to the new

shops that have opened and pay with the money they have earned on the plantation" (Muijs, A., 2011).

Another positive impact of large-scale land investment is that the investor can trigger infrastructure development. This is the case in Mpongwe, the farm operated by ETC Bio-Energy. When first established as an employment project, financed in part by the CDC, a 70km tar road was built from Luanshya to the village of Mpongwe. In addition, electricity was brought to the district as it was required for irrigation. The Zambian government was influential in this development, in a similar way to opening up the planned farm blocks such as the Nansanga block. When the Mpongwe Development Company (MDC) (as the operation was then called) was privatised and sold to ETC Bio-Energy in 2006, the company simply took over a fully operating farm in an accessible area. ETC Bio-Energy also continued with the running of a school and clinic for employees, that had been set up during the days the farm was managed by CDC. It can be argued that the town of Mpongwe would not be as developed without the MDC, illustrating the importance of government spending on rural infrastructure (Rasfold, 2011).

A further example of positive impact is that of the irrigation infrastructure constructed by Zambia Sugar in the Mazabuka area that has stabilised water provision to the area. Nevertheless, the company is the only party that takes advantage of subsidised water. The local population has to pay the normal fee for water, which reduces the incentive for small-scale farmers to irrigate their plots (Richardson, 2010). ZamPalm expects the government to contribute to improving the road to their palm plantation in Mpika once this is running on a larger scale, using its economic power to gain benefits from political parties wishing to gain influence in the area (Muijs, A., 2011).

A further benefit is that most large-scale land owners contribute to rural service delivery, such as clinics and schools in the area, as part of their corporate social investment programmes. ETC Bio-Energy has taken over the operation of the school and clinic set up during the time the farm was operated by the CDC with support of British aid funds. ZamPalm, even though still in the pilot stage of the project, purchased an ambulance for the local village (Muijs, A., 2011). By contrast, investors solely operating through outgrowers have not contributed to infrastructure

development. Overall, whilst investors do contribute to the construction of infrastructure, the national government appears to be a major financing partner, either directly or indirectly.

Critics of large-scale land investment often highlight the risk to local people of losing their land and being relocated with loss of access to certain resources such as wood for fuel or grazing land. To a certain extent, these events have emerged in Zambia, although opinions differ on which party is at fault. Investors claim that squatters are "illegally occupying land" that has been put on leasehold, whereas the local population insists that they have "the right to use land" and are "not aware of the fact that land has been put on title" and leased to a private party (Richardson, 2010; Milimo et al., 2011). This finding illustrates not only the lack of information regarding land deals, but also exemplifies the weak land rights of the local population under the current land policy, a view echoed by the ZLA in a personal interview (ZLA, 2011).

Although little is known about the operation at the time the Mpongwe Development Company started in 1978, ETC Bio-Energy has had conflicts with the local population since it took over this farm. Squatters had settled on the farm when it was still seen as a development project. In addition, people were allowed free access to the fields and could help themselves to the maize that was growing on the farm. When commercialisation occurred under ETC Bio-Energy, a fence was put up to prevent people from gaining unlimited access. In addition, about 30 family squatters were removed after a period of five years. Initially these people had been given the right to stay on the ETC Bio-Energy land provided that they paid the symbolic land fee of ZK1 per year and maintained the fence. When they failed to do this and were unwilling to leave, the company won a court case and removed these squatters. This situation generated a hostile attitude from the community and also attracted negative publicity (Huddy, 2011). The local district commissioner expressed that people still feel the company is not as much part of the community as in the time of first operation, mainly due to the fence that has been put up (Rasfold, 2011).

Similar issues occur when domestic actors develop land on a large scale. For the establishment of the Nansanga Farm Block, MACO decided to allocate the best land

along the river to the large-scale commercial venture. The 43 families who occupied this land had been relocated to another area on the farm block. In an interview with the Deputy Director – Technical Services of MACO, it was claimed these families have each been given a small block of land to farm, close to the new villages which are being developed, a claim that the ZLA disputes (Sichembe, 2011; ZLA, 2011). With the initial creation of the sugar operation in Mazabuka in the 1960s, squatters and herders lost access to the (State) land they formerly used (Richardson, 2010). The construction of the Kafue dam in the early 1970s, which was used for electricity generation and for irrigation of the sugar cane fields, caused many people to lose access to their livelihoods (WWF, 2005). Even the purchase of Nanga farm by Zambia Sugar in 2010 resulted in conflict when residents of a small settlement refused to be evicted from their land (Mpundu, 2006).

Small-scale farm development also can cause households to be evicted. In one study of a 3,000ha area owned by a church mission, the ZLA found that when this mission decided to lease out part of their land to a commercial investor a total of 222 families were removed from their land. These families had been allowed to settle on the missionary land in times when this land was not used for any purpose. When the commercial company started operations, families were instructed to leave. Due to weak legal representation and a lack of title deeds, the families lost the court case and with that, their land. Despite being allocated new land, many families do not have the means to grow as much food as they used to and thus suffer from increased hunger according to the ZLA study (Milimo et al., 2011).

The issue of squatters on formerly titled land is better understood when taking into account that with many large-scale investments, large areas are left unused and are impossible to protect, at least in the beginning of a project. Even after around 30 years of operation, the Mpongwe farm run by ETC Bio-Energy uses only 15,000ha for crop production out of the 45,000ha it owns. Although there were plans to develop an additional 12,000ha for jatropha plantations (which is in doubt after the sale to Zambeef), this still would leave 18,000ha unproductive and easy for squatters to settle on (Verus, 2011). A similar situation exists on the mission land studied by the ZLA (Milimo et al., 2011) and has been mentioned by parties interviewed as occurring on other farms (Mweemba, 2011). Of the 100,000ha allocated to Mann-Ferrostaal only a

limited area is used for nurseries to test different biofuel crops whilst the rest lies fallow (Lungu, 2011). A similar situation exists with the ZamPalm plantation close to Mpika (Muijs, A., 2011). Even though the ZDA claims that investors need to develop their land according to their plans within a period of two to three years, none of the investment licenses have yet been withdrawn based on this criterion (Lungu, 2011). Moreover, even if the ZDA had the actual power and will to follow up on this legal provision, it cannot do so to investors who do not get their investment license from the organisation. Overall, the ZLA recommends a change in the current land laws to prevent titled land from being left unproductive for a period longer than ten years (Milimo et al., 2011).

Investment projects that rely on outgrowers rather than direct land ownership do not pose a threat of relocation to the local population (Cotula et al., 2008). None the less, they prove to be much more "footloose". In this situation, the investor has put less effort and money into obtaining land rights and is more flexible in reducing its size if the business faces difficulties. This has occurred in the biofuel sector in Zambia where most investors have reduced their scale of operations or have disinvested from the country altogether (Ross, 2011; ZNFU, 2011). As a result, many outgrowers across the country now have allocated part of their land to jatropha trees without being able to fully develop this crop or sell to an easily accessible market. Even though D1 Oils claims that the impact for the outgrowers is "insignificant" due to the fact that they still use the same land for other crops, one promised source of income has not materialised. As one small-scale farmer remarked "This jatropha reminds me of cotton. Many years ago when Dunavant[19] came here, they promised that if we grew cotton, we would be paid lots of money. We stopped growing our maize to make more money from cotton. But when the time to sell it came we were paid very little. We went hungry because we had neglected growing our traditional crop maize" (Chipokolo and Matongo, 2007, 15).

The above quote signals that commercial crop growing does not necessarily lead to higher incomes and that foreign agricultural investment might actually cause a deterioration in food security at local level. This situation was highlighted in the ILC

[19] Dunavant became one of the major players in the Zambian cotton industry after privatisation of the parastatal Lint Company of Zambia (Poulton et al., 2004)

study on the impact of the land lease to a foreign investor on the church mission land (Milimo et al., 2011). Nevertheless, Richardson (2010) points out sugar outgrowers on average have a much higher income than farmers growing maize, thus enabling these outgrowers to increase their food security. Some outgrowers protest however, that they are forced into agreements with Zambia Sugar, whereas others see it as a way out of poverty (Hatyoka, 2010). It appears that food security under an outgrower scheme depends on the relative amount of land previously used for domestic food consumption converted to cash crop production and the price received for the cash crop. In the case of crops grown for the export market, fluctuating exchange rates and world market prices can mean that incomes of outgrowers are volatile as is seen in the cotton industry (CDT, 2008; Tschirley and Kabwe, 2010). To prevent a negative impact on domestic food security to their outgrowers, D1 Oils stipulates that jatropha activities are only an addition to domestic food growing activities rather than a substitution (Ross, 2011).

Finally, large-scale land investment, whether by a domestic or a foreign investor, seems to trigger social tension and increased levels of HIV and AIDS. The (seasonal) employment opportunities attract migrant labourers, mostly males. It is argued that the high presence of this transitory, male workforce is one of the major reasons for the high levels of HIV/AIDS infection rate in Mazabuka where Zambia Sugar is based (Richardson, 2010). Communicable disease is also mentioned by ETC Bio-Energy as a result of migrant labourers coming into the area, commencing when the farm was operated by the CDC (Chingola, 2011). An informal settlement, Mwange village, has grown next to this farm with job seekers and migrant workers who have decided to stay in the area in the hope of securing further employment. This illegal settlement creates many problems including water pollution and petty crime (Huddy, 2011). The council does not seem capable of removing people from this settlement and the farm continues to hire labourers from the township despite company policy (Chingola, 2011). To prevent further water pollution, it is argued that steps need to be taken, both by the community as well as by the farm operators (Rasfold, 2011).

In general, it can be argued that both the local and the national government and the local population gain little income from the investments. Land rental fees have the potential to generate a steady and substantial income to the government, but are at an

extremely low level in Zambia. Considerable tax breaks are given to foreign investors, reducing the potential income to the government. One of the local taxes, the grain levy, was abolished by the national government in 2009 (Mweemba, 2011; Rasfold, 2011). This abolition has had a major impact on the Mpongwe district council which lost between US$150,000-200,000 per year on income (Huddy, 2011). Controversially, Richardson (2010, 929) states that "It can be argued that the priority of Zambian politicians in promoting these investments has been to capitalise electorally rather than economically", implying that the main aim of politicians to attract foreign investors is to gain votes rather than bring development to the people.

The local population, equally, seems to gain relatively little from large-scale agricultural investments. Wage levels are low and many jobs are only seasonal. Instead, the gains to a local district seem to be dependent on the amount of social investment the investor is willing to commit. Increased effort and intervention seem to be needed in order to ensure Zambia as a whole benefits more from large-scale foreign land investment.

5.4 Conclusion and recommendations

As this chapter reveals, large-scale land investment is taking place in Zambia, similar to developments elsewhere in Africa and around the world with a number of large-scale projects announced particularly since 2006. As was observed in studies of other countries, actual activity on the ground seems limited, especially in the biofuel projects where severe challenges exist in growing jatropha, a new crop in Zambia. The number of investment projects is divided equally between food production and biofuel production, albeit the latter sector operates on much larger land areas. Whereas investors in crop farming tend to look for established farms, biofuel investors are more interested in virgin land, usually in more remote areas where the pressure on land is not yet significant. Not only foreign investors are active on a large scale, domestic players also have initiated projects on large land areas, both in food and fuel projects. Whereas some investors choose to have control over their own land, other investors opt to rely heavily on outgrowers. In some cases a combination occurs. Although most investors are based in Europe, it is apparent that Chinese and Indian companies are becoming active in the agricultural sector in Zambia.

The benefits of these large-scale foreign investments mainly are in terms of employment creation, market access, increase in food security and development of physical and social infrastructure. This appears to be in line with studies by numerous agencies as discussed in Chapter 3. Nevertheless, considerable tax incentives are given by the national government of Zambia to attract FDI and many of the jobs are seasonal and lowly paid. This situation severely reduces the possible income to the country. So far, no successful outgrower schemes have been set up other than the relatively well-functioning sugar operation.

The potential to 'grow' the agricultural sector in Zambia exists with apparently sufficient land available for development both for food and fuel crops. Although the country has produced sufficient maize, the basic food staple for the majority of the population, to feed the country in the two years since 2009, many people still live in poverty. Most maize production is rain-fed, with the consequence that one dry year can threaten the harvest and consequently the food security status of the country. Large-scale commercial farming with access to irrigation infrastructure might be one option to stabilise food production and hence food security. Irrigation is an increasingly important issue considering the more extreme weather patterns in the long term due to climate change.

As a land-locked country without its own oil supply, biofuel production can reduce greatly the reliance of Zambia on imported petroleum, and correspondingly reduce the burden on foreign exchange expenditure. Several potential labour intensive crops can be grown by outgrowers to offer poor rural farming communities access to extra income. Care must be taken, however, that these farmers do not sacrifice land that is dedicated for growing their own food to commercial crops, thereby putting individual food security at risk. Commercial crops for export markets make small-scale farmers more vulnerable to world market price fluctuations and exchange rate volatilities.

Despite the recommended focus on the domestic market, it has to be taken into account that the Zambian market is relatively small and hence export options must be encouraged especially for food crops. The Zambian government must play an essential role in facilitating this through establishing a positive export environment. Also government should abstain from ad-hoc and unpredictable trade policies such as

export bans or tariff changes. In general, the country needs to be able to produce at a cost that makes them competitive in at least the southern African regional market. The emphasis on export production for the commercial venture in the Nansanga farm block (GRZ, 2011b) counters the recommendation to first ensure domestic food security and possibly is based on the wish by government to earn foreign exchange and to make it more attractive for foreign investors to sign up for this venture without being limited by the constraints of the domestic market. In addition, the government should reallocate the budget of the agricultural sector for expenditure on rural infrastructure and crop developments rather than on subsidised inputs and maize prices. Not only is this more likely to benefit a wider range of smallholder farmers, the expected agricultural growth and reduction in rural poverty will also be higher (von Braun et al., 2005).

To counter many of the negative impacts that can be caused be large-scale land investments, a number of measures could be put in place. First, the land rights of communal landowners need to be protected both from chiefs who might be looking for deals to enrich themselves and from government. When state land is converted to leasehold, this must be clearly communicated to prevent future issues with regards to squatters illegally occupying privately owned land. In addition, a provision in the land policy must be made that leasehold land can be returned to communal ownership in the event that pledged investments do not materialise. To support this, it is recommended that the ZDA must have a strong mandate to revoke investment licenses in case investors do not comply with their investment plans. This would reduce land speculation and ensure investments become productive. Lastly, the ZDA must realise that operations on large land areas are not manageable, especially with regards to the labour requirements for non-mechanically harvested crops such as jatropha. In order to avoid land being unproductive, it is argued that the organisation should not allocate unrealistically large areas to such crops. These measures will become more important in the future when the pressure on land in Zambia will increase further due to a growing population and possible increased interest from foreign investors.

CHAPTER SIX

CONCLUSION

This study aimed to investigate the extent and impacts of large-scale foreign land investment in Africa, and particularly in Zambia, as per mid-2011. Aside from establishing the extent of large-scale agricultural FDI, the study sought to describe the main drivers behind these investments and expose the different actors. Finally, this study aimed to answer the question if and how large-scale foreign land investment can contribute to economic development in the host country and what the role of both smallholder farmers and the host government can be to add to overall development and poverty reduction.

In the first decade of the 21st century, traditional agricultural systems experienced a considerable change. After an increased globalisation of supply chains and an increase in food trade across the world during the preceding decade, the world market for agricultural products, and staple crops in particular, expanded considerably and food prices increased (Pingali, 2007; Sarris, 2009). Accordingly, several countries dependent on imports for their food supply were confronted with a rapidly increasing bill to fund these imports, leading to situation of social unrest and food riots. It is argued that these increases were driven by a number of long term and short term causes, ranging from a continually growing population that is changing to a more protein-rich diet, oil resources becoming more unstable, climate change considerations driving demand for alternative fuels amongst which biofuels derived from food crops, speculative money searching out commodities to make short term gains, a financial crisis and a decline in productivity growth rates for many crops around the world (e.g. Brown, 2009; Cotula et al., 2009; Sarris, 2009).

In response, food importing governments, agribusinesses and investment companies have become involved in large-scale land investment in other, mostly developing, countries (Cotula et al., 2009). Governments are concerned about increased instability and costs of their food imports and by obtaining large areas of land overseas, aim to by-pass the world market for their food security (World Bank, 2010a). Agribusiness

becomes more vertically integrated to gain more control over their inputs (Selby, 2009). New agribusinesses focussing on the production of biofuels to serve the market created by government regulations in developed countries are searching for large land areas to grow crops to convert into biodiesel or bioethanol (Cotula et al., 2008). Investors are looking for anti-cyclic ways to counterbalance the high losses witnessed on stock exchanges across the world (HighQuest Partners, 2010). Due to the structural nature of (some of) the underlying drivers behind foreign land acquisitions, these deals are likely to continue in the years to come.

Africa has been the continent where most large-scale agricultural land deals have been signed, although agreements have been signed in other areas including in Asia and South America (e.g. World Bank, 2010a). Deals vary from a few thousand hectares to several million hectares, with the largest projects (potentially) covering ten million ha. Food crops and fuel crops both play a significant role. In some countries, such as Sudan, food is more important, whereas in other countries, for example in Madagascar, more fuel projects are initiated. The land area covered also varies greatly between crop and country. Analysis shows that Gulf States invest mainly in food projects, primarily in eastern Africa. European investors focus more on biofuel crops, with a preference for southern Africa. Asian companies and governments invest in both food and fuel in a wide range of host countries.

It was shown that Zambia is one of the countries that has received interest from a number of large-scale investors. Both food and biofuel producers have set up across the country. Whereas food crop operations are concentrated in the heavily populated provinces of Lusaka province and the Copperbelt, fuel producers look for large areas that are available in more rural provinces. The majority of the investors come from the UK and regional neighbours, Zimbabwe and South Africa. Although China and India have shown interest in large areas of land but no significant contracts have been signed with investors from these countries as yet.

Overall, investors see Zambia as a country with ample land and water available for agricultural production. In addition, the country offers an attractive business environment with numerous tax breaks on offer. It enjoys a stable political climate, as opposed to neighbouring Zimbabwe and the Democratic Republic of the Congo. Due

to the fact that the country is land-locked, costs for importing both fuel and food are high. This creates an attractive market for domestic food and biofuel production, with additional export opportunities to the region. Despite a positive business climate with generous tax breaks on offer, government policies with regards to food marketing and export have been inconsistent and no official regulation has been drawn up to support a market for biofuels. This has frustrated investors who are left unsure of the market for their production. Zambian investors, both in food and fuel projects, have indicated that they perceive government policies as hampering their operations.

Host governments can have a number of objectives in attracting large-scale agricultural FDI: employment, food security, access to foreign markets and new technology (e.g. von Braun and Meinzen-Dick, 2009). Opponents of large-scale foreign land investment in developing countries argue that jobs and wages on these large-scale operations are limited, the local population loses access to land and water and the host government does not gain due to generous tax breaks and low land fees. In addition, only a small amount of crops grown are destined for the domestic market (e.g. Daniel and Mittel, 2009; von Braun and Meinzen-Dick, 2009). Experience with large-scale operations so far has shown that in numerous cases the local population does lose access to land, often without prior consultation. This has been observed in various countries across the continent such as Mali (Diallo and Mushinzimana, 2009), Mozambique (Borras et al., 2011) and also in Zambia.

The benefits host governments hope for have, however, not materialised. Many projects have not (yet) reached operational status, certainly not on the large areas leased to the investors. This is due to lack of funds, difficulties with growing new crops or simply due to the long process of clearing such large areas and managing them. Jobs have, therefore, not been created. As Borras et al. (2011, 224) note: “this employment issue would only be resolved in the medium-term, and not in the immediate future”. Production has equally lagged behind, and thus no significant contribution to either food or fuel security or foreign exchange earnings has been made. It appears that the negative impact of dispossession and relocation takes place at the start of a project whereas the potential benefits for both the local population and the host government in general take much longer to materialise. Moreover, businesses adjust their operations in order to secure profitability. If this means a higher degree of

mechanisation rather than hiring local labour, the investor will not hesitate to do so (Murray Li, 2011).

When looking at the impact large-scale foreign land investment so far has had compared to the four roles identified for the agricultural sector to contribute to economic development of the host country in classical theories (e.g. Kuznets, 1964; Johnston and Mellor, 1961), the following can be concluded:

- Product contribution: numerous large-scale foreign land investments are for the growth of biofuels (mostly by commercial investors) or export crops (usually by food importing governments). These projects will have only a very limited contribution to local food or fuel security;
- Market contribution: large-scale foreign land investments are generally technology intensive, rather than labour intensive. A limited number of jobs is created on these large-scale operations. Especially food crops such as maize and soya beans are highly mechanised. Oil bearing crops as jatropha are more labour intensive, although highly seasonal (Murray Li, 2011). But, since investors are interested in developing countries because of the low costs for land and labour, wages are generally low. In addition, most machinery and higher skilled labour is imported. Despite an optimistic tone, the World Bank study shows that jobs created are limited (World Bank, 2010a, 39). In addition, job creation takes place on the medium term when the projects become fully operational;
- Factor contribution: excess capital in the form of profits largely can be repatriated to the country where the investor is based. Host governments also grant generous tax holidays and offer low land fees to attract investors. The World Bank estimates irrigated land for sugar cane production in Zambia to be worth US$1,407/ha (World Bank, 2011, 109), as compared to the government rent fee of US$1. Overall this reduces the potential gains a target country has by hosting foreign investors;
- Foreign exchange: a large number of projects are set up for export crops, either food or fuel. In theory, this would give the host government foreign exchange that can be used for the imports of food or fuel. As observed, since as far back as the 1970s, the strategy to export crops in order to pay for import of basic food crops is

highly risky due to price and exchange rate fluctuations (Dinham and Hines, 1983). A more secure alternative is to grow staple crops and hence reduce the foreign exchange reserves required for import, either food or fuel.

In addition to these general links of the agricultural sector to the wider economy, the majority of people in host countries are dependent on small-scale farming (World Bank, 2007). One of the often mentioned benefits of large-scale foreign companies investing in a developing countries is that these operations will offer smallholders access to global markets, to new technology and inputs such as improved seed varieties (e.g. Cotula et al., 2009; World Bank, 2010a). Such benefits will help to raise rural families out of poverty.

For investors there are both benefits and detriments to involve smallholders in their operation (e.g. Kirsten and Sartorius, 2002). By using smallholders, the investor can reduce the amount of land, and thus the amount of money, required to grow the crops it wants to harvest. By outsourcing the growth of crops, it also outsources the labour required. In this way, the investor can reduce the initial investment which is required for start up. Lastly, as Borras et al. (2011) argue, using outgrowers is a way to outsource the risk of rain-fed crops, leaving the investor to focus on a more limited area that can be irrigated. Nevertheless, using an outgrower strategy makes it more difficult for the investor to control the quality of the crops as considerable effort is required to manage the large number of smallholder farmers. This research has shown that foreign companies opt for both strategies, although it is mainly in the labour intensive oil crop projects in which smallholders are included.

For smallholders, incorporation into a large operation does not always bring an increase in income. Due to the unequal balance of power, they end up in a debt trap where the revenue they receive for their crops does not cover the cost for the inputs provided to them (Vermeulen and Cotula, 2010). Outgrowers also have to produce to very high quality standards, sometimes not obtainable with the limited means available to them (Kirsten and Sartorius, 2002). Further, new cash crops are introduced without prior knowledge on how to grow these crops. The experience with jatropha in Zambia illustrates that commercial crops do not always succeed. Insufficient support was given to the outgrowers by the biofuel companies which did

not yet know how to grow this crop in the Zambian climate and soils. As a result, the outgrowers are left with greatly reduced income and no own food production. These families do not have a safety net to shield them from such failures.

Successful projects do occur, as is seen in the sugar operations in the Mazabuka area of Zambia and also with small-scale palm oil growers in Asia (Richardson, 2010; Rist et al., 2010). Despite complaints that they are not compensated sufficiently, these farmers have been able to increase their income and with it their own food security. The key to success is for the large-scale commercial operator to first prove that a certain crop can be grown in an area, a strategy which was followed by ETC Bio-Energy in Mpongwe, although never implemented due to early sale of the farm operation. Once it is known what the risks are and how to prevent them, then outgrowers can be involved. These small farmers then need to receive adequate support in order to successfully grow a new crop. In addition, they need to be allowed to maintain sufficient land to grow food for their own family, a condition that D1 Oils include in their contracts with small farmers.

In general, the evidence reveals that the arrival of a large-scale agricultural operator, whether foreign or domestic, holds mixed prospects for the local population. Often, they will lose access to land and water, either by losing their own plots to which they do not hold official title or by losing communal land used for activities such as grazing and the collection of firewood. Governments or tribal chiefs can be of the opinion that commercial farming will be more productive than the less intensive use under traditional farming methods. This situation poses a severe threat to local families. Complaints and protests in reaction to large-scale investments have been reported in many countries, including in Zambia. In the case of a large-scale foreign operator producing for the local food market, smallholders might also have to face ‘unfair’ competition. These large-scale investors have access to cheaper credit overseas and receive generous tax breaks from the host government (Murray Li, 2011).

In order for large-scale land investments to contribute to economic development, the role of national governments is critical. First, they have to ensure that the local population does not lose access to their resources. Small-scale farmers earn more

working their own land than as wage labourer on a large plantation (Murray Li, 2011). Especially in the case of cash crops rather than food crops, such plantations will reduce a country's production and food security position. The local population requires clear ownership rights, whether these are communal or on private title. Governments, together with the investor, also need to make concerted efforts to include communities where they intend to reserve land for foreign investors. Only when the community has been properly engaged in the lead up to the project will they support the enterprise and hence contribute to making it a success.

Second, if a government wants to reap benefits from FDI, it needs to charge fair land fees and taxes and press foreign investors to adhere to national laws. Giving land away for free or at a symbolic price will not generate the income required for infrastructure development and social investment. In several cases studied in this report, the investor has pledged to build roads, clinics and the like. Experience has shown that either these facilities are only built once an operation starts to generate a profit (as stated by a representative from D1 Oils Zambia), or are only accessible for employees of the investor (as is the case of ETC Bio-Energy). A more solid approach is for national government to take responsibility for the provision of public goods and generate the income from the investors. In addition, national government needs to establish a labour environment that offers protection to employees without hampering the efficient working of a business. A minimum wage level that enables a labourer to reach a basic level of living must be part of the conditions. Aside from land and labour laws, foreign investors need to comply with environmental laws in order to protect natural resources such as water and air. The challenge for national government is to not engage in a "race to the bottom" with other countries, but also not make itself uncompetitive. As is shown by South American and former Soviet countries, higher land fees can still attract investors, provided other conditions are in place, such as reliable infrastructure, political stability and good soils.

Third, large-scale foreign investments need to be part of wider agriculture and development strategy. Under the Import Substitution Industrialisation policies implemented in the 1960s and 1970s, agriculture was seen as a factor contributor to the manufacturing sector and later, under the Structural Adjustment Programmes, it was subjected to the working of the market. It is evident that agriculture deserves

more direct attention from national governments, if it is to make a valuable contribution to economic development and poverty reduction. Governments need to have a clear strategy for their agricultural sector and related policies regarding land and energy, including identifying parts of the country where agriculture can develop and where land is available. They need to take their country's strengths and weaknesses into account. In the case of a land-locked country such as Zambia, where transportation costs are high, it will be difficult to compete on a market for export products. Food production for the domestic and regional market has more potential opportunities. With complete dependence on imports for oil, opportunities exist for biofuel crops. In both cases national governments need to be clear on their aims. Investors are unwilling to embark on projects if clear policies are not in place, for example with regards to fertiliser subsidies or blending ratios. Beyond formulating policies, governments need to ensure that foreign investors contribute to the national economy and integrate with the local community rather than operating as a stand-alone unit without links to the environment in which it operates. In general, the farm block development in Zambia represents one step in the right direction albeit with limited success so far.

Furthermore, national governments need to ensure that detailed contracts are signed and investors follow up on these contracts. Many projects discussed in this study have very limited information in the agreements signed. For example, rather than the exact location of a project, only a rough description of the area is given. This situation has the potential for conflict with the local population. Many agreements are for unrealistically large projects. Experience in Zambia, and across the world, shows that it is a very long term process, if not impossible, to manage extremely large areas. To plant 100,000ha with jatropha trees and harvest these trees takes an enormous amount of time and labour. As a result, land belonging to an investor often lies fallow, whereas local farmers could have used this productively. Beyond unrealistically large land requirements, investors have low priority to implement infrastructure they might have agreed on, as this will not directly contribute to their profits. The same situation holds for the creation of jobs. Finally, although foreign investors intend to operate on a project for a considerable number of years, often they have proven to be 'footloose'. In Zambia, ETC Bio-Energy sold the Mpongwe farm after only six years, despite plans to be there for longer. Many biofuel companies had to greatly reduce operations

or cease altogether due to funding issues and disappointing harvests. National governments need to ensure safety nets are available in case foreign investors bail out.

Unfortunately, many national governments in the developing world do not have the capacity or the resources to ensure proper processes take place. The consequences for the local population and the country as a whole can be far-reaching. Commercial investors are interested in monetary gains, not economic development (Murray Li, 2011). The weaker the host government, the more potential benefits there are for investors, albeit at some risk of political instability (World Bank, 2010). It is evident that voluntary guidelines, as proposed by a number of international organisations, are not the answer to ensure both investor and host country benefit from large-scale FDI in agriculture. Rather, the scale of projects should be limited and investors should be made to pay reasonable fees. Only when a project has proven successful can larger concessions be granted. This way of working can reduce the risk of speculation from the investor side, limit the risks of land loss to the local population, and ensure both the government and the national economy as a whole benefits.

In final analysis, FDI in agricultural land will continue to be attractive taking into account the structural nature of the drivers behind such investment. Pressure therefore will increase in those countries where currently land seems to be abundant. Increased output in currently under-productive land is required to feed the global population, although biofuels are not necessarily the best way to supply the growing demand for oil. Foreign operators are able to help to increase this productivity. But, national governments need to ensure that national interests as food security do not succumb to the monetary interests of overseas investors.

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APPENDIX A

Overview of large-scale foreign land investment projects from 2004 until mid-2011

AFRICA						
Host country	**Investor**	**Investor country**	**Area (ha)**	**Land use**	**Status**	**Source**
Angola	Lonrho	UK	25,000	Rice	Signed	Friis and Reenberg, 2010
Angola	Agri SA	South Africa	140,000	Food	Planned	Friis and Reenberg, 2010
Cameroon	Sino Cam IKO	China	10,000	Rice	Operational	http://www.afronline.org/?p=2908
Cameroon	SOCAPALM	Belgium	58,063	Palm Oil	Signed	Görgen et al, 2009
Cameroon	Sime Darby Bhd	Malaysia	300,000	Palm Oil	Planned	Sime Darby, 2011
Cameroon	Somdiaa	France	12,000	Sugar	Operational	GRAIN, 2009a
Central African Republic	Somdiaa	France	5,137	Sugar	Operational	www.Somdiaa.com
Chad	Somdiaa	France	11,000	Sugar	Operational	www.Somdiaa.com
Democratic Republic of Congo	ZTE International	China	2,800,000	Agrofuel oil palm plantation	Signed	Friis and Reenberg, 2010
Democratic Republic of Congo	Eni	Italy	180,000	Palm Oil	Unknown	Görgen et al, 2009
Democratic Republic of Congo	MagIndustries	Canada	68,000	Eucalyptus	Signed	Görgen et al, 2009
Egypt	Jenat	Saudi Arabia	10,000	Barley, wheat and livestock feed	Unknown	Görgen et al, 2009
Egypt	Janan	UAE	42,000	Wheat	Unknown	Friis and Reenberg, 2010
Egypt	Al Dahra Agricultural Company	UAE	9,700	Animal fodder	Operational	http://www.aldahra.com
Ethiopia	Flora EcoPower	Germany	15,000	Castor	Signed	Friis and Reenberg, 2010
Ethiopia	Karuturi	India	311,700	Maize, rice, vegetables	Operational	MoARD, 2010a
Ethiopia	Fri-El Green Power	Italy	30,000	Agrofuels	Signed	Friis and Reenberg, 2010
Ethiopia	Ardent Energy Group	USA	15,000	Agrofuels	Signed	Friis and Reenberg, 2010
Ethiopia	Ethio Agri-CEFT	Saudi Arabia	19,200	Coffee, tea, crops	Signed	Friis and Reenberg, 2010
Ethiopia	Sun Biofuels	UK	80,000	Jatropha	Operational	Pohl, 2010
Ethiopia	Djibouti government	Djibouti	7,000	Unknown	Signed	Friis and Reenberg, 2010
Ethiopia	Dubai World Trading Company	UAE	5,000	Tea	Signed	Friis and Reenberg, 2010
Ethiopia	Becco Biofuels	UK	35,000	Agrofuels	Planned	Görgen et al, 2009
Ethiopia	Hovev Agriculture Ltd.	Israel	40,000	Agrofuels	Signed	Görgen et al, 2009

Host country	Investor	Investor country	Area (ha)	Land use	Status	Source
Ethiopia	The National Biodiesel Corporation (NBC)	Israel, Germany, USA	190,000	Jatropha and other agrofuels	Planned	Görgen et al, 2009
Ethiopia	United Arab Emirates	UAE	5,000	Tea	Signed	Görgen et al, 2009
Ethiopia	IDC Investment	Denmark	15,000	Jatropha	Operational	Görgen et al, 2009
Ethiopia	LHB	Israel	100,000	Jatropha	Unknown	Görgen et al, 2009
Ethiopia	BHO Bio Products plc.	India	27,000	Cereals, pulses, oils	Signed	MoARD, 2010c
Ethiopia	Ruchi Group	India	25,000	Agrofuels	Signed	http://www.afrik-news.com
Ethiopia	National Bank of Egypt	Egypt	22,000		Signed	http://www.afrik-news.com
Ethiopia	Saudi Star	Saudi Arabia	10,000	Rice	Signed	MoARD, 2010b
Ethiopia	Bharat Renewable Energy / Shapoorji	India	50,000	Jatropha	Signed	GRAIN, 2009a
Ethiopia	Emami Biotech	India	40,000	Jatropha	Signed	http://www.emamibiotech.com
Ethiopia	Nadec	Saudi Arabia	42,000	Unknown	Signed	GRAIN, 2009a
Ethiopia	Sannati Agro Farm Enterprise	India	10,000	Rice, pulses	Signed	MoARD, 2010d
Ethiopia	Global Energy Ethiopia	Belgium	5,000	Castor	Operational	http://www.ecofriendnews.com http://www.globalenergyethiopia.com/
Ethiopia	Horizon Plantations	Saudi Arabia	250,000	Jatropha, Rubber, Palm oil, Tea	Operational	http://agrinexus.net/images/Jan25-31-2008.jpg http://www.dailyethiopia.com/index.php?aid=990
Ethiopia	Nuove Iniziative Industriali SRL	Italy	40,000	Jatropha	Signed	http://www.bloomberg.com/news/2010-08-04/italian-biofuels-project-arouses-opposition-from-kenyan-environmentalists.html
Ethiopia	BDFC	Brazil	17,400	Sugar	Signed	Friis and Reenberg, 2010
Ethiopia	Hunan Dafengyuan Agriculture	China	25,000	Sugar	Signed	MoARD, 2010e
Ethiopia	Spentex Industries	India	25,000	Cotton	Signed	Davison, 2011a
Gabon	Olam International	Singapore	400,000	Timber	Operational	Olam International, 2011
Gabon	Olam International	Singapore	300,000	Palm oil	Signed	Olam International, 2011
Ghana	ScanFuel Africa	Norway	400,000	Agrofuels	Operational	www.ghanabusinessnews.com
Ghana	BioFuel Africa	Norway	150,000	Jatropha	Discontinued	Tsikata and Yaro, 2011

Host country	Investor	Investor country	Area (ha)	Land use	Status	Source
Ghana	Vepower	UK	50,000	Jatropha	Signed	http://www.commodafrica.com/fr/actualites/matieres_premieres/jatrophaghanavepower
Ghana	Galten	Israel	100,000	Jatropha	Operational	http://www.galtengroup.com
Ghana	Kimminic Corporation	Canada	65,000	Jatropha	Operational	http://www.kimminic.com/
Ghana	Jose Garcia-Carrion Group	Spain	10,000	Pineapples	Unknown	Friis and Reenberg, 2010
Ghana	Solar Harvest (Continuation of BioFuel Africa)	Norway	10,600	Food	Operational	Tsikata and Yaro, 2011
Ivory Coast	Nauvu Investments (JV between Olam and Wilmar)	Singapore	96,000	Palm oil, rubber, sugar	Operational	GRAIN, 2009a
Ivory Coast	Somdiaa	France	11,800	Sugar	Operational	www.Somdiaa.com
Kenya	Qatar	Qatar	40,000	Fruit and vegetables	Signed	Nunow, 2011
Kenya	Bedford Biofuels	Canada	360,000	Jatropha	Operational	www.bedfordbiofuels.com
Kenya	Bioenergy International	Switzerland	93,000	Jatropha	Planned	Görgen et al, 2009
Kenya	Dominion Farms	USA	6,900	Rice, fish	Operational	FIAN, 2010
Kenya	Nuove Iniziative Industriali SRL	Italy	50,000	Jatropha	Planned	www.bbc.co.uk
Liberia	Dominion Farms	USA	17,000	Rice and other crops	Operational	Görgen et al, 2009
Liberia	Equatorial Biofuels Limited	UK	169,000	Palm Oil	Signed	http://www.epoil.co.uk
Liberia	Sime Darby Bhd	Malaysia	220,000	Rubber	Operational	Sime Darby, 2011
Liberia	Libya Africa Investment Portfolio	Libya	200,000	Unknown	Unknown	West Africa Observer, 2009
Lybia	Agri SA	South Africa	35,000	Unknown	Planned	Reuters 2010a
Madagascar	Sime Darby Bhd	Malaysia	220,000	Palm Oil, Rubber	Unknown	Görgen et al, 2009; Sime Darby, 2011
Madagascar	Varun	India	230,000	Rice, maize, lentils	Discontinued	Andrianirina-Ratsialonana et al, 2011
Madagascar	Daewoo Logistics	South Korea	1,300,000	Maize, palm oil	Discontinued	Üllenberg, 2009b
Madagascar	Madabeef	UK	200,000	Lifestock	Unknown	Üllenberg, 2009b
Madagascar	SUCOCOMA	China	10,000	Sugar cane	Unknown	Üllenberg, 2009b

Host country	Investor	Investor country	Area (ha)	Land use	Status	Source
Madagascar	Avana Group Ltd.	UK	10,000	Jatropha	Planned	Üllenberg, 2009b
Madagascar	Global Agro-fuel	Lebanon	100,000	Jatropha	Unknown	Üllenberg, 2009b
Madagascar	Delta Peroli	Italy	20,000	Jatropha	Unknown	Andrianirina-Ratsialonana et al, 2011
Madagascar	ER Company		80,000	Jatropha	Unknown	Üllenberg, 2009b
Madagascar	Bio Energy Ltd	Australia	120,000	Jatropha	Planned	Üllenberg, 2009b
Madagascar	GEM Biofuels	UK	492,500	Jatropha	Operational	GEM BioFuels Plc, 2009
Madagascar	J-Oils	France	10,000	Jatropha	Unknown	Üllenberg, 2009b
Madagascar	JSL Agro-fuels	Germany	10,000	Jatropha	Planned	Üllenberg, 2009b
Madagascar	New Ecology Oils	France	30,000	Jatropha	Unknown	Üllenberg, 2009b
Madagascar	NOTS Renewable Energy	Netherlands	15,000	Jatropha	Unknown	Üllenberg, 2009b
Madagascar	Oji Paper	Japan	30,000	Eucalyptus, Acacia	Discontinued	Üllenberg, 2009b
Madagascar	OSHO Group	South Africa	100,000	Sugar cane for ethanol	Unknown	Üllenberg, 2009b
Madagascar	Sithe Global	USA	60,000	Palm oil for ethanol	Unknown	Üllenberg, 2009b
Madagascar	SOPREMAD	France	20,000	Sugar cane for ethanol	Unknown	Andrianirina-Ratsialonana et al, 2011
Madagascar	Tozzi Renewable Energy	Italy	100,000	Jatropha	Discontinued	Üllenberg, 2009b
Madagascar	Unitech and United Technologies Group	USA	150,000	Sunflowers	Discontinued	Üllenberg, 2009b
Madagascar	Les Cultures du Cap Est	India	9,100	Palm oil for industrial purposes	Unknown	Üllenberg, 2009b
Madagascar	DEKO SA	South Africa	33,000	Agroforestry	Unknown	Üllenberg, 2009b
Madagascar	D1 Oils	UK	290,000	Jatropha	Discontinued	Interview
Madagascar	Land Mark	India	5,000	Maize	Operational	Andrianirina-Ratsialonana et al, 2011
Madagascar	Fuel Stock	UK	30,000	Jatropha	Unknown	Andrianirina-Ratsialonana et al, 2011
Madagascar	Flora EcoPower	Israel	30,000	Jatropha	Discontinued	Andrianirina-Ratsialonana et al, 2011
Madagascar	DRT	France	15,000	Pine resin	Discontinued	Andrianirina-Ratsialonana et al, 2011
Malawi	Djibouti	Djibouti	55,000	Unknown	Signed	Friis and Reenberg, 2010
Malawi	Cru Investment	UK	6,500	Unknown	Operational	GRAIN, 2009a
Malawi	D1 Oils	UK	200,000	Jatropha	Operational	Interview
Mali	Libyan African Investment Portfolio (MaLibya)	Libya	100,000	Rice	Signed	Diallo and Mushinzimana, 2009
Mali	Millenium Challenge Account	USA	16,000	Rice, vegetables	Signed	Görgen et al, 2009

Host country	Investor	Investor country	Area (ha)	Land use	Status	Source
Mali	Al-Korayev	Saudi Arabia	100,000	Unknown	Unknown	Görgen et al, 2009
Mali	Markala Sugar Project	South Africa	14,100	Sugar cane	Signed	Diallo and Mushinzimana, 2009
Mali	CAMEX	UK	20,000	Rice and vegetables	Planned	Diallo and Mushinzimana, 2009
Mali	CLETC	China	20,000	Sugar	Signed	GRAIN, 2009a
Mali	Petrotech/AgroMali	USA	10,000	Jatropha	Signed	http://www.petrotechffn.com
Morocco	Tiris Euro Arab (TEA)	UAE	700,000	Citrus, olives	Signed	http://www.gulfinthemedia.com
Mozambique	Sekab	Sweden	100,000	Agrofuel	Planned	Görgen et al, 2009
Mozambique	Trans4mation Agric-teck Ltd.	UK	10,000	Unknown	Signed	Görgen et al, 2009
Mozambique	ProCana / CAMEC	UK	30,000	Sugar cane	Discontinued	Borras et al., 2011
Mozambique	Sun Biofuels	UK	15,000	Jatropha	Operational	Ribeiro et al, 2010
Mozambique	Agriterra	Europe	20,000	Livestock	Operational	Görgen et al, 2009
Mozambique	SAB Mozambique	Italy	11,000	Jatropha	Sold	http://www.esvgroup.com
Mozambique	Energem Renewable Energy LDA	Canada / SA	60,000	Jatropha	Discontinued	Ribeiro et al, 2010; http://www.telegraph.co.uk; www.duelco.com
Mozambique	Enerterra	Portugal	18,508	Jatropha	Signed	Albino, 2010
Mozambique	MoçamGalp	Portugal	10,000	Jatropha	Operational	Ribeiro et al, 2010
Mozambique	Aviam	Italy	10,000	Jatropha	Operational	http://www.aviam.it
Mozambique	Principle Energy	UK	18,000	Sugar cane	Signed	Albino, 2010
Mozambique	Mauritius Government	Mauritius	20,000	Food	Signed	Friis and Reenberg, 2010
Mozambique	Agri SA	South Africa	1,000,000	Food	Signed	Görgen et al, 2009
Mozambique	Agri SA	South Africa	9,000,000	Food	Planned	Görgen et al, 2009
Mozambique	Grown Energy Zambeze	South Africa	15,000	Sugar cane	Signed	Albino, 2010
Mozambique	Green Resources / Lurio	Norway	126,000	Forestry	Signed	Albino, 2010
Mozambique	Portucel	Portugal	173,327	Forestry	Signed	Albino, 2010
Mozambique	Quifel Agricola	Portugal	10,000	Soy oil	Signed	Albino, 2010
Mozambique	Chikweti	Sweden	76,000	Forestry	Signed	CIP, 2011
Mozambique	Malonda	Sweden	46,000	Forestry	Signed	www.greenresources.no
Mozambique	Florestas de Niassa	Finland	210,000	Forestry	Signed	CIP, 2011
Mozambique	Madal	Norway	57,000	Agriculture	Signed	CIP, 2011
Nigeria	Trans4mation Agric-teck Ltd.	UK	10,000	Rice, cassave, fish	Signed	GRAIN, 2009a

Host country	Investor	Investor country	Area (ha)	Land use	Status	Source
Nigeria	Vietnam Africa Agricultural Development Company	Vietnam	10,000	Rice	Planned	Görgen et al, 2009
Republic of the Congo	Fri-El Green Power	Italy	40,000	Palm oil	Unknown	Friis and Reenberg, 2010
Republic of the Congo	Agri SA	South Africa	200,000	Food	Signed	Hall, 2011
Republic of the Congo	Agri SA	South Africa	9,800,000	Food	Planned	Hall, 2011
Senegal	Several investors from Belgium and UK	Belgium	233,000	Unknown	Unknown	West Africa Observer, 2009
Senegal	Dangote	Nigeria	40,000	Sugar	Unknown	Friis and Reenberg, 2010
Senegal	Nuove Iniziative Industriali SRL	Italy	50,000	Jatropha	Signed	http://www.bloomberg.com/news/2010-08-04/italian-biofuels-project-arouses-opposition-from-kenyan-environmentalists.html
Senegal	AgroAfrica AS	Norway	10,000	Jatropha	Signed	GRAIN, 2009a
Sudan	Hail Agricultural Development Co	Saudi Arabia	10,000	Wheat, vegetables, animal feed	Signed	Cotula, 2011
Sudan	UAE	UAE	378,000	Unknown	Operational	von Braun and Meinzen-Dick, 2009
Sudan	Abu Dhabi Fund for Development	UAE	30,000	Corn, alfalfa, wheat, potatoes, beans	Signed	von Braun and Meinzen-Dick, 2009
Sudan	Jarch Capital	USA	404,000	rice, wheat	Signed	Business Week in depth, 25 Nov 2009
Sudan	Saudi Arabia	Saudi Arabia	500,000	Unknown	Planned	Görgen et al, 2009
Sudan	Jordan	Jordan	25,000	Livestock and crops	Discontinued	GRAIN, 2009a
Sudan	Hassad Food	Qatar	100,000	Wheat, corn, soya	Signed	http://www.hassad.com
Sudan	Citadel Capital / Sabina	Egypt	105,000	Wheat, sugar, sorghum	Operational	www.citadelcapital.com
Sudan	ZTE International	China	10,000	Wheat, maize	Signed	GRAIN, 2009a
Sudan	Egypt government	Egypt	400,000	Wheat, corn, sugar	Signed	GRAIN, 2009a
Sudan	Citadel Capital / SEAC	Egypt	105,000	Maize	Operational	www.citadelcapital.com
Sudan	Beltone Private Equity	Egypt	84,000	Sugar	Operational	GRAIN, 2009a
Tanzania	Sun Biofuels	UK	8,000	Jatropha	Signed	Theting and Brekke, 2010

Host country	Investor	Investor country	Area (ha)	Land use	Status	Source
Tanzania	Int. Water and Electric Corp.	China	101,000	Corn	Signed	Görgen et al, 2009
Tanzania	D1 Oils	UK	60,000	Jatropha	Discontinued	Görgen et al, 2009; interview
Tanzania	Korea Rural Community Corporation	South Korea	15,000	Food production and processing	Planned	http://af.reuters.com/article/topNews/idAFJOE6AA08I20101111
Tanzania	CAMS Group	UK	45,000	Sweet sorghum	Operational	http://www.thebioenergysite.com
Tanzania	Bioshape	Neth/Belgium	34,736	Biofuels	Unknown	Friis and Reenberg, 2010
Tanzania	Pharos Miro Agriculture Fund	UAE	50,000	Rice	Unknown	Friis and Reenberg, 2010
Tanzania	Green Resources	Norway	100,000	Forestry	Operational	www.greenresources.no
Tanzania	Yes Bank	India	30,000	Wheat, rice	Planned	Friis and Reenberg, 2010
Uganda	Heibei Company (China)	China	40,500	Poultry, cattle, maize, rice, wheat	Planned	Görgen et al, 2009
Uganda	Egyptian Agricultural Ministry	Egypt	810,000	Maize, wheat	Planned	Friis and Reenberg, 2010
Uganda	McLeod Russel	India	4,000	Tea	Operational	http://www.mcleodrusselindia.com
Uganda	Agri SA	South Africa	170,000	Food	Planned	Friis and Reenberg, 2010
Zambia	China	China	2,000,000	Jatropha	Discontinued	DPA, 2009
Zambia	D1 Oils	UK	35,000	Agrofuels	Reduced	Freim, 2008
Zambia	Chayton Capital	UK	20,000	Wheat, soya	Signed	http://www.chaytoncapital.com
Zambia	ETC Bio-Energy	Tanzania / SA	45,000	Wheat, soya, maize, jatropha	Operational	Interview
Zambia	Zambia Sugar	South Africa	27,500	Sugar	Operational	Richardson, 2010
Zambia	Mann Ferrostaal	Germany	100,000	Jatropha	Operational	Interview
Zambia	Menafea Holding	Saudi Arabia	5,200	Pineapples	Signed	Interview
Zambia	Kaidi Biofuel	China	400,000	Jatropha	Planned	Interview
Zambia	Puzzolana	India	45,000	Sugar	Planned	Interview
Zimbabwe	Int. Water and Electric Corp.	China	101,000	Corn	Signed	Görgen et al, 2009

ASIA						
Host country	**Investor**	**Investor country**	**Area (ha)**	**Land use**	**Status**	**Source**
Cambodia	Vietnam Rubber Group	Vietnam	100,000	Rubber	Unknown	Görgen et al, 2009
Cambodia	Chinese Farm Cooperation - Pheapimex Group	China	300,000	Forestry	Signed	Görgen et al, 2009
Cambodia	Marubeni Corporation		7,600	Rubber	Planned	Görgen et al, 2009
Cambodia	Rethy Investment Cambodia Oil Palm Co., Ltd (MRICOP)	Cambodia, Asia	11,000	Palm oil	Land concessions received in 1996	Görgen et al, 2009
Cambodia	JV Mittapheap-men Sarun and Rama Khmer International of Cambodia and Globaltech Sdn. Bhd. Of Malaysia	Cambodia, Asia	20,000	Palm oil	Land concessions received in 1995	Görgen et al, 2009
Cambodia	Kuwait	Kuwait	50,000	Unknown	Planned	http://www.economist.com
Cambodia	Qatar	Qatar	10,000	Agriculture	Planned	http://www.economist.com
Cambodia	China	China		Rice, grains, livestock for export to Korea	Planned	Görgen et al, 2009
Cambodia	China	China	130,000	Rice	Signed	Görgen et al, 2009
Cambodia	South Korea	South Korea	200,000	Forestry and agrofuels	Signed	Görgen et al, 2009
Cambodia	Green Rich Co. Ltd.	China	60,200	Palm oil and acacia	Implemented; right to use for 70 years	Görgen et al, 2009
Cambodia	China National Corporation for Overseas Economic Cooperation; Loadstars Development Co. Ltd.	China	8,000	Agriculture and industrial crops	Implemented	Görgen et al, 2009
Cambodia	HLH Agriculture	Singapore	10,000	Corn	Operational	GRAIN, 2009a
Cambodia	Socfin KCD	France	10,000	Rubber	Operational	ILC, 2011
Cambodia	MH Bio-energy Group	South Korea	8,000	Cassava	Operational	Üllenberg, 2009a
China	Goldman Sachs	USA		Poulty and pig farms	Implemented	Görgen et al, 2009

Host country	Investor	Investor country	Area (ha)	Land use	Status	Source
Indonesia	Bin Laden Group	Saudi Arabia	500,000	Rice	Discontinued	Görgen et al, 2009
Indonesia	KS Oils	India	34,000	Palm oil	Implemented	http://ksnr.com.sg
Indonesia	Sime Darby Bhd	Malaysia	195,856	Palm oil	Implemented	Görgen et al, 2009
Indonesia	Golden Agri Resources	Singapore	433,200	Palm oil	Operational	http://www.goldenagri.com.sg
Laos	Vietnam Rubber Group	Vietnam	100,000	Rubber	Unknown	Görgen et al, 2009
Laos	Kuwait	Kuwait	200,000	Crop production for export	Planned	Görgen et al, 2009
Laos	Japan	Japan	34,000	Food, energy, cash crops	Unknown	Görgen et al, 2009
Laos	ZTE International with Dynasty Company	China	10,000	Cassava	Under discussion	Görgen et al, 2009
Laos	Mitr Lao Sugar	Thailand	18,000	Sugar Cane	Planned	Görgen et al, 2009
Laos	Yunnan State Farms	China	166,700	Rubber	Signed	GRAIN, 2009a
Laos	HAGL	Vietnam	10,000	Rubber	Operational	Kenney-Lazar, 2011
Papua New Guinea	Wilmar	Singapore	200,000	Sugar Cane	Signed	GRAIN, 2009a
Philippines	Far Eastern Agricultural Invesment Company	Saudi Arabia	50,000	Fruit, rice, corn	Signed	http://www.mb.com.ph
Philippines	NEH Bahrain + AMA Group	Bahrain, AU	10,000	Bananas	Signed	GRAIN, 2009a
Philippines	Pacific Bio-Fields Corporation	Japan	400,000	Coconut oil	Signed	http://www.pacificbiofields.com
Philippines	Jeonman Feedstock Ltd	South Korea	94,000	Soy	Signed	ILC, 2011
Philippines	Qatar	Qatar	100,000	Unknown	Unknown	von Braun and Meinzen-Dick, 2009
Philippines	China	China	1,400,000	Unknown	Discontinued	Bagayaua, 2007

SOUTH AMERICA						
Host country	**Investor**	**Investor country**	**Area (ha)**	**Land use**	**Status**	**Source**
Argentina	Beidahuang	China	320,000	Soya, wheat, oil	Signed	GRAIN, 2009a
Argentina	Sojitz	Japan	11,000	Soya, corn, wheat	Planned	http://www.sojitz.com
Argentina	Olam International	Singapore	12,000	Peanuts	Operational	ILC, 2011
Argentina	Arumugam	Malaysia	60,000	Oil	Operational	ILC, 2011
Argentina	South Korea	South Korea	21,000	Unknown	Signed	Görgen et al, 2009
Argentina	AdecoAgro	USA	15,000	Rice	Operational	http://www.adecoagro.com
Argentina	Lumex Capital	Switzerland	50,000	Diverse	Operational	http://www.lumixcapital.com
Argentina	Glencore	Switzerland	13,335	Unknown	Operational	GRAIN, 2009a
Argentina	Pergram Finance	France/Luxembourg	8,000	Unknown	Operational	GRAIN, 2009a
Australia	Olam International	Singapore	12,000	Almonds	Operational	Olam International, 2011
Bolivia	Cresud	Argentina	7,600	Cereals	Signed	GRAIN, 2009a
Brazil	Shree Renuka Sugars	India	133,000	Sugar	Operational	GRAIN, 2009a
Brazil	Chongqing Grain Group	China	200,000	Soya	Signed	GRAIN, 2009a
Brazil	Archer Daniel Midlands	USA	18,000	Palm oil	Planned	GRAIN, 2009a
Brazil	Brookfield Asset Mgt	Canada	97,000	Sugar	Operational	http://www.brookfield.com
Brazil	Mitsui	Japan	100,000	Soya	Operational	von Braun and Meinzen-Dick, 2009
Brazil	Cosan	Brazil	128,000	Unknown	Operational	Görgen et al, 2009
Brazil	El Tejar	Argentina	405,000	Soya	Planned	GRAIN, 2009a
Brazil	Stora Enso	Sweden/Finland	257,000	Eucalyptus	Operational	http://www.storaenso.com
Brazil	Hyundai	South Korea	10,000	Soya	Planned	GRAIN, 2009a
Brazil	Macquarie Group Ltd	Australia	202,000	Soya + grain	Planned	GRAIN, 2009a
Brazil	Bunge	USA	10,000	Sugar	Planned	GRAIN, 2009a
Brazil	AdecoAgro	USA	69,000	Sugar	Operational	http://www.adecoagro.com
Brazil	Louis Dreyfus	France	30,000	Citrus	Operational	GRAIN, 2009a
Brazil	CalyxAgro	France	27,000	Soya, cotton, sugar	Operational	http://208.77.100.95/~calyxagr/portfolio_brasil.html
Brazil	Agrifirma Brazil	UK	69,000	Soya, maize	Operational	http://agrifirma-brazil.com

Host country	Investor	Investor country	Area (ha)	Land use	Status	Source
Brazil	Clean Energy Brazil	UK	7,000	Sugar	Signed	GRAIN, 2009a
Brazil	Galtere	USA	47,000	Soya + rice	Operational	GRAIN, 2009a
Brazil	Grupo Iowa	USA/Brazil	9,000	Cotton, soya, maize	Operational	GRAIN, 2009a
Brazil	Morgan Stanley	USA	40,000	Unknown	Signed	GRAIN, 2009a
Brazil	Quifel Natural Resources	Portugal	50,000	Palm oil	Operational	GRAIN, 2009a
Guinea	Nuove Iniziative Industriali SRL	Italy	700,000	Jatropha	Signed	http://www.bloomberg.com/news/2010-08-04/italian-biofuels-project-arouses-opposition-from-kenyan-environmentalists.html
Paraguay	Cresud	Argentina	20,000	Cereals	Signed	GRAIN, 2009a
Uruguay	Stora Enso	Sweden/Finland	256,000	Eucalyptus	Planned	http://www.storaenso.com
Uruguay	New Zealand Farming Systems	NZ	36,300	Dairy	Operational	GRAIN, 2009a
Uruguay	Pergram Finance	France/Luxembourg	32,000	Unknown	Operational	GRAIN, 2009a

FORMER SOVIET UNION						
Host country	**Investor**	**Investor country**	**Area (ha)**	**Land use**	**Status**	**Source**
Russia	Black Earth Farming	Sweden	323,000	Wheat	Operational	http://blackearthfarming.com
Russia	Hyundai	South Korea	50,000	Soya, maize	Operational	Visser and Spoor, 2011
Russia	Israel	Israel	1,500,000	Food, cattle	Requested	GRAIN, 2009a
Russia	Alpcot Agro	Sweden	161,000	Unknown	Signed	GRAIN, 2009a
Russia	Trigon	Denmark	100,000	Unknown	Signed	von Braun and Meinzen-Dick, 2009
Russia	Heilongjiang Province	China	426,667	Food	Signed	GRAIN, 2009a
Russia	Monk Group	UK	27,000	Food	Operational	GRAIN, 2009a
Russia	AGRICO Ltd	Russia/Israel	100,000	Food	Operational	Visser and Spoor, 2011
Russia	Agrowill AB	Lithuania	35,300	Unknown	Operational	Visser and Spoor, 2011
Russia	Appleridge	UK	27,462	Unknown	Operational	Visser and Spoor, 2011
Russia	Anninskoe	UK	6,408	Unknown	Operational	Visser and Spoor, 2011
Russia	Ekoniva Agro	Germany	13,359	Unknown	Operational	Visser and Spoor, 2011
Russia	Ivolga Holding LLC	Kazakhstan	666,850	Unknown	Operational	Visser and Spoor, 2011
Russia	MTS Agro-Service	Estonia	11,994	Unknown	Operational	Visser and Spoor, 2011
Russia	Redland Farms	Switzerland/Sweden	180,000	Unknown	Operational	Visser and Spoor, 2011
Russia	Vostok Agro	USA	15,914	Unknown	Operational	Visser and Spoor, 2011
Russia	Vostok Zernoprodukt	Sweden	125,330	Unknown	Operational	Visser and Spoor, 2011
Russia	Yuznaya	UK	9,396	Unknown	Operational	Visser and Spoor, 2011
Ukraine	Libya	Libya	100,000	Unknown	Signed	von Braun and Meinzen-Dick, 2009
Ukraine	Morgan Stanley	USA	40,000	Unknown	Signed	von Braun and Meinzen-Dick, 2009
Ukraine	Landkom	UK	100,000	Unknown	Signed	von Braun and Meinzen-Dick, 2009
Ukraine	Renaissance Capital	Russia	331,000	Unknown	Implemented	Görgen et al, 2009
Ukraine	AgroGeneration	France	120,000	Cereals	Implemented	GRAIN, 2009a
Ukraine	Origin Enterprises	Ireland	20,000	Food	Operational	GRAIN, 2009a

Host country	Investor	Investor country	Area (ha)	Land use	Status	Source
Ukraine	Alpcot Agro	Sweden	161,000	Unknown	Operational	Visser and Spoor, 2011
Ukraine	Maharishi	Japan/Austria	50,000	Unknown	Operational	Visser and Spoor, 2011
Ukraine	ESV Group	UK	12,000	Food	Operational	http://www.esvgroup.com