



Universiteit Utrecht

ENVIRONMENTAL SUSTAINABILITY IN THE SUGAR SECTOR OF MOZAMBIQUE

APRIL VAN DELDEN

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“I feel like a bride who has bought her wedding dress and is now waiting at the altar for the groom.”

Female farmer, 37 years old

“When you are outside and it rains, you will get wet. But when you are in a house that has holes in it, you still get wet but it does protect you a little bit from the rain. So, it is not worse now than before, and it is better than nothing.”

Male farmer, 64 years old

EXECUTIVE SUMMARY

Around the world, investors are looking for “empty” lands to produce food and other resources for their home country. Unfortunately these lands are often not empty, and local land owners are displaced and lose their land to the investors. This process of informal land acquisitions is called “land grabbing”. The academic debate on the subject has created wider public attention and ways of minimizing the negative impact of land acquisition have been considered. Contract farming is one of the proposed solutions. In the case of contract farming, the farmers sign a contract with the large-scale investor to grow and sell the specified crop. A win-win situation is created in which farmers have secure markets, can earn an income and find employment with the investor, whereas the company can expand the land without getting involved in land issues and obtain a certain supply of inputs. However, this contract farming scheme can only be responsible when mutual trust and respect between the two parties is present.

In order to provide for the growing world population and not deplete the resources of the planet, a sustainable way of producing agricultural products is required. The Brundlandt Commission recognized this need in 1987, when it defined sustainable development as *“development that meets the needs of the present without compromising the ability of future generations to meet their own needs”*. Little research has been done on whether contract farming implements sustainability practices, nor on the impact of flex crops (like sugarcane) on social relations, capital accumulation and power relations. This study investigates the link between the production of sugarcane in contract agreements and environmental sustainability. The research was carried out in the Manhiça District in Southern Mozambique, and focusses on two sugar companies and four farmers’ associations that grow sugarcane for them.

The aim of this research is to investigate the mechanisms of empowerment local farmers might access to address sustainability issues in large-scale investments. In order to do so, contracts between companies and farmers, issues of sustainability in sugarcane production, power relations and trust, and food security have been investigated. This research found that the situation in Manhiça District is far from perfect, and this has been acknowledged by both sugar companies. Contracts are often not clear, if they are provided at all. There are issues of transparency, trust and unequal divisions of risks and benefits as identified by the farmers. Little experience with the cultivation of sugarcane has left the farmers with no knowledge of the environmental impact of sugarcane production. This paper concludes with a list of recommendations to improve the situation for farmers and companies, and to prioritize sustainable agriculture and responsible contract farming.

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LIST OF ABBREVIATIONS

ACP	African, Caribbean and Pacific countries
APAMO	Associação de Produtores de Açúcar de Moçambique (Association of Sugar Producers in Mozambique)
ARA-Sul	Administração Regional de Águas do Sul (Mozambique Regional Administration of Waters in the South)
BMP	Better Management Practices
CEPAGRI	Centro de Promoção da Agricultura (Centre for the Promotion of Agriculture)
DUAT	Direito de Uso e Aproveitamento da Terra (Right to Use and Develop Land)
EBA	Everything But Arms
EU	European Union
FAO	Food and Agriculture Organization, United Nations
FGG	Fair, Green and Global Alliance
GMO	Genetically Modified Organism
GOM	Government of Mozambique
IFI	International Financial Institution
IMF	International Monetary Fund
ISO	International Organization for Standardization
MCP	Mill Company Plant
MSSDP	Maragra Small-holder Sugarcane Development Project
MZN	Metical, currency of Mozambique
NADEC	Núcleo Académico para o Desenvolvimento da Comunidade (Academic Centre for the Development of the Community)
NGO	Non-governmental organization
ORAM	Associação Rural de Ajuda Mútua (Rural Association for Mutual Aid)
SAP	Structural Adjustment Program
SME	Small and medium sized enterprises
UDACAM	União Distrital das Associações dos Camponêses de Manhiça (District Union of Farmers' Association in Manhiça)
UN	United Nations
UNAC	União Nacional das Associações dos Camponêses (National Union of Farmers' Association)
USD	United States Dollar
WB	World Bank
WWF	World Wildlife Fund

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SOURCE: (ICRISAT)

1. INTRODUCTION

The global rush for land has been increasing since the international crisis of 2008, when there was an emergency situation in terms of food, energy, finance and the environment (Borras Jr, Hall, Scoones, White, & Wolford, 2011; Robertson & Pinstруп-Andersen, 2010; Zoomers, 2010). This phenomenon is called “land grabbing”, and is generally referred to as “*the large-scale purchase or lease of farmland in natural resource-rich developing countries*” (Robertson & Pinstруп-Andersen, 2010, p. 271). Capital-rich countries started to look for “empty” and affordable lands in order to safeguard food production for their domestic markets. Among the actors who are involved in acquiring large areas of land are upcoming economies like China and Brazil, the capital-rich Gulf States, and investors looking for new, relatively safe and profitable investments. Emerging economies and capital-rich countries are looking for land to produce food and other resources for their domestic markets. The investors see land acquisitions as relatively safe investments during the ongoing financial crisis, in which other investments have been shown not to hold their value.

Globalization and the pressure of a growing population have accentuated the growing demand for land and commodities. A sustainable method of production is needed in order not to deplete the planet of its limited resources, whilst supplying the growing population with food and other resources. The need for sustainable development was recognized by the Brundtland Commission in 1987. The report, “Our Common Future”, included the following definition of sustainable development; “*development that meets the needs of the present without compromising the ability of future generations to meet their own needs*” (Brundtland Commission, 1987). Furthermore, since part of the land that is acquired is used as a production site for biofuels or climate mitigation projects, the sustainability aspect deserves a more prominent role in the contract farming and “land grab” debate.

Within host countries, the debate around land acquisitions has both fierce proponents and opponents. Proponents see the acquisition of land as a development opportunity, since theoretically the investments in land can lead to more employment opportunities, development of the land market, macro-economic growth and increased productivity (German, Schoneveld, & Mwangi, 2013). Consequently they believe these developments could lead to more employment, more food security, better future prospects, and a prospering local market. However, others oppose this view and argue that the livelihoods of the rural poor are at risk as land acquisitions create unacceptable working conditions and decreased food security (Borras Jr. et al., 2011; German, Schoneveld, & Mwangi, 2013). This view is supported by Robertson & Pinstруп-Andersen (2010, p. 276) who have identified the potential risks of global land acquisitions as being irreversible environmental degradation, loss of livelihoods and indigenous farming knowledge, host country food insecurity and economic dysfunction as a result of “suffering the natural resource curse”.

Establishing codes of conduct and better (international) governance structures are suggested as mechanisms for monitoring large-scale land acquisitions so as to protect the local communities from losing their land. However, another way of achieving this is to involve the local population in the business process. Some of the large-scale agricultural enterprises apply an “inclusive” business model, which is

designed to let the local communities participate and benefit from changes in agricultural production models. One of these methods is to include the local farmer in contract farming. The cooperation of growers and processors of agricultural products should ideally lead to a “win-win” situation for both parties involved. More specifically, contract farming ought to promote agricultural production and guarantee a secure market for the commodity at hand. The envisioned benefits are twofold; farmers should be able to earn revenue, whilst buyers should obtain a return on investment (FAO, 2012). However, this “win-win” situation can only occur if the mutual benefits of both parties are included in the contract. Imbalances in market power, opportunistic behaviour or unfair practices can lead to a negative outcome for either one or both parties. Unfortunately, uneven power relations tend to favour big corporations and governments rather than the local, less empowered population.

The FAO (Food and Agriculture Organization of the United Nations) guidelines for responsible contract farming operations elaborate on the features that should be included in the contracts to make them successful (FAO, 2012). These include aspects of fairness which ensure that both parties know their rights and responsibilities. However, the matter of sustainability is not mentioned anywhere in the document. This is noteworthy for at least two reasons. Firstly, sustainability is a recurrent theme in the FAO publications on agriculture. Hence it would make sense if the topic was included in the contracts with farmers. Secondly, climate change is recognized as a global problem by FAO and others, and is a frequently researched topic. Nonetheless, there seems to be no room for the issue in the guidelines for *responsible* (my emphasis) contract farming.

2. THEORETICAL FRAMEWORK

Over time, the demand for land has led to conflicts all over the world. The phenomenon is not a new one, and recent crises in the world have increased the search for land suitable for agriculture. This chapter will introduce holistically the concept of “land grabbing” for agricultural purposes and ways to regulate the acquisition of land using responsible and sustainable practices. Subsequently, the production of flex crops, as a way to increase the revenue stream, and the concept of contract farming to include the local population in the supply chain, are presented. When executed well, equitable contracts for commercial farming could potentially lead to achieving environmental sustainability as well as socio-economic development. Next, it links the concept of “land grabbing” for agricultural purposes to both the environmental consequences and possible solutions to reduce the impact of the practice on the environment. These outcomes can be obtained by the use of environmentally sustainable agricultural practices, which also have a positive impact on food security. However, the disparity in the amount of power between the parties who signed the contract can diminish the positive outcomes. Therefore, the concept of power is explained in the context of the theory of access and agency.

LAND GRABBING

A widely used definition of “land grabbing”, which is also applied in this research, is established by the Tirana Declaration. During a conference on land regulations and land rights in May 2011, governments, international organisations and civil society groups participated and agreed upon a definition of “land grab” (ActionAid International, 2014).

A “land grab” is defined as a land deal *“that is one or more of the following:*

1. *In violation of human rights, particularly the equal rights of women;*
2. *Not based on free, prior and informed consent of the affected land-users;*
3. *Not based on a thorough assessment, or are in disregard of social, economic and environmental impacts, including the way they are gendered;*
4. *Not based on transparent contracts that specify clear and binding commitments about activities, employment and benefit sharing, and;*
5. *Not based on effective democratic planning, independent oversight and meaningful participation”* (Landmatrix.org, 2016a).

A land deal is defined by the Land Matrix as; *“an intended concluded or failed attempt to acquire land through purchase, lease or concession that meets the criteria defined below.*

1. *Entail a transfer of rights to use, control or ownership of land through sale, lease or concession;*
2. *Have been initiated since the year 2000;*
3. *Covers an area of 200 hectares or more;*
4. *Imply the potential conversion of land from smallholder production, local community use or important ecosystem service provision to commercial use”* (Landmatrix.org, 2016b).

Globalization, the spread of the neoliberal model across the world and the internationalization of global land markets have enhanced the global land rush (Alden Wily, 2011). Furthermore, the realization of a potential future global crisis made powerful investors look for “empty” land, to be less dependent on others for their food, fuel and commodities (Borras Jr, Hall, Scoones, White, & Wolford, 2011). Rich investors outsource their production to countries where land and labour are cheap. According to Landmatrix.org (2016a) the top 6 target countries are South Sudan, Papua New Guinea, Indonesia, Sudan, Democratic Republic of Congo and Mozambique. This, however, is not new. Colonialization and the International Division of Labour preceded the current global “land grab”.

Alongside the growing demand for land, enabling conditions in target countries foster the acquisition of land on the supply side. One such factor is that governments in the Global South have adopted a liberalized trade and investment regime as a result of the Structural Adjustment Programs (SAPs) of the IMF and the World Bank in the early 1990s (German, Schoneveld, & Mwangi, 2013). The Government of Mozambique is no exception (Cunguara & Hanlon, 2012). These programmes resulted in smaller governments and favourable investment climates. This makes it easier for foreigners to get involved in land deals. Additionally, many developing countries have experienced a decrease in development aid because of the global financial crises which resulted in budget deficits, and reinforced the need to find alternative sources of funding; foreign investors are providing just that (Robertson & Pinstrip-Andersen, 2010). Furthermore, as stated previously, host governments are motivated to engage in large-scale land deals because of the prospect of the development of the agricultural sector by the foreign investors (Vermeulen & Cotula, 2010). Nevertheless, there is a remarkable paradox in the assumption that large and powerful investors, instead of the government, are the actors through which a country should develop. In the end, the aim of a company is to make a profit, and not to provide social services to the population of a foreign country.

The World Bank initiated a way of regulating land deals by the application of the “Principles of Responsible Agricultural Investments”, or RAI principles. The motivation of the World Bank to implement these is to decrease the risks for local people of being disrupted, displaced or disposed (Borras Jr, Fig, & Monsalve Suárez, 2011). However, the principles, which can be treated as a mere checklist for governments in making land deals, do not solve the underlying problems (De Schutter, 2011). Polanyi described in 1944 that the commodification of land, labour and money would result in the demolition of society (Cotula, 2013b; De Schutter, 2011). The global land acquisitions foster this process, and the guidelines alone would not help to stop that. If planners overlook the cultural and spiritual values of land, and reduce it to a commodity that is used for production and trade, then the result is an agrarian transition leading to a loss of indigenous farming and a decrease in livelihoods for the rural population. Instead of focussing on voluntary guidelines, De Schutter (2011) proposes that both governments and investors accept responsibility for their human rights obligations. Without this, the agricultural transition cannot become

truly responsible or sustainable. Sustainability can only be achieved when the benefits of agricultural investments are distributed to the poor in the South, so as to reduce hunger and malnutrition. Whilst investments are used to increase the richness of the North and to aggravate hunger and malnutrition in the South, sustainability cannot be achieved (De Schutter, 2011). Hall (2011) questions the intentions of the financial and development institutions, whose true incentive seems to be to maintain the procedures around “land grabbing”. Like De Schutter (2011), she suggests that the whole paradigm of “land grabs”, and manner in which this influences the direction of agrarian change, should be questioned.

Research suggests that the negative impacts of farmland acquisitions might outweigh the possible positive impacts. The Oakland Institute (2011) states that while investors promise to increase employment opportunities, they do not keep their word. Other commitments from investors can be to improve infrastructure and to create the opportunity for foreign exchange. However, it is only when the host government establishes and enforces the local investment and taxation policies, that this can lead to economic development (Robertson & Pinstrip-Andersen, 2010). A recognized problem is that the promotion of large-scale investments in land may, in the long run, lead to serious challenges to the livelihoods of the rural poor. These people are often dependent on the land to secure their livelihoods and are prone to lose it all to investors. Current research suggests that the benefits and risks are unevenly divided between the investors and the local community. However, potential benefits might materialize under the right circumstances (Robertson & Pinstrip-Andersen, 2010). These benefits go beyond economic and social benefits, but should include environmental sustainability. Margulis, McKeon, & Borras Jr. (2013) also stressed the importance of investigating global land acquisitions in more detail so as to get a better understanding of the phenomenon and its social, economic, environmental and political impacts.

SUGARCANE AND CONTRACT FARMING

The increased commodification of the agricultural sector and its products, plus the increased demand for natural resources (food, feed, fuel, etc.), has given the agricultural sector an impulse to increase return on investments (McKay, Sauer, Richardson, & Herre, 2016). The use of flex crops on plantations is a way to increase the revenue stream. Flex crops are those that can be used to produce more than one final commodity. Therefore, investors can increase their revenue by responding quickly to changes in the market prices of the different commodities that can be produced from the cultivated flex crop. Sugarcane is such a flex crop; with sugar and ethanol, a base for biofuels, as two of the products that can be derived from it. In fact, sugarcane is the world’s largest crop in terms of production quantity, with a total weight of 2.16 billion tonnes in 2013. This is a total weight that is more than twice that of maize which is the second largest agricultural crop (FAO, 2014, as cited in McKay, Sauer, Richardson, & Herre, 2016). Landmatrix.org (2016c) has constructed a list of land deals that have sugarcane as the intended crop for cultivation. A total of 88

cases worldwide are listed, with a total surface of 1.807.709 ha of land. This is equivalent to 2.5 million football fields, or 4 percent of the surface of the Netherlands¹.

The worldwide demand for biofuels has increased over recent years. The prices of fossil fuels and their finite availability, as well as the impact of the use of fossil fuels on the climate, have made governments change their policies in the direction of renewable energy and biofuels. There are several potential benefits for developing countries resulting from growing biofuel products, such as incentives for investments in agricultural research and development, a new source of income for farmers, stimulation for linkage and food markets that are currently non-existent, and self-sufficiency in energy needs (Schut, Slingerland, & Locke, 2010). The Mozambican government started promoting biofuel production to make Mozambique an oil exporting country in 2004. The government stated the following: *“Biofuels will not displace Mozambican farmers from their lands, and the government policy would require the use of underutilized or empty lands, would avoid using lands allocated for food production, and that Mozambique will refine its own raw materials”* (Frontier Markets, 2008, as cited in Schut, Slingerland, & Locke, 2010, p.5152). However, rising concerns about issues of land, water, food production and a lack of control arose in discussions between government, NGOs, the private sector and academics. The result was a freeze in large-scale land requests between October 2007 and May 2008, in which the government carried out agro-ecological land zoning in order to identify the plots of land available for foreign investments (Schut, Slingerland, & Locke, 2010). In 2009, the Government of Mozambique adopted a new biofuel policy in which the industry is still promoted, but negative outcomes are limited (Hall, 2011). However, as of today, no biofuel production investment is realized, and the sugarcane plantations that are investigated in this research grow the sugarcane to produce sugar.

An often-mentioned potential benefit of large-scale land acquisitions is that the local communities can benefit in the form of employment. However, the very nature of sugar production sites is that these are big blocks of land that are mostly industrialised, and require little manual labour (Hall, 2011). Yet, as an alternative to the large-scale land acquisitions and industrialised cultivation, the concept of inclusive business models does incorporate the local community in the production of agricultural products on a large scale. A business model *“describes the rationale of how an organization creates, delivers, and captures value”* (Ostwalder & Pigneur, 2010, as cited in Veldwisch, 2015, p.1004). The additional *“inclusive”* refers to the sharing of the added value of the operations along the value chain. Examples of these inclusive business models are contract farming, share cropping and joint ventures (Veldwisch, 2015). Warning & Soo Hoo (2000, p.1) define contract farming as *“the vertical integration between growers of an agricultural product and buyers or processors of that product”*. In the debate around large-scale land acquisitions, contract farming is brought forward as a means to improve the situation of the local community. However the distribution of

¹ This information was obtained on 02-02-2016; on 11-07-2016 the total surface that is acquired for the production of sugarcane is 2.940.767 hectares over a total of 94 cases. This is an increase of more than 1.1 million hectares in less than six months.

ownership, risk, voice and reward between the investor and the contracted party explain the extent to which a particular contract is actually inclusive and therefore beneficial for both parties. This aspect of the contracts, the actual terms, the distribution of benefits and risks and the degree of fairness, is doubted by both scholars (Borras Jr, Fig, & Monsalve Suárez, 2011 & Veldwisch, 2015, Warning & Soo Hoo, 2000) and NGOs². These contracts between out-growers and companies come with privileges and obligations. On the one hand, contracts may provide production inputs, credits and extension services. On the other hand, contracted parties have market obligations such as method of production and quantities and product quality that must be delivered.

Even though it is not the proposed paradigm shift of De Schutter (2011), the inclusion of farmers in the business model might have beneficial outcomes for both farmer and company. Opinions are divided on the benefits of the concept of contract farming. Some see contract farming as a potential substitute for the state in providing inputs and services to the growers as part of the neoliberal reforms in the sector (Veldwisch, 2015), others see contract farming as a tool for multinational agro-industrial firms to exploit unequal power relationships with growers (Warning & Soo Hoo, 2000).

ENVIRONMENTAL SUSTAINABILITY

Competing claims on land, water, labour and other resources are results of “land grabbing”. Both socio-economic and environmental problems are consequences of this tension. The environmental impacts of large-scale agriculture production appear in several forms. One aspect of these environmental impacts is that the claims on land for the cultivation of crops result in land transformations. Vegetation needs to be cleared in order to make space for the crops, and this poses a threat to biodiversity. A characteristic of large-scale agriculture is mono-cropping, which can result in lower fertility of the soil, deforestation and extensive water usage (German, Schoneveld, & Gumbo, 2011). Nevertheless, plantations can also have positive impacts on land use, since degraded plots of land can be rehabilitated and therefore have a positive impact on ecosystem functioning (Joly, et al., 2015). Hence, applying a sustainable agricultural model in large-scale agriculture is highly relevant in order not to deplete the resources and allow use of the land over a longer period of time. Aerni (2009) states that growing a diversity of crops could lead to an agricultural model that is based on a systems perspective. Food security, the impact of the agriculture on the local ecological systems and the global environment are thereby taken into account. This way of producing agricultural products is termed “sustainable agriculture”.

Seventy countries in the world are producing sugar from sugarcane, covering 80 percent of the total sugar production of 180 million tonnes per year (Sucres & Denrées, 2016). Sugarcane has specific impacts on the environment, which are “*degradation of wildlife, soil, air and water where sugarcane is produced and of downstream ecosystems*” (WWF, 2004, p. 4). These are caused by the intensive use of water, use of agro-

² Conversation with Dakcha Acha, ActionAid Mozambique, Maputo, 16-02-2016

chemicals, discharge and runoff of polluted effluent and air pollution from the burning of cane before harvesting. Even though the causes and impacts of the production of sugarcane are common to agriculture, the degree of severity of some impacts of sugarcane production present reasons for concern. The first is high water usage in growing sugarcane, potentially leading to a shortage of water for human consumption (De Vries, Van de Ven, Van Ittersum, & Filler, 2012). More specifically, 1,782 litres of water is used to produce 1 kilogram of sugar from sugarcane, compared to 214 litres of water for a kilogram of tomatoes or 790 litres of water for a kilogram of bananas (Water Footprint Network, 2016). The second is pollution runoff in the form of the discharge of effluents from sugar mills and the processing of by-products like molasses. As a result, biodiversity in downstream freshwater sources decreases because of suffocation caused by the pollution (WWF, 2004).

Even though there are concerns about the sustainability of the sector, the World Wildlife Fund (WWF) (2004) lists Better Management Practices (BMPs) that can be used to make the process of growing sugarcane more environmentally sustainable. Among these practices are efficient irrigation systems, moderation of chemical usage, maintenance of soil health, reduction of pollution, farm planning, protection of natural habitats and the use of by-products. The implementation of sustainable agriculture can have positive financial results for both the miller and the farmer of sugarcane. Higher yields, longer use of quality soil, reduced inputs and an enhanced quality of production can be obtained by using these practices. With respect to water, there are positive aspects also. Farm productivity is likely to increase because less water is needed for the crops. The saved water is beneficial for both communities and the environment and could also be used for other activities, like fisheries and ecotourism, thereby paving the way for increased socio-economic development.

Contract farming could contribute to sustainable agriculture if farmers have the knowledge and the opportunity to apply an integrative systems approach. The implementation of such an approach allows the farmers to sustainably produce food crops along with commercial crops. Monetary income can be used to supplement their diets or as a buffer in times of scarcity. If the farmer makes use of sustainable agricultural practices, the quality of the land could be higher and yields can increase. Therefore, one of the elements that should be included in the contracts is how the company envisions its role in environmental sustainability, and how individual farmers can influence sustainability practices. A contract or agreement is however not enough. Risks and benefits need to be divided equally between the parties, and clear mechanisms to solve disputes between the company and farmer need to be included, as explained in the guidelines for responsible contract farming operations from FAO (2012). When an equitable contract is not established, the *“conditions that are stipulated in a contract farming agreement are detrimental to the interest of either partner”* (FAO, 2012, p. 1).

POWER RELATIONS

Additionally to the effects of large-scale farmland investments on biodiversity and the environment in general, the question arises of how large-scale farmland investments can be sustainable and lead to equitable development (Schoneveld, 2013). A comparative study between Ethiopia, Ghana, Nigeria and Zambia shows that there is some doubt that sustainable and responsible agricultural investment can be achieved. Local costs were high and benefits inadequate, so livelihoods could not be reconstructed sufficiently after the investments made in these cases. Furthermore, the ability of the host countries to govern the investments is uncertain. Both the content of the law and the ability to implement and enforce the law are put in doubt (Schoneveld, 2013). Moreover, the research pointed out that there are structural institutional issues which result in insufficient protection given the customary rights of the communities.

The distribution of benefits and risks is closely related to the power that certain people can and cannot execute. Cungiara & Hanlon (2012) describe the importance of better understanding the intentions and actions of the actors, even though their issues might not be clear from the start. Influential actors are able to use their power in a way that benefits them most. Hanlon (2004) argues that the donors and financial institutions have the most power, and pursue their own agendas through the governments of developing nations. In this way, issues of corruption and powerful parties pushing their own agendas arise. Other holders of power are the local elites, governments and investors and this is disproportionate, especially when compared to the power held by local communities. Hall (2011, p. 206) refers to these imbalances of power in her research on “land grabbing”. She argues that *“poor local communities have been pitted against global capital, with local, provincial and national state authorities playing ambiguous, sometimes contradictory roles”*. Alden Wily (2011) makes this point too, stating that the interests of the local elites and international actors are aligned, that these powerful people take advantages of the law and that the terms of the deals are potentially unfair. Yet, the rural poor are not a homogeneous group of people. Poor communities are more likely to suffer because of their dependency on the land, whereas the local elites are better able to benefit or even facilitate the land deals. The influence of the investors is also recognized in conversations with local elites³, in which influential local people in Mozambique name family vacations to South Africa as an example of a returned favour in negotiations about land. Vermeulen & Cotula (2010) also stress the power imbalances in negotiations.

German, Schoneveld & Mwangi (2013) emphasize human agency as an important aspect in understanding the motivations of the different actors in the land allocation process. A major concern in their research was the role of government actors, whose identified interest is to promote the land investments and who have a position of power in the negotiations of the land deals. Human agency is also relevant in the context of contract farming. Both the company and the farmer are part of the deal. However, uneven power relations can direct the benefits and the risks of the contract to the other party. Therefore, a

³ Interview with Danny Wijnhoud, ActionAid Netherlands, Amsterdam, 08-01-2016

highly relevant concept in this research is that of empowerment. According to Batliwala (1994: p. 130), as cited in (Parpart, 2014, p. 408) empowerment must be seen as *“the process of challenging existing power relations and of gaining greater control over the sources of power”*. Within the scope of this research this applies to the ability of the local farmers to address sustainability issues before, during and after establishing a contractual relationship with a sugarcane company. Understanding power and empowerment can clarify why some people or institutions can benefit more or less than others, and whether they can speak up for themselves or against issues that can negatively affect them. One method to assess power relations is the “Theory of Access” from Ribot & Lee Peluso (2003, p. 156). “Access” is defined as *“the ability to benefit from things – including material objects, persons, institutions and symbols”*. Access is a broader perspective than rights, and can therefore include a *“wider range of social relationships that can constrain or enable people to benefit from resources without focusing on property relations alone”* (Ribot & Lee Peluso, 2003, p. 156).

Differences in power relations are relevant on international, national and local scale. The FAO (2012) stresses the importance of trust and respect to make a contractual relationship successful. Differences in power are included in their guidelines for responsible contract farming. Fairness, transparency, openness and clear mechanisms to settle disputes all mitigate the initial power differences that can result in an uneven division of benefits and risks. On paper the guidelines address power relations, however, sustainability issues are not included. Furthermore, the question remains how these guidelines are translated into practice. As previously stated, Robertson & Pinstrup-Anderson (2010) argue that under the right circumstances potential benefits for the rural poor might materialize from large-scale land acquisitions. These benefits go beyond economic and social benefits, and should include environmental sustainability. Within the aim of the research this study investigates to what extent this holds true for sustainability issues at the farm level. Do farmers have the ability to speak up against other actors, in order to benefit from the contract whilst not harming the environment? Also are the means to do so, such as knowledge, money and machinery, available to them? Current research about power relations suggests that the benefits and risks are unevenly divided between the investors and the local community. However, little has been discussed about how sustainability is ensured within contract farming at farm level, and whether local farmers have the power to address sustainability when they are under contract with large-scale agricultural companies.

RESEARCH OBJECTIVE AND QUESTION

Whilst much research is carried out on topics such as food security, rights, governance and rural development in combination with contract farming, little research focuses on contract farming and sustainability. The impact of flex crops on social relations, capital accumulation and power relations have also not been studied in detail, and leaves room for further exploration (Borras Jr., Franco, Isakson,

Levidow, & Vervest, 2015). This study investigates the link between the production of sugarcane in contract agreements and environmental sustainability. The aim of this research is to investigate the mechanisms of empowerment local farmers might access to address sustainability issues in large-scale investments. The research focusses on the inclusion of sustainability issues in the contracts that are in place at sugarcane plantations in the Manhiça District in the South of Mozambique. The inclusive business model of contract farming requires that attention be given to the importance of power relations and whether the mechanisms of empowerment are available to contracted farmers that they might speak out to achieve desired outcomes. The terms and conditions of the contracts are one of the aspects of interest that can help to provide insights as to the division of power between the different actors. Divisions of power are expected between the various actors, and provide an insight into the importance of power relations in decision-making. Since many farmers are dependent on subsistence farming for food provision, attention is given to the impact of being contracted as an outgrower and the availability of food. Furthermore, sustainable agricultural practices do not only apply to the cultivation of sugarcane, but also to food crops. In order to investigate the above, the following research question is formulated:

“Does contract farming, as currently promoted by large-scale land investors, address environmental sustainability?”

The first aspect in this research question is contract farming. Power relations and mechanisms of empowerment are important facets of working on a contract basis for a sugar production company. These have their influence on the ability of the farmer to challenge the company and achieve the desired outcomes. The mechanisms of empowerment are expected to differ for the various actors, and an analysis on what the differences between the mechanisms and actors are, provides an insight into the importance of power relations in decision-making. The second aspect in the research question is sustainability in large-scale investments. As previously mentioned, sustainability in this situation is described as *“the reconciliation of environmental conservation, social equity, and economic objectives in a way that human rights are vindicated”* (Schoneveld, 2013). However, the focus of this research shall be primarily on environmental sustainability. Therefore, the environmental awareness of sugarcane plantation management and local farmers is a central element, as well as their willingness and ability to address the issues identified by them.

The subsequent questions guide the answering of the main research question:

1. *What are the sustainability issues identified by the different actors involved in the sugarcane sector and how are these addressed?*
2. *To what extent does the contract system address the environmental impacts of sugarcane plantations in Manhiça?*
3. *Who are the different parties involved in dealing with sustainability issues and how do they stand in conjunction with each other in terms of risks, benefits and power?*
4. *How equitable are the contracts used by the sugarcane plantations Açucareira de Maragra and Açucareira de Xinavane?*

3. COUNTRY INFORMATION MOZAMBIQUE

Mozambique is situated in Eastern Africa and has a surface area of 801,590 square kilometres (United Nations, 2015). Tanzania, Zambia, Malawi, Zimbabwe, Swaziland and South Africa are at the land borders of Mozambique. The Mozambique Liberation Front, Frelimo, started the war of independence from Portugal in 1964. In 1975, the war for independence was fought, and Mozambique became independent (BBC, 2015). Two years later, the civil war between Frelimo and RENAMO, an anti-communist group sponsored by the apartheid government of South Africa and Rhodesia (now Zimbabwe) broke out. The population of Mozambique has suffered during the years of the civil war, which ended in 1992. A million people have died (Foreign Policy, 2016), houses were burnt, cattle killed and infrastructure was demolished. Much of the economic potential was destroyed and the country became poorer and poorer⁴. Frelimo was a socialist party, which won the elections after the civil war, and attempted to govern Mozambique accordingly. However, managing the state farms that should have led to a prospering agricultural sector failed (O'Laughlin, 2015). The Cold War made it hard for socialistic Mozambique to recover from their losses made during their civil wars. Donor strikes during the 1990s withheld food aid from Mozambique in order to make the government agree with the terms of the adjustment program. The international sanctions finally resulted in a change of direction for the government. During the mid-1980s, the structural adjustment programs from the IMF and World Bank were implemented, resulting in a transition from a socialist to a capitalist regime (Cunguara & Hanlon, 2012). However, the current policy of free markets and a retreating government have not resulted in agricultural growth and a green revolution, as was intended by these neoliberal policies.

Mozambique has a good climate for agriculture as well as land and water resources, which makes it an interesting target country for foreign investors. As indicated above, the government saw foreign investments as a way forward for rural development. Even so, the agricultural sector is not creating the prosperity it could as a result of the policies executed by donors and international financial institutes (IFIs) (The Oakland Institute, 2011). The Oakland Institute (2011) investigated the land deals in Mozambique and states that between 2005 and 2010 15,272 land concessions were granted, mostly to Mozambicans, which is equivalent to 2.5 million hectares. A total of 1 million hectares was granted to foreign investors, of which 13 percent was intended for agrofuels and sugar. Land is often the only source from which rural people can make a living, and they are anxious about giving it up. Companies have been known to “grab land” in the past, and conflicts have taken place in Manhica District⁵. Smallholders did not believe the promises of money and prosperity made by the sugar companies in Manhica at the beginning, but are now participating in the schemes willingly. In order to safeguard their ownership of the land, individuals or associations can

⁴ Interview with João Jeque, APAMO, Maputo, 04-05-2016

⁵ Interview with Sergio Samoge, SDAE, Manhica, 14-04-2016

apply for a DUAT, *Direito de Uso e Aproveitamento da Terra* (Right to Use and Develop Land). With this document the formal occupation and protection of that land right is secured.

Even though Mozambique is a promising country with respect to agricultural production, it is also vulnerable to the effects of climate change. The geographic location of Mozambique exposes the country to extreme climatic events. Droughts and cyclones are an increasing problem for the population (FAO, 2013). These events hit the population hard, especially for those living in extreme poverty. Since half of the government budget consists of foreign aid, there are restrictions on the investment options for the government. The sectors that are mostly invested in are those of education and health. However, the environment and other investments intended to improve the lives of the people are less targeted. In 2009, 79.3 percent of the people lived in multi-dimensional poverty (UNDP, 2013). This means that these people suffer from deprivations in education, health and other living conditions. Even though poverty reduction is an important aim of the Government of Mozambique (IMF, 2011), it is crucial to be aware of the sustainable use of natural resources and conservation of the environment, especially since many people depend on the environment and natural resources for their livelihoods⁶. The FAO (2013) stresses the importance of addressing environmental concerns in order to realize sustainable production, food security and economic growth. The negative impacts that the depletion of natural resources and the degradation of the environment can have is an increase in poverty levels, which in turn can aggravate environmental degradation. Furthermore, the dependence of people on the land, for example in the case of subsistence farming, makes them even more vulnerable to climate risks. Access to water is found to be one of the most prevalent problems according to the FAO (2013).

⁶ 31,9 percent of the population in 2014 is classified as urban by the United Nations (UN) (2015), meaning that two thirds of the people live in rural areas

4. RESEARCH OUTLINE

In this chapter the outline of the research is presented. The chapter starts with an elaboration on the methodology that is used to conduct the primary data collection in Mozambique. This includes the research strategy, an introduction to the host organizations, the selection of the research area, sampling frame and sampling method, the actual data collection and data analysis. Then, the challenges and limitations faced during the research are discussed.

METHODOLOGY

This section presents the research methodology that was used to collect the data in Mozambique. First, the host organizations are presented, followed by the selection of the research area. Next, the sampling methods and the data collection methods used for this research are elaborated on. Furthermore, the final section explains the methods for analysing the data.

HOST ORGANIZATIONS

The field research has been conducted in collaboration with ActionAid Mozambique and their local partner organization NADEC. Originally, ActionAid Mozambique used to have offices across the country, but currently their policy has changed and all main activities have been relocated to the head office in Maputo. However, work with the local communities is continuously carried out through local partner organizations. These partner organizations are selected based on their activities in the area and receive funds from ActionAid Mozambique to carry out their programs⁷.

ActionAid is an international NGO that aims to fight poverty and injustice (ActionAid, 2016). ActionAid's headquarters are based in Johannesburg, South Africa, and it works in 45 countries. It is an organization that fights for the rights of people when these are denied them. With their resources, influence and experience, ActionAid Mozambique aims to help people to find their own solutions for their problems. ActionAid works on different issues, which are inequality, food and land rights, women's rights, democratic governance, education, emergencies and conflict, climate change, HIV and AIDS and youth (ActionAid, 2016). The organization has been active in Mozambique since 1987. One area of focus is women's rights. ActionAid Mozambique collaborates with farmers associations in order to help women get access and control over the lands they work. While 90 percent of all farmers are women, many do not own the lands they work. Furthermore, the organization trains women in sustainable farming methods in order to get the most out of the land.

⁷ Informal talk with Fiona Lawson, Inspirator for ActionAid Mozambique, Manhica, 24-02-2016

One of the programmes ActionAid Mozambique works on is the Fair, Green and Global (FGG) Alliance. This is a platform that works *“to contribute to poverty reduction and socially just and environmentally sustainable development by enhancing the capacity of civil societies in the South”* (SOMO). This program is implemented in 6 countries, including Mozambique. The role of ActionAid in this platform is to support partners and communities in Sub-Saharan Africa to assist them in changing their practices related to natural resources, to link partners to facilitate innovation, and campaign and advocate to communicate the concerns of communities and civil societies in Africa. This research is part of this program.

NADEC is the local partner organization of ActionAid Mozambique which works in the Manhiça area. NADEC stands for Núcleo Académico para o Desenvolvimento da Comunidade (Academic Centre for the Development of the Community). Annex 3 shows the banner of NADEC. This banner includes an explanation of who they are, their mission and vision and also provides the slogan of the organization. The organization was founded in 2006 by the current board members, and started collaborating with ActionAid Mozambique in 2014. The main aim of the organization is to realize an inclusive governance system within the district, by the means of empowering local people in the decision making process⁸. In order to achieve this goal NADEC, organizes public debates and events for the communities, as well as working with girls' groups in schools, participating in the district platform and assisting and educating smallholder farmers about their rights. One of the most important tasks of NADEC is to communicate to the people on the ground, to listen to their concerns and to find solutions for the problems together.

The main funding for NADEC is provided by ActionAid Mozambique. Currently, these are the only funds that are received by the organization. There is no collaboration between the government and NADEC. According to the board members this is because NADEC works on monitoring the governance practices of the local government. There is a perceived lack of transparency in the public administration and because the members of NADEC have been addressing this issue, there has been an unwillingness on behalf of government to work together with them.

⁸ Interview with board members of NADEC, Palmeira, 26-02-2016

SELECTION RESEARCH AREA

ActionAid Mozambique and NADEC did previous research in Manhiça District on land issues and the



MAP 3: SUGARCANE COMPANIES IN MAPUTO PROVINCE

SOURCE: APAMO

The question arises over what the consequences are for the local farmers, and whether they benefit from this new strategy. Therefore, the case study for this research is on two sugarcane plantations in the District of Manhiça, in Maputo Province in Southern Mozambique. The area is connected to both the Maputo-Beira road and the Maputo-Xai-Xai railroad. Part of the district is poorly inhabited and has fertile lands, which makes it a favourable location for sugarcane and fruit plantations, which are situated there. The inhabitants of this region are mostly subsistence farmers and people who work in the agricultural cooperative that is active in the production of sugarcane, bananas and rice (Centro de Investicao em Saude de Manhiça, n.d.).

The two sugar companies that have activities in Manhiça District are Açucareira de Maragra (called Maragra in short) and Açucareira de Xinavane (called Xinavane in short). These companies both work on a contract base with individual farmers and farmers’ associations to supply them with sugarcane. This research investigates whether these contracts address sustainability, or leave room for the farmers to do so if they see the need. Another issue regarding the contracts is the extent to which they can be classified as fair. Fairness is understood as the absence of exploitation and a balanced division of benefits and risks. Previous research found that this was not the case for the farmers that worked for ProCana or at the Chókwè Irrigation System (Borras Jr, Fig, & Monsalve Suárez, 2011; Veldwisch, 2015).

⁹ Skype conversation with Dakcha Acha, ActionAid Mozambique, Amsterdam, 26-01-2016

sugarcane companies. In order to learn more about the current situation, and the impacts of the contract farming schemes, further research was required. The area where the two companies are located, close to the village of Manhiça, has experienced problems with land acquisitions in the past. Investors took plots of land from the local community without their consent, and without fair compensation⁹. The sugar companies have publicly declared that they do not take part in land acquisitions any more but make use of contract farming as a means of expansion. In this way the companies want to stay out of land issues, and the land stays in the hands of the farmers and their associations.

RESEARCH STRATEGY

The predominant group of respondents during the fieldwork consists of the farmers who are members of the farmers' associations that produce sugarcane for the companies. In order to collect data from this group of participants, a standardized survey was designed, whilst room was left open to ask more in depth questions when this was appropriate. The Portuguese version of this questionnaire can be found in Annex 1. This survey has been slightly modified to fit the characteristics of each farmers' association. The sections that were included in the survey are the background of the farmer, information about the contract with the company and the perceived fairness of these contracts. Further questions relate to the different sources of income for the farmer, which source of income was and is the most important, the social benefits to the community for being part of the production chain of sugarcane, the environmental impact of cultivating sugarcane and finally an overall assessment of the level of satisfaction in working for the sugar companies.

In order to reach the participants for the research, we received assistance from our colleagues at NADEC (Núcleo Académico para o Desenvolvimento da Comunidade, Academic Centre for the Development of the Community), the local partner organization of ActionAid Mozambique. Amilcar Amusse, our local coordinator, arranged a meeting with UDACAM, União Distrital das Associações dos Camponeses de Manhiça (District Union of Farmers' Associations in Manhiça), the overarching body of the farmers' associations in the Manhiça District. During this meeting, the two farmers' associations that are producing sugarcane for Açucareira de Maragra were identified. These are Armando Emilio Guebuza from Munguine and Combate à Pobreza (Fight against Poverty) from Ribangua. Armando Emilio Guebuza was included in the support program funded by the European Union. Combate à Pobreza was selected because the members of UDACAM did not have much contact with them since they did not attend the meetings. Furthermore, according to the board members of UDACAM, there were internal problems within this association. Through the members of UDACAM we came into contact with the board members of the two farmers' associations. The board members of both associations facilitated the interviews for us by communicating to the farmers the time and place of the interviews. In the case of Armando Emilio Guebuza, we conducted 16 interviews with the farmers, one with the board of the association and one with the *Chefe de Localidade* de Munguine, the local administrator of the locality Munguine. For the association Combate à Pobreza the board also facilitated the interviews. In this case, there were 14 interviews conducted with the members and two interviews with the board members of the association.

The sampling for the farmers' associations that are producing for Açucareira de Xinavane were facilitated by the company. After a meeting with the Agricultural Operations, Training and Small-scale Growers' Development Manager of Xinavane, Sancho Cumbi, on the 31st of March, he arranged for us to meet with employees and farmers who were linked to Açucareira de Xinavane. On Friday the 8th of March, the first meetings with the associations took place, after which the interviews with the individual members were scheduled. Other participants in the research were representatives from both Açucareira de Xinavane and Açucareira de Maragra, NADEC, other civil society members and NGOs, the Dutch Embassy, the

European Delegation in Maputo, local and national government and the Association of Sugar Producers. The sampling method that was used was the snowball sampling technique. During and after interviews with participants, other interested stakeholders were identified and addressed in order to include them in the research. Annex 2 provides an overview of the interviews conducted with stakeholders other than the farmers of the farmers' associations.

An overarching method during the whole timespan of the field research is observations. Observations can help to get a better understanding of the underlying relationships between the different parties that are linked to the research. Furthermore, it might provide insights into the differences or similarities between what is said and what is actually put into practice. Observations took place at the communities, to see how they behaved towards each other and in which way differences in status and power might eventuate. Furthermore, on a farm plot level, observations and pictures (with consent of the farmers) illustrated the spatial impacts of being contracted by a sugarcane company.

Since the data is primarily qualitative, a qualitative analysis has been conducted. The answers per farmers' association have been grouped and compared within and between the associations. Furthermore, the data that is collected from the farmers, the companies and the other stakeholders who are participating in the research was compared. This comparison and analysis is used to answer the research questions, look for differences or similarities and can help explain where problems arise between the different stakeholders. Furthermore, out of the analysis, a recommendation for the different parties has been developed.

LIMITATIONS

There are some limitations and risks associated with the research. One of the first issues is the *language barrier*, due to a lack of knowledge of both Portuguese and Changana, the local language that is mostly spoken by the communities. A good interpreter has helped to overcome this barrier to a certain extent. However, the use of an interpreter created another limitation. Some information got lost in translation. Nevertheless, an understanding of Portuguese increased during the research. A second barrier is *time*. The fieldwork in Mozambique took place from February 2016 to mid-May 2016. The activities for the research took place within these 14 weeks. A carefully planned schedule has helped to make optimal use of the time in the field to collect data for the thesis. Depending on the availability of the respondents and time needed to conduct the interviews, the schedule has changed over the time span of the research. The *sensitivity* of the subject is another barrier. Members of the farmers' associations were not always willing to share all information with us during the research, and the same occurred when talking about previous land issues with the sugar companies. This sensitivity aspect is linked with the *selection of participants*. Due to time and resource constraints, local authorities and Açucareira de Xinavane have helped in facilitating the interviews. The influence these people may have had in the selection of participants has an influence on the information that was selected. For example, in the case of Combate à Pobreza, most of the participants were

either related to or living close to the board members of the association. The outcome of this could be that people do not feel safe or comfortable enough to reveal the exact lines of interaction and interest.

From an ethical perspective, it was important to protect the informants of the research and inform them about what the research is about and what will happen with the information that the informants provide. Furthermore, people have to be treated respectfully and their own schedules should be respected when considering their participation in the research.

5. SUGAR IN MOZAMBIQUE

Sugar is a significant product for Mozambique. Opportunities for a sugar industry have brought foreign investors to the country. As one of the few industries in which the whole production process is present in Mozambique, it creates employment opportunities in both rural and urban areas. Domestic and international demand, as well as the infrastructure of the mills that are present, guarantee markets for sugar. After the privatization of the sugar industry, the main focus of the government was to involve the local farmers in the production process. Hence, the farmers are cultivating the cane and selling it to their secure market, the millers¹⁰.

This chapter provides information about the importance of the sector at both a national and local level. Also a historical context is provided along with a description of the impacts of activity and the development of international linkages. Finally, the chapter ends with an explanation of the characteristics of sugarcane and motivations at play within the chosen production system in the sugar sector.

SUGAR ON A NATIONAL LEVEL

Before independence in 1975, Mozambique was a major producer of sugar. During the season of 1972-1973, the total production reached levels of 325,000 metric tonnes. However, the civil war resulted in destroyed infrastructure, including the infrastructure of the sugar mills, and total production dropped to 13,000 metric tonnes in 1980 (Kegode, 2015). With peace came the need to rebuild the country and create employment, and the sugar industry was designated to achieve that goal. In order to modernize the technologies of the plantations, foreign investors were targeted to help revamp the mills¹¹. The South African companies Tongaat-Hulett and Illovo Sugar were invited by the Government of Mozambique (GOM) to invest in the sector. The industry is considered to have contributed to economic, social, environmental and developmental benefits for Mozambique. Furthermore, it is the second largest employer after the public sector (Kegode, 2015). In 2011, the Association of Sugar Producers, APAMO, was created, with a vision to *“strive to be an internationally competitive, socially and environmentally responsible industry, which creates wealth for our nation and stakeholders”*¹². The four sugar mills in Mozambique are members of this association, and work together to make the sugar industry an example for other foreign investors. Since the industry had revived, there was a need to find a market to sell the sugar to, and this market was found in the European Union (EU).

In the year 2002, Mozambique gained access to the European markets through the African, Caribbean and Pacific (ACP) Sugar Protocol. Part of this protocol is the Everything But Arms (EBA)

¹⁰ Interview with Jorge Manjate, CEPAGRI, Maputo, 13-05-2016

¹¹ Interview with João Jeque, general director of APAMO, Maputo, 04-05-2016

¹² Interview with João Jeque, general director of APAMO, Maputo, 04-05-2016

agreement, which is in place for the least developed countries (LDC). This means that Mozambique, as an LDC, can export all products, except arms, to the EU without having to pay duties or be constrained by quota. The protocol is considered to be development assistance and can be attributed to an increase in sugar production in Mozambique. Tidings have changed over the past ten years, and after conversations with the World Trade Organization (WTO), the EU agreed to a time period in which the LDC countries could adapt to a more competitive market. The protection it had enjoyed previously under the Sugar Protocol was to be dismantled in 2017¹³. Nevertheless, the fact that Mozambique is classified as an LDC triggers the EBA protocol and so still provides it with the option of exporting without taxes and quota. The only change with respect to the export of sugar is that the price that Mozambique receives from the EU is not better than the market price within that free market regime. However, the EBA shall eventually also be terminated¹⁴.

The GOM has adopted the National Adaptation Strategy for the Sugar Sector and specified a Sugar Action Plan for the years 2006-2012. This strategy specified that the Mozambican sugar industry should be able to compete on the international world market, as long as output would be increased and production costs would be decreased (European Commission, 2011). Besides competitiveness on the global market, the strategy also focusses on the role that the sector could fulfil in promoting inclusive economic growth and fighting rural poverty. This is to be achieved by the use of outgrower schemes for land expansion, training and skills development of Mozambican farmers and associations, and the facilitation of social services in sugar areas (European Commission, 2011). Since the focus of the strategy was to include the local farmers in the development plan, the European Delegation decided to support the plan and provide funds to stimulate the development of the local farmers. Moreover, the specific plan for the sugar industry of Mozambique is in line with the national Action Plan for Poverty Alleviation (PARP, 2011) and the Strategic Plan for Agriculture Development (PEDSA, 2010).

The strategies of the government aim to address poverty alleviation and development, but the sugar sector in Mozambique shows weaknesses, according to Jorge Manjate, representative of CEPAGRI, the Agriculture Promotion Centre of the Mozambican Government. The main weakness is the lack of a national association of sugarcane producers and farmers. With a strong national sugarcane association, all parties would be able to negotiate with each other, which in turn could lead to better prices and divisions of risks and benefits, as is the case for an example in Swaziland¹⁵. Because the associations themselves do not have the ability to organize on such a level, there is a responsibility and challenge for the government to facilitate it. Today, the farmers have little negotiating power, and have to accept the terms and prices set by the companies. Income from the sugarcane follows the global price of sugar, but ultimately the companies decide on the final price. Over the last few years, the price of sugar has dropped, as can be seen in Figure 1. Sugar prices have peaked in 2009 and 2011, but have seen a steady decline since. This is partly caused by the introduction of artificial sweeteners from China and an increase in the value of the US dollar, which

¹³ Interview with Ana Margarida, European Delegation, Maputo, 05-04-2016

¹⁴ Interview with Ana Margarida, European Delegation, Maputo, 05-04-2016

¹⁵ Interview with Jorge Manjate, CEPAGRI, Maputo, 13-05-2016

makes commodity prices drop¹⁶ (Ficenec, 2015). In 2016, the prices have increased slightly. The impacts of these changes are felt by the farmers, and are explained in more detail in the following chapters. In Mozambique, the only product that is made from the sugarcane is brown sugar, but Xinavane is close to finishing construction of a white sugar refinery. Diversification of production is the first thing that could help the industry to better take advantage of market demands, as well as to decrease the risk of being dependent on just one commodity and its value on the global market. Other products that could be produced are white

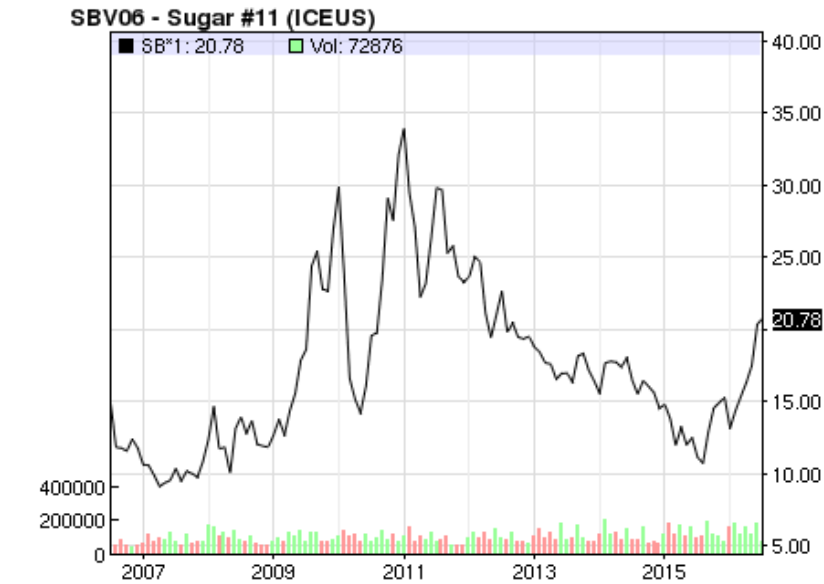


FIGURE 4: SUGAR PRICES BETWEEN 2007 AND 2016
SOURCE: NASDAQ.COM

sugar, ethanol as a base for biofuel, and fertilizers. However, producing these products requires additional investments in a time when the drought is putting the production of sugarcane in jeopardy.

SUGAR IN MANHIÇA DISTRICT

The agriculture sector is of major importance for the local economy in Manhiça District¹⁷. A visit to Manhiça village shows that there is economic activity in town. There are banks, shops, a big supermarket and a new cobbled road is being constructed. The presence of the sugarcane brings social and economic development to the district. The district is chosen by the companies because of the presence of the Incomati River, the soil quality and the temperatures. These conditions are perfect for the production of sugarcane, whose primary inputs are sunshine and water. Furthermore, the geographical location close to the ocean and the port is beneficial for the transportation of the sugar. Nowadays, Manhiça District is the second most developed district of Maputo province, after the capital of Matola¹⁸.

According to the director of SDAE, Mr. Samoge, there are four positive outcomes of sugarcane production in the district. Firstly, the companies create jobs, both permanent and seasonal, which lead to an inflow of people who migrate to Manhiça in order to find work. The outgrowers themselves also employ people to work on their lands during the harvest season. Secondly, the higher incomes of the farmers might lead to the improvement of private and public infrastructure. Besides the farmers, the companies are also

¹⁶ Most commodities are freely traded on the world market, so when the dollar is worth more, the prices drop. The reverse is also true.
¹⁷ Interview with Sergio Samoge, SDAE, Manhiça, 14-04-2016
¹⁸ Interview with Sergio Samoge, SDAE, Manhiça, 14-04-2016

investing in the construction and maintenance of schools, hospitals, houses and roads, and support the government in this. Thirdly, access to funds has increased. There are five to six commercial banks in the district, as well as three or four micro-financing institutions. Finally, after the floods of 2000, foreign investors and sugarcane companies have helped to regain land, resulting in a total of 245,000 hectares that can be used for agriculture. Before the floods, there was only 4,000 hectares of land that were used for agricultural purposes, since lack of infrastructure made it impossible to use the rest of the land. Today, there is almost 100,000 hectares of land that are used for the production of sugarcane, divided among companies and small-scale outgrowers.

Even though the local government is currently positive about the presence of the sugarcane companies, the relation between the two parties has not always been strong. About ten years ago, the companies gradually strengthened their relationship with the local government, and involved them in contract design and land registration issues. Serious issues with local communities were at the root of this change. The interaction between farmers and the companies resulted in conflicts. According to Mr. Samoge this was caused by misunderstandings, mainly because the companies tried to explain complex structures of a legal and economic nature to the farmers who did not have the preliminary knowledge for understanding these structures. The companies chose to ask the local government to mediate in the conflicts between the communities and the companies to solve these problems. Other problems occurred with respect to land rights and governance, in which the SDAE was involved as a mediator. Firstly, information provided to the farmers by the companies was not transparent or correct. Secondly, mistakes were made by the managers because they were not aware of the right procedures, especially in land registration law for the communities. An example provided by Mr. Samoge is that there were times the company wanted to collaborate with farmers in specific areas. However, lack of clear and written registration of land made it difficult to determine who the rightful owner was of that particular piece of land. Furthermore, tensions arose around the pricing of the cane. Many farmers came to the SDAE office to complain about the price that they received for their sugarcane. Accusations were made that the companies were stealing money from the farmers. Whether this is caused by lack of knowledge on pricing systems or actual failures of the company to pay a fair price is not clear. Another aspect of problems was found in the contracts. Not all contracts between company and outgrower were valid, according to the analyses of the SDAE. According to Mr. Samoge, the reason therefore is that the companies were not aware of the right procedures in the law. Problems around contracts were not only found between the company and outgrowers, but also within the associations themselves. The members of the boards of the associations sign the contract on behalf of the members. However, if they do not have a signed agreement from the members, the contract is invalid. This has caused even more irregularities.

The problems and tensions of the past have resulted in a closer collaboration of the companies with the government, as well as better conformity with the laws concerning the design of contracts. Nevertheless, scepticism remains, especially about the fairness of the contracts with regard to payment and

the division of risks between farmers and companies¹⁹. Knowledge about the payment structures, the process of production and the process of selling the sugar is limited among the outgrowers. Furthermore, the internal structures and governance capacities of the associations are not strong enough to stand on the same level as the company. This season there are additional problems that might have a negative impact on the proceeds of the sugar. The international price of sugar is low, the national currency is weak, meaning that production costs are increasing, and the drought leads to lower yields for all. Subsequently, there will be less money earned by the sector, but the question remains as to how the losses will be divided. Mr. Samoge suspects that the companies will pay a lower price to the farmers to offset the losses, without any discussions with the associations and without sharing these losses equally.

SUGARCANE PRODUCTION AND ENVIRONMENTAL SUSTAINABILITY

Economies of scale are important in sugarcane production. Only when produced on a substantial scale does it become a profitable, viable and sustainable enterprise²⁰. Contract farming makes a good business model in this industry. There are multiple reasons to explain the benefits of contract farming. First, the companies can obtain more land without actually buying or leasing it, since it is still in the hands of the farmers. Second, the farmers' associations make it possible to create an economy of scale by combining all the small pieces of land owned by the individual farmers. Third, being part of the sugarcane supply chain gives the farmers an option to become a commercial farmer and earn an income. The sugarcane is planted on the lands of the farmers' associations, in some cases by the companies, in other cases by the farmers themselves. During the growth of the plant, extension services and inputs are made available by the companies for the farmers to make use of or to buy. The costs for services and products are subtracted from the proceeds that the farmers get after harvesting. During the harvest period, the sugarcane gets burned in order to harvest the cane without the leaves. After the cane is cut by the farmers and other temporary employers, it has to be transported to the mills where the cane is crushed and sucrose is extracted. The sooner the cane is crushed after harvest, the higher the levels of sucrose and the higher the income for the farmer.

Throughout the production process, APAMO stresses that the issue of food security is not neglected by safeguarding that land put aside for this purpose and by using machinery of the companies to prepare the land²¹. However, the strategy of the APAMO is not based on charity but on making money. The smallholders are important for the industry, because without the land of the local farmers there is not enough land to produce sugarcane on such a scale as to make it profitable. Therefore, improving the skills and capabilities of the farmers, and giving them ownership over the production on their land, attributes to the long-term sustainability strategy of the sector. Furthermore, the sugar industry is a multi-generational

¹⁹ Interview with Sergio Samoge, SDAE, Manhica, 14-04-2016

²⁰ Interview with João Jeque, general director of APAMO, Maputo, 04-05-2016

²¹ Interview with João Jeque, general director of APAMO, Maputo, 04-05-2016

activity, and the commitment of farmers and their children and grandchildren towards the business is vital. That is one of the reasons why the companies are investing in the people by providing schools and hospitals, it is an investment in the future generations who would be part of the future workforce of the companies²².

The production of sugarcane has resulted in environmental impacts on the local environment. Deforestation, loss of biodiversity, air pollution, soil fertility decline and erosion have been observed in Mozambique, but genetically modified organism (GMO) contamination is not occurring (Englund, et al., 2011). The air pollution during the burning of the sugarcane was a recognized problem among the respondents²³, whereas farmers did not know whether or not the production of sugarcane had a negative effect on soil fertility. The deforestation and loss of biodiversity were not mentioned by any of the respondents as a negative environmental impact, but occur nevertheless as a result of land development for sugarcane production. Beside these direct environmental impacts, the agricultural business in general is vulnerable to climatic conditions, and the drought of the last two years has confirmed this. The production has gone down and people do not have water to irrigate the crops, and sugarcane specifically requires a lot of water²⁴. According to Collier et al. (2008), as cited in (Richardson, 2010), the average temperatures in southern Africa will rise by four degrees centigrade, whilst at the same time the rainfall decreases 10 to 20 percent. This estimation is based on Intergovernmental Panel on Climate Change (IPCC) data. Yet, foreign investment and modernization in agriculture could result in adaptation and mitigation strategies to deal with the changing climate. Water storage through irrigation and low-carbon energy production are two of these strategies and these practices are present in the sugarcane industry. However, the situation today is that there is not enough water to irrigate most of the cane, and this has direct impacts on the yields of cane as well as on the food production of the smallholders.

²² Interview with João Jeque, general director of APAMO, Maputo, 04-05-2016

²³ Interview with Rebecca Mabui, UDACAM, Manhica, 04-03-2016

²⁴ Sugarcane consists for 70 percent of water, as mentioned on the presentation during trainings of the farmers by Maragra

6. SUGAR COMPANIES AND FARMERS’ ASSOCIATIONS

The two sugar companies, Maragra and Xinavane, are together buying sugarcane from 5,044 outgrowers. The total surface of land that is available for growing cane is 24,500 hectares, as can be seen in Table 1. Small-scale farmers who produce sugarcane are mostly members of the farmers’ associations, and work together to produce the cane. Both companies have their own strategies on how to cooperate with the farmers. Contracts, training programs and other services which are provided to the outgrowers differ to a certain extent, and therefore it makes a difference whether a farmer works for one or the other. The previous behaviour of the company managers has shaped the perception of the farmers, which has led to conflicts and distrust in the case of Maragra. Embeddedness in the communities, on the other hand, has improved the image of Xinavane.

As an introduction to the companies, first the history of the sugarcane plantations is explained. Second, both outgrower schemes are elaborated on, so as to provide further insight into the arrangements that are made between company and outgrower. Third, the histories of the farmers’ associations are described, as well as the perceived problems and benefits that are faced by the farmers who produce sugarcane. Fourth, internal relations and the relations between association and company are discussed. These include and explain differences in power and access to resources between company, association board members and association members.

TABLE 4: COMPARISON AÇUCAREIRA DE MARAGRA AND AÇUCAREIRA DE XINAVANE

Company	Size	Number of outgrowers	Presence in Mozambique	Characteristics outgrower scheme	Contracts
Açucareira de Maragra	6,500 hectares, of which 6.000 hectares under cane	1,625 people	Founded in 1968	Non-paternalistic: company does not prescribe farmers what to do	Cane Supply Agreements are required
Açucareira de Xinavane	5,000 hectares outgrowers 13,000 hectares company	3,392 people	Present in Mozambique since 1998	Company takes control in first years until loan for preparing land has been paid off and farmers are trained in growing sugarcane	Cane Supply Agreement is most important, other options are Service Agreement and Training and Development Agreement

AÇUCAREIRA DE MARAGRA

Açucareira de Maragra was founded in 1968 by the Petiz family (International Finance Corporation, 1998), and its production of sugar peaked in 1972 with a production of 44,100 tonnes of raw sugar. In 1974, the

company was nationalized as a result of the political situation in the country being close to independence. After the Petiz family regained the ownership over the plantation in 1992, just after the civil war ended, 50 percent of the company was sold to Illovo Sugar in 1997 in order to rehabilitate the estate. Cane fields, agricultural infrastructure and the mill needed to be rehabilitated and refurbished. Illovo Sugar limited is a South African sugar producing company. The Group operates in six African countries, including Mozambique. Illovo owns 90 percent of the Maragra Açúcar SA, whilst the other 10 percent is owned by a private minority investor (Illovo Ltd.). Illovo employs 1,043 permanent workers and during the agricultural peak season when the sugar is cut they employ 3,760 seasonal workers.

One of the aspects in the Good Corporate Citizen Report is that Açucareira de Maragra is a strong supporter of the smallholder schemes (Corporate Citizenship, 2014). The European Delegation has funded the Maragra Smallholder Sugarcane Development Project (MSSDP), which is being executed by the company. This scheme is designed to make the sugar industry in Mozambique more sustainable. The smallholder farmers that supply cane for the company have access to a secure market, investments, trainings and technical support for the production of sugarcane. In the same time, Açucareira de Maragra has the opportunity to expand without buying any land and thereby eliminating land-grab issues, as well as access to a supply of sugarcane. Furthermore, the company also claims to support social initiatives in the area of their operations.

MARAGRA'S OUTGROWER SCHEME

Açucareira de Maragra is part of the Illovo Sugar Group. Subsequently, the values and objectives of the mother company apply to Maragra. The strategic intent of Illovo states that the company aims to be welcomed in the communities in which it operates and part of the vision of the company is to enhance stakeholder value to achieve sustainable, balanced and integrated economic, social and environmental performance (Illovo Ltd.). Maragra is implementing an outgrower scheme as part of the European Union funded project, which was described in the previous chapter. The general objective of the project is to improve the competitiveness of the sugar sector in Mozambique and to improve the livelihood strategies of the local people²⁵. Maragra is working with outgrower schemes, which means that local farmers are included in the supply chain of sugar cane. The farmers can apply to become a supplier for Maragra, and Maragra assists the farmers in preparing the land for the sugarcane and with other technical assistance when needed. In this way, Maragra is able to increase the amount of land used to grow sugar cane, whereas the farmers have the advantages of a secured market, secured inputs and technical assistance²⁶. Furthermore, this strategy of including the local farmers in the supply chain of sugarcane makes it possible for the company to expand production whilst not being involved in land issues. The farmers grow the sugarcane on their own land, be it individually or on communal lands of associations. Therefore, they hold ownership over the land, even though they use it to grow cane for the company.

²⁵ Interview with Andrew Cochrane, Açucareira de Maragra, Maragra, 04-03-2016

²⁶ Interview with Piet-Jan Zijlstra, Technical Assistant of EU, Maragra, 04-03-2016

In theory, each farmer or association of farmers that grows sugarcane for Maragra has signed a Cane Supply Agreement with the company. This agreement specifies the terms of the sugarcane supply and the terms of payment. Between May and October the sugar mill is operating, and this time of year is known as the crushing season. In order to maximize production, the cane should be of equal quality and supplied to the mill constantly during day and night over the months that the mill is in operation. Since this is practically impossible, the farmers are divided into cutting groups, which are assigned different times to deliver the cane, in order to operate the mill as efficiently as possible. At the end of the season, the farmers are paid for the delivered sugarcane. The value paid per tonne of sugarcane depends on both the sucrose level of the sugarcane and the international market price. For every ten tonnes of sugarcane, Maragra takes a sample of 30 percent to measure the sucrose levels. These levels are highest when the cane is freshly cut and of good quality. The sucrose level measured is included in the statements that the farmers receive. This statement is a receipt that is automatically generated by a computer program and specifies the payments to be received. After the price of the sugarcane is determined, the company pays the farmers 95 percent of that price minus deductions for inputs and services over the year. The remaining five percent is withheld by Maragra until the total profits of the sale of sugar on the world markets are known. When the price turned out to be higher than anticipated, the farmers receive the five percent back, and potentially more than that. However, when the price on the world market was lower, the farmers do not receive the five percent since this money is used to settle the accounts²⁷.

The strategy of Maragra is not to be paternalistic and prescriptive in their dealings with the outgrowers, and according to Steven de la Harpe this is a competitive advantage of Maragra in this industry²⁸. The arrangement for the transportation of the sugarcane provides a good example of how this strategy works. Each farmer and association should know when he or she is supposed to deliver the sugarcane to the company, as specified in the Cane Supply Agreement, and is supposed to arrange transportation to do so. The absence of one overarching transportation company for the outgrowers of Maragra also provides a stimulus for local small and medium enterprises (SME)²⁹. Anybody with the right transportation vehicle that subscribes to the safety and handling facilities of Maragra can go to the company and register their vehicle. Next, the people who have registered as transporters can contact the farmers to sign contracts of transportation, or delivery sessions. When the sugarcane is delivered, the transportation costs will be subtracted from the profits of the farmer and paid to the transporter. In this way, the farmers have more ownership over the process of delivery and the presence of Maragra creates an economic stimulus for the community. This, in turn, is in line with the strategic content of being accepted in the communities and creates mutual benefits to make the business sustainable.

²⁷ Interview with Andrew Cochrane, Açucareira de Maragra, Maragra, 04-03-2016

²⁸ Interview with Steven de la Harpe, Açucareira de Maragra, Maragra, 16-04-2016

²⁹ Interview with Steven de la Harpe, Açucareira de Maragra, Maragra, 16-04-2016

AÇUCAREIRA DE XINAVANE

Tongaat-Hulett, a South African sugar company, has been present in Mozambique since 1988. The company has two estates in Mozambique, one in Mafambisse and one in Xinavane. Açucareira de Xinavane is of British origin, and was later taken over by Portuguese investors. In 1998, Tongaat-Hulett acquired a stake of 49 percent in the estate in Xinavane, and in 2008 this stake was increased to 88 percent. The Mozambican government owns the rest of the shares (Tongaat-Hulett, 2016). The location of Xinavane is preferable for Tongaat-Hulett, because of the favourable agricultural conditions and its proximity to the port of Maputo as well as South Africa in case technical support is required (Tongaat-Hulett, 2015). The company itself has 13,000 hectares of land, which is called the Mill Company Plant (MCP)³⁰, yet a total amount of 18,000 hectares of land is available because of the outgrower scheme that has been implemented since 1998. The outgrower schemes that are implemented by the company are a means of expanding the area under cane, or the land used for the production of sugarcane, without getting involved in land grab debates³¹.

XINAVANE'S OUTGROWER SCHEME

Açucareira de Xinavane is executing a Social-Economic Development Program, which aims at uplifting the livelihoods of the communities in the surrounding areas of the sugar mill³². Part of the philosophy of the company is to make the communities stakeholders in the production process. The engagement of the local farmers in the production of sugarcane is a way to achieve this. This process of inclusion resulted in the establishment of the first farmers' association in 1998. A grant from the government was used to start up this first and the second association, which included 400 hectares of land being converted to grow sugarcane. The Accompany Measures of the EU have contributed to further development of land. The project started in 2007, and the goal was to develop another 1,600 hectares of land for the small-scale growers, including land that can be used to grow food crops. So far, 180 hectares of land with irrigation for food crops has been prepared for this purpose. Total costs of this project are 12 million USD, of which the EU contributes 4 million USD. However, since part of the costs is covered by a grant, the project becomes more viable for the farmers, since their total debt is less. Through the associations, the company aims to reach the communities in which other social investment programs are implemented, such as the building of schools, water facilities and the provision of healthcare. Initially, Xinavane talked with the government and local leaders to explain the benefits of growing sugarcane. Assistance in setting up associations and organization are provided, as well as support to legalize the associations. There are NGOs that help the company to support the farmers. This used to be ORAM (Associação Rural de Ajuda Mútua, Rural Association for Mutual Aid), but now a local NGO, Gwephane, is supporting the outgrowers. One area in which this NGO assists the members of the associations is in obtaining land titles. Today, Xinavane works

³⁰ Interview with Jeremias Mudumane, Tongaat-Hulett, Xinavane, 08-04-2016

³¹ Interview with Sancho Cumbi, Tongaat-Hulett, Xinavane, 31-03-2016

³² Interview with Sancho Cumbi, Tongaat-Hulett, Xinavane, 31-03-2016

together with 26 associations, which grow cane on a total area of 5,000 hectares. 3,392 people are reached by the outgrower scheme, including the family members of the people who work on the land³³.

When a new association has applied to become an outgrower for Xinavane, the company and the association sign a contract. Part of this contract is a loan, which needs to be paid off in seven years, and which is used to prepare the land and make other investments in order to start growing cane. The associations join their land in a block farm, and in this way create one large area of land for growing the cane. Hence, farmers can only become a member of an association if they own land in the designated area. Since it is in the best interest of the company to have the highest yields possible, Xinavane provides technical assistance, employees and extension services. In this way, the company safeguards timely payments of the loan. Furthermore, members of the association and their family members can look for employment with Xinavane to learn how to be a sugarcane grower. After this initial period of seven years, Xinavane aims to hand over the responsibilities of growing the cane to the members of the association³⁴. All associations and the company sign agreements over the supply of the cane, which is called the Cane Supply Agreement. This agreement specifies all the rules and also explains the payment structure. Xinavane makes use of a 65 percent versus 35 percent division of the total proceeds of the sugar sold, of which 65 percent is for the farmers and 35 percent for the miller. However, there are certain associations that have signed more agreements. The Service Agreement allows the company to give support to the associations in terms of all services, like extension services and maintenance. Another agreement is the Training and Development Agreement. Associations that have signed this agreement sent young members to participate in a formal training program at Xinavane. This training includes one year of theoretical training in which topics like crop husbandry, pesticide management, financial management, and soil and water irrigation are taught, followed up by one and a half to two years of practical training in the field. The idea is that the young people go back to their association and train the other members. However, there have been some complications. For some of the other members of the associations it is hard to accept that a younger person takes over control. The internal relations and dynamics of the associations are not always facilitating change³⁵.

FARMERS' ASSOCIATIONS

As described in the methodology, four associations are included in this research, two for each company. Even though each association is different, with its own problems and challenges, there was some consensus in the main issues and main benefits of growing sugarcane commercially. The findings are summarized in Table 2. This section contributes to a better understanding of where the associations stand in relation to the

³³ Informal conversation Jeremias Mudumane, Tongaat-Hulett, Xinavane, 08-04-2016

³⁴ Informal conversation Jeremias Mudumane, Tongaat-Hulett, Xinavane, 08-04-2016

³⁵ Interview with Sancho Cumbi, Tongaat-Hulett, Xinavane, 31-03-2016

companies in terms of power and decision making, and why some seem to be more successful than others. Lessons can be learned from successes and failures, and this section indicates in what areas improvements are needed and how these can be achieved.

TABLE 5: OVERVIEW ISSUES AND BENEFITS FROM FARMERS' ASSOCIATIONS

Farmers' association	Company	Number of members	Founded in	Main issues	Main benefits
Armando Emilio Guebuza	Açucareira de Maragra	44	2008	The lack of transparency in the pricing structures that are used by the company Absence of knowledge about the contract A perceived unequal division between the risks and the benefits Doubts about the general benefits of producing sugarcane for Maragra	Access to a secure market Access to products like pesticides Income generating activity with higher incomes if you produce more and better sugarcane
Combate à Pobreza	Açucareira de Maragra	43	2006	Lack of transparency and knowledge The internal relations within the association	Access to secure markets Income at the end of the year
Macuvulene 1	Açucareira de Xinavane	187	2005	High costs that are deducted from income Variation in the price of sugarcane Division of risks and benefits between the company and the association	The option to earn money Secure market for the sugarcane Creation of jobs for the community Land that was not previously used can now be used
Churamate	Açucareira de Xinavane	82	2008	Lack of communication which results in disengagement and distrust Farmers perceive that the company does not care about the communities	The option to earn money Creation of jobs for the community Land that was not previously used can now be used

THE HISTORIES OF THE ASSOCIATIONS

To better understand the motivations and perceptions of the farmers, it is important to know how they emerged. The histories describe the founding of the associations, as well as how long they have been producing cane for the company. The amount of years that an association has been producing is important to keep in mind, since it illustrates how far the farmers have progressed in repaying the loan and also how many years of experience are invested in being organized in a cooperative. Also, internal relations can be better understood. In two of the four associations, Combate à Pobreza and Churamate, the founders are board members and are also the holders of most power. Alternatively, in the other two associations, Armando Emilio Guebuza and Macuvulene 1, regular democratic elections are held. The latter two associations mentioned are the more successful associations in this research.

ARMANDO EMILIO GUEBUZA

The farmers' association Armando Emilio Guebuza was founded in 2008 and legalized in 2009. Initially, the association consisted of three people, and increased to 45 members. After one of the members had passed away they now have 44 members³⁶. The initial members of the association started to work together to obtain better results with their production³⁷. Other farmers saw that the members of the association became more successful in their production, and joined the association. Unification in an association is perceived as being beneficial in multiple aspects. One reason is that the farmers are better protected under the law as a member of an association than as an individual person. Government officials advised the farmers about this matter. Another aspect that was mentioned by the participants is that it was a prerequisite of the company to be in an association to produce sugarcane. Furthermore, producing together gives the farmers the benefits of lower workload and higher quality of produce, which in turn leads to better prices at the end of the year³⁸. Lastly, the members of the association explain that they have a stronger voice in interactions with both government and Açucareira de Maragra as a collective.

The association is situated in Munguine, which is about a 15 minute drive by car from the Maragra factory. Together with two other associations, this association sells sugar that is certified as Fairtrade. Because of the Fairtrade certification the association receives 300.000 USD per year, which was used to build, among other things, the building in which the farmers have their meetings (see Annex 3 for pictures of the building and the sugarcane fields of this association).

This association was selected as part of the expansion plans of Açucareira de Maragra for including small-holder farmers in the production process of sugarcane. The members of the board are well aware of the benefits of participating in this scheme, and listed the following: 1) there was a promise of building flood protection infrastructure, 2) Açucareira de Maragra promised not to take any land from the farmers, 3) there was the possibility of growing other crops as well as sugarcane and 4) EU helps the farmers to obtain the DUAT³⁹. Furthermore, the ultimate objective is to organize one cooperative that would be better able to obtain funding and DUATs. This would mean that the outgrower production schemes would lead to a win-win situation for both farmer and company. However, after the interviews with the members of the association it turned out that this was not the case. The most frequently mentioned issues are the lack of transparency in the pricing structures that are used by the company, absence of knowledge about the contract, a perceived unequal division between the risks and the benefits and the doubts about the general benefits of producing sugarcane for Maragra.

³⁶ Interview with board members of Armando Emilio Guebuza, Munguine, 08-03-2016

³⁷ Farmer from Armando Emilio Guebuza, male, 53 years old, Munguine, 08-03-2016

³⁸ Farmers of Armando Emilio Guebuza, Munguine, 08-02-2016, 09-02-2016 and 10-03-2016

³⁹ Interview with board members of Armando Emilio Guebuza, Munguine, 08-03-2016

COMBATE À POBREZA

Combate à Pobreza is a farmers' association that is situated in Ribangua, close to the Manhiça village. The association was founded in 2006 and has 43 members, of which 18 are men and 25 are women⁴⁰. This association has put their land together in order to create communal land where all farmers work together to grow sugarcane. The total surface of the communal land is 52 hectares. The main reason for the founders of Combate à Pobreza to establish the association was to make a bigger profit than would be possible as an individual. Based on the positioning of the land of individual members, people were asked to join their land together to form communal lands, and thereby become members of the association. The promises made by the board members were those of profits, and people were persuaded to join in the scheme⁴¹. During the interviews, multiple members of the association indicated that their land was taken without consent, but none of the members has actually left the association or complained to the board. The reasons given for membership of the association were the improvement of production, the hope that a united people would all enjoy greater benefits, that previously unused land, due to a lack of capacity to work that land, would become available and finally, to attempt to improve their relative position in interactions with other actors like government and company⁴².

The board members explained that the profits of each financial year are partly invested in the next season, and the rest of the money is equally divided among its members. This association is also Fairtrade certified, and the buildings where we held the interviews and where the farmers have their meetings are funded by the benefits that came from that certification (see Annex 5 for pictures of the buildings and interviews). The general atmosphere during this interview with the board members was one of discontent. The board members complained about a lack of technical assistance from the company. Without this assistance, it is hard to produce sugarcane. Another complaint was the lack of transparency, especially in the classification process of the sugarcane that was used to determine the price paid to the farmers. This resulted in a lack of clarity as to the size of the debts. Furthermore, it did happen that the company "accidentally" (emphasis by the board members) paid the wrong amount of money at the end of the year. The board members did not believe this was an accident, since many other associations face the same problem⁴³. Overall, the board members are not content with their collaboration with Açucareira de Maragra, and if they would have another option they would stop producing sugarcane. However, this is the only market in the area and therefore the board does not see any alternative.

It was clear that this farmers association faces difficulties during the production of sugar. Most comments were centred on the non-transparency and lack of support received from the company. The members of the association raised additional issues. The main findings derived from this association centre

⁴⁰ Interview with board of Combate à Pobreza, Ribangua, 16-03-2016

⁴¹ Farmer from Combate à Pobreza, female, 42 years old, Ribangua, 29-03-2016

⁴² Interview with members of Combate à Pobreza, Ribangua, 17-03-2016, 18-03-2016, 29-03-2016 and 30-03-2016

⁴³ After having pointed out the problem to Maragra the association did get the right amount of money from the company.

around the lack of transparency, lack of knowledge and the unequal internal relations within the association.

MACUVULENE 1

Macuvulene 1 was founded in 2004, and is the oldest association that produces sugarcane for Açucareira de Xinavane. In this association, all members have the right to one hectare within the communal lands and the corresponding profits. However, more than one member of a family can be a member of the association. According to Jeremias Mudumane⁴⁴, this is one of the best performing associations, where the people work hard, produce good sugarcane and which can be an example for all other associations. Furthermore, they have a big office building with electricity, a store, a clinic (which is not in use), water pumps and machinery (see Annex 6). The association was funded by the Government of Mozambique in collaboration with the company and the farmers. Even though the collaboration between Açucareira de Xinavane and Macuvulene 1 is positively perceived by the company, during the interviews with the individual members there were issues raised, and it became clear that not all parties are content with the alliance. The three main issues that were raised by the farmers are the high costs that are deducted from their income, the variation in the price of sugarcane and the division of risks and benefits between the company and the association.

CHURAMATE

Churamate was founded in 2006. In 2007, the company started to prepare the land for the production of cane by deforesting the land and preparing the soil. In 2010, the first sugarcane was harvested. There are 82 members in this association, of whom the majority are female. The amount of land ascribed to the association amounts to 109 hectares, of which 95 hectares are under cane and 14 hectares are used to produce food crops⁴⁵. Originally, people in the area used to work the land and keep cattle. Because of the civil war all animals were lost, and the land became forest since the people were not able to continue cultivating all the land⁴⁶. The excess land that was unused by the local farmers was targeted by Açucareira de Xinavane to become part of the area under cane for the company⁴⁷. According to Mr. Mudumane, who works in the department of smallholder development, the land that belongs to this association is very fertile, hence the quality of the sugarcane that is grown in this area is higher than for example the sugarcane grown on the lands of the company itself⁴⁸ (see Annex 7). At first, the farmers were hesitant to collaborate with the company, but promises of jobs and money convinced the people to organize themselves into an association. Furthermore, Açucareira de Xinavane would prepare the land and take care of the cultivation of cane in the first seven years in order to be sure that the loan for this investment would be paid back⁴⁹.

⁴⁴ Informal conversation with Jeremias Mudumane, Açucareira de Xinavane, Xinavane, 08-04-2016

⁴⁵ Interview with the board of Churamate, Palmeira, 08-04-2016

⁴⁶ Farmer from Churamate, female, 70 years old, Palmeira, 21-04-2016

⁴⁷ Farmer from Churamate, female, 67 years old, Palmeira, 19-04-2016

⁴⁸ Interview with Jeremias Mudumane, Tongaat-Hulett, Xinavane, 08-04-2016

⁴⁹ Interview with the board of Churamate, Palmeira, 08-04-2016

Practically, this means that the members of this association are not that engaged in the production of the cane, and are able to await the payment at the end of the year without being involved in the process. The board members are in favour of this arrangement, in which the company takes care of the complete production process. Mr. Mudumane however, indicated that the company would prefer to see that the association took the lead in the cultivation of the cane so as to become more self-regulating⁵⁰.

The farmers' perceptions of the sugarcane production process came forward during the interviews. Firstly, there is a lack of communication between the members and the board, which is perceived as negative by the farmers. This lack of communication results in disengagement and distrust. Also, the farmers perceive that the company does not care about the communities.

POSSIBLE SOLUTIONS

The problems identified by the farmers, as specified in Table 2, can be narrowed down to issues of lack of knowledge, imbalances in power relations and lack of capacity. The program initiated by the EU does address these issues, specifically the building of knowledge and capacity. However, to date these measures do not reach all farmers, and increase the gaps between the initial holders of power, mostly board members, and the regular members. Furthermore, the lack of contracts is a problem. Since there is no legal framework on which the farmers can fall back, they are not completely aware of their rights and responsibilities, nor the rights and responsibilities of the companies. Consequently, this weakens their bargaining position, an issue which is also acknowledged by the local government. Based on the situation as found during the field research, the average farmer does not exercise ownership within the production process or over the land used for this production. In order to improve the situation, there should be clear contracts that are understood by all farmers, including contracts within the farmers' associations, as well as further building of knowledge and capacity. Extra training sessions should reach all farmers, and efforts can be made to do so. This can either be done by the companies themselves or outsourced to NGOs that possess the skills and resources to do so. Obtaining more knowledge on the crop, farming mechanisms, the production process, products and inputs, contracts, financial structures, markets and management of associations are all needed to build on the capacity and improve the bargaining position of the farmers. Nevertheless, some action has been taken, and plans are being made by APAMO to form a national forum with all the actors involved. However, this is not yet put into practice and farmers cannot benefit from the intentions alone.

The positive features of farming sugarcane commercially have also been identified. The access to markets and monetary incomes are part of these. The association that seems to do best is Macuvulene 1, the oldest association of Xinavane. What can be learned from this association? How can other farmers learn from their experiences? First and foremost, all members of this association who have participated in the research are aware that there is a contract between the company and the association, and know what

⁵⁰ Interview with Jeremias Mudumane, Tongaat-Hulett, Xinavane, 08-04-2016

clauses are included. Pricing structures are mostly clear, and internal divisions of proceeds have been equally divided. The board members are elected and the people feel free to talk to them about any issue, doubt or problem that they face. The association owns its own machinery and possesses knowledge on the production process. The total income that is derived from the sale of the cane is the highest of all other associations, as will be further elaborated on in Chapter Seven. The success of this association is based on equality among the members, transparency in decision making processes, ownership of machinery and production processes and knowledge of production and pricing. Furthermore, in the years of working for Xinavane, relations with the company managers has grown, and the board and other members are aware of the option to talk to and discuss issues of concern with the company management. Nonetheless, not all the farmers are content, as will be further explained in Chapter Eight.

7. ENVIRONMENTAL SUSTAINABILITY IN CONTRACT FARMING

The cooperation between the companies and associations is not perfect, and this is no surprise. However, the absence of contracts in some of the cases, as well as the limited knowledge on clauses within the contracts, indicates that the inclusion of sustainable agriculture practices in the contracts is not probable. This chapter aims to investigate to what extent environmental issues are addressed in the contracts. First, the environmental policies and issues of both companies and associations are described. Next, the impact of commercial sugarcane production on food security and livelihoods is explained. The chapter concludes with an assessment of the equitability or fairness of the contracts, including the relative divisions of power and benefits.

ENVIRONMENTAL SUSTAINABILITY

Southern Africa is suffering from a period of drought because of the natural phenomenon El Niño. During this phenomenon, taking place every several years, the sea surface temperature increases roughly up to 1°C for a period ranging between a few months up to two years. The impact of El Niño is that some areas of the world receive more rain, whereas others suffer droughts. This natural phenomenon is not a result of climate change, though the areas that suffer most from the extreme weather conditions are also suffering most from climate change. Furthermore, scientists believe that climate change can have an accumulative effect on the severity of El Niño (OCHA, 2016). Weather conditions have an enormous impact on the Southern African region. The drought has resulted in poor harvests, directly impacting the 72 percent of the population that depends on agriculture for food, income and employment. The result is that people prioritise food over health and education, which demolishes development that has been achieved over the last years (OCHA, 2016). Small-scale farmers in Mozambique are no exception, and are highly vulnerable to these weather conditions. With an eye on the future, especially on expected extreme weather conditions due to climate change, adapting agricultural practices that are environmentally sustainable can help to mitigate risk. Considering that the sugarcane production is a long-term, intergenerational industry, sustainability is crucial for maintaining business. As explained below, both companies and farmers have perceptions of the risks and the corresponding actions needed to address these risks.

MARAGRA'S ENVIRONMENTAL POLICY AND CHALLENGES

As with all businesses, agricultural companies have to comply with the laws and regulations of the countries in which they operate, including the legislation regarding water usage and environmental sustainability. Maragra makes use of pesticides and herbicides in the cultivation of sugarcane. All the products that are used are approved by national legislation, and pesticides used are specifically registered

for sugarcane⁵¹. The company policy prescribes that products that are not approved are not used. Besides the pesticides and herbicides, sugarcane needs a lot of water, since 70 percent of the plant consists of water. Maragra uses irrigation systems to supply the plants with water. In previous years the water of the Incomati River was used to irrigate the fields, but this year Maragra stopped irrigation in the middle of February. Due to the drought, the water levels are low, and this causes salt water to flow from the ocean into the river. The salt water in the river cannot be used for irrigation purposes, since it would kill the plants. The Corumana Dam, that supplies Maragra with water, has low levels of water due to poor rainfall this year. As a consequence, the water is not sufficient to reach the plantation. Issues about water shortage and salt levels in the Incomati River are now being discussed with ARA-Sul, Administração Regional de Águas do Sul, translated into Mozambique Regional Administration of Waters in the South, the administrative body that governs the water usage in Southern Mozambique.

Açucareira de Maragra applies environmentally sustainable agricultural practices on their sugarcane fields. Part of these practices is that cane is not planted close to dykes, structures or rivers, and the use of approved products as mentioned above. Furthermore, Maragra makes use of break crops or green manure crops as rotation crops in order to let the land rest. *“From a business perspective, this is the most sensitive thing to do”*⁵², since the land can be used longer, which makes the business sustainable for the future. The farmers do have the option to plant rotation crops as well, however, Mr. De la Harpe acknowledges that it becomes more practical to do this with bigger plots of land, from three, five or ten hectares and bigger. Even though this strategy is better for the land and the sustainability of the operation, farmers did not indicate that they make use of rotation crops. The freedom to do so is therefore not resulting in the actual action. However, according to Mr. De la Harpe some farmers do take out the sugarcane in years of low prices in order to plant other crops on that plot of land.

An environmental issue that arises from the sugar mill during the crushing season is the smoke that is generated by the mill and blown away by the wind⁵³. This issue is also addressed by Rebecca Mabui⁵⁴, as a member of civil society, and Mr. Mambero⁵⁵, Director of the Environmental Department of the local government in Manhiça. According to Mr. Mambero, the Ministry of Health has carried out research on the impacts of airborne ash resulting from the burning of sugarcane. The outcome of this research was that there are not many negative impacts for the health of the people, and that the company complies with the rules and regulations. This is confirmed by Steven de la Harpe, and he stated that this is an issue that Maragra will address in the future.

⁵¹ Interview with Steven de la Harpe, Açucareira de Maragra, Maragra, 16-04-2016

⁵² Interview with Steven de la Harpe, Açucareira de Maragra, Maragra, 16-04-2016

⁵³ Interview with Steven de la Harpe, Açucareira de Maragra, Maragra, 16-04-2016

⁵⁴ Interview with Rebecca Mabui, UDACAM, Manhiça, 04-03-2016

⁵⁵ Interview with Mr. Mambero, Environmental Department of local government, Manhiça, 28-04-2016

XINAVANE'S ENVIRONMENTAL POLICY AND CHALLENGES

Açucareira de Xinavane is a registered ISO14001 company, which means that it is certified to meet internationally agreed upon standards in its environmental management system. In order to get certified by the ISO, an organization needs to consider *“all environmental issues relevant to its operations, such as air pollution, water and sewage issues, waste management, soil contamination, climate change mitigation and adaptation, and resource use and efficiency”* (ISO, 2015). Besides the ISO certification, Xinavane is also audited by ProTerra. The ProTerra Foundation aims to *“support organizations at all levels of the agricultural value chain by providing effective tools for advancing their sustainability performance”* (ProTerra Foundation, 2016). Since ProTerra includes all levels of the supply chains, the small-scale farmers are also included in the auditing. Mr. Cumbi⁵⁶ mentioned that there is an internal debate as to whether to start sending teams from the company to the associations to look at the issues of environmental sustainability in terms of production. It is important for the company that the operations are in line with these standards, since it could have a negative impact for the company if this was not the case. The Department of Environment, Health and Safety is responsible for this part of the business. Furthermore, the mill has permanent checks on water usage and influence of the mill on the quality of the water, so that action can be taken in case of any problems.

The drought is the biggest issue faced by both company and outgrowers. At the moment, Xinavane irrigates only 35 percent of all the cane. Besides problems with the sugarcane, food production of the local farmers is also in jeopardy. To help the people, Xinavane sends extension services to assist with the production of food. Mr. Cumbi did acknowledge that there was not enough attention given to supporting the farmers in the cultivation of their food crops using the irrigation systems. The people would have access to irrigation, but not change their practices, thereby still being dependent on rain-fed agriculture. Yet, there is not enough water now to irrigate all food crops. Besides assistance in cultivating crops, there has also been a program of support for livestock. Many farmers in the area keep animals, but the drought has caused a lot of losses since the animals died because of the lack of water, both to grow feed and to water the animals. The project of Xinavane assists with supplementary feeding, and will also provide molasses at the beginning of the crushing season to feed the animals.

ENVIRONMENTAL ISSUES AND COPING MECHANISMS OF ASSOCIATIONS' MEMBERS

The arrival of the sugarcane companies and their implementation of the outgrower schemes have impacted the lives of the communities around them. Not only had the farmers who are producing sugarcane, but also other people, experienced the consequences of the factories arriving. In order to learn more about the impact of growing cane on the environment, farmers were asked about the influence of pesticides, soil degradation and water availability. Since land has been divided into separate areas assigned to either

⁵⁶ Interview with Sancho Cumbi, Tongaat-Hulett, Xinavane, 31-03-2016

sugarcane production or food crops, farmers cannot comment on whether impacts of growing cane on the soil are positive, negative, or occurring at all. The only way to know the difference is when they would stop producing sugarcane and grow other crops⁵⁷.

Most farmers do recognize an influence of the use of pesticides on both the quality of the soil and on the food crops that they produce. Since the majority of the lands that are used to produce food crops are further away from the plantation, farmers do not experience problems caused by pesticides. However, farmers who do have land close to the plantation for cane do see a decreased quality of food because of the pesticides that are sprayed on the cane⁵⁸. One of the respondents grows maize in the area of the communal land, and stated that this crop gets damaged during the cutting season, when the sugarcane is burned before cutting⁵⁹. Another respondent explained that the quality of the soil has remained equal or has improved because of the use of pesticides. The pesticides are expensive, and that is a reason why some farmers do not buy them. However, since the use of pesticides requires a lot of water, the cane of the people that do not use them looks greener and bigger than the cane that is growing on the land of Açucareira de Maragra⁶⁰.

The main concern of the farmers is the drought⁶¹. Because of the droughts the farmers produce less sugarcane than they would normally do, which is harmful both for them and for the company. The shortage of water also leads to a decrease in food production. For example, before the drought, Açucareira de Xinavane used to irrigate the lands that were used for food crops as well as the sugarcane plots, but due to the scarcity of water this is no longer done⁶². Water sources that are normally used to irrigate the lands are no longer suitable since they have become salty or have dried up. Usage of this salty water kills the crops, and makes the farmers fully dependent on rainwater⁶³. Consequently, low levels of rain have an influence on the farming methods that are normally used, such as using grass as a fertilizer for example, which cannot be put into practice now⁶⁴.

FOOD SECURITY AND LIVELIHOODS

In Mozambique, agriculture plays a significant role in the provision of food. The Swedish International Development Cooperation Agency has found that 95 percent of the Mozambican women, and 66 percent of the Mozambican men, are engaged in agriculture (Sida, 2010), as cited in African Development Bank Group

⁵⁷ Farmer from Churamate, female, 58 years old, Palmeira, 21-04-2016

⁵⁸ Farmer from Combate à Pobreza, male, 58 years old, Ribangua, 29-03-2016

⁵⁹ Farmer from Combate à Pobreza, male, 59 years old, Ribangua, 29-03-2016

⁶⁰ Farmer from Armando Emilio Guebuza, male, 27 years old, Munguine, 10-03-2016

⁶¹ From the sixty association members that were interviewed, forty-four explicitly mentioned the drought as problematic for the production of both food crops and sugarcane.

⁶² Farmer from Churamate, female, does not know age, Palmeira, 21-04-2016

⁶³ Farmer from Armando Emilio Guebuza, male, 64 years old, Munguine, 08-03-2016

⁶⁴ Farmer from Churamate, female, does not know age, Palmeira, 21-04-2016

(2011). A plot of land is therefore an important asset of a Mozambican family, more specifically, it is often the only asset they possess. To give up that land is a big step for the Mozambican farmer, and that is one of the reasons why there was resistance against working as an outgrower for the sugar companies. Previous experiences during the colonial time and stories of other places in the country made people believe that the companies were not honest and were coming to take the land from the farmers⁶⁵. Yet, the land is now used to produce sugarcane and less land is available for food crops. Since both food and commercial crops are highly dependent on weather and climate events, it remains a risky business to be in. What does this mean for the food security of small-scale outgrowers? Are the farmers better able to earn a livelihood since the arrival of the sugar companies?

Agriculture is a major contributor to the provision of food and incomes for the interviewed farmers. From the total group of sixty respondents, fifty-five people have a piece of land on which they grow food crops, mostly for their own consumption but also for trade. Subsistence farming is the primary source of income for 26 of the respondents (see Figure 2) after the farmers started to grow cane. Before that, 35 people relied primarily on the cultivation of food crops. In the other categories, agriculture also plays a dominant role. Formal and informal employment is often found in agriculture, either with the company or with other farmers. So far, this is in line with what the companies and local government have stated, namely that the presence of the companies leads to more employment for the people in the district.

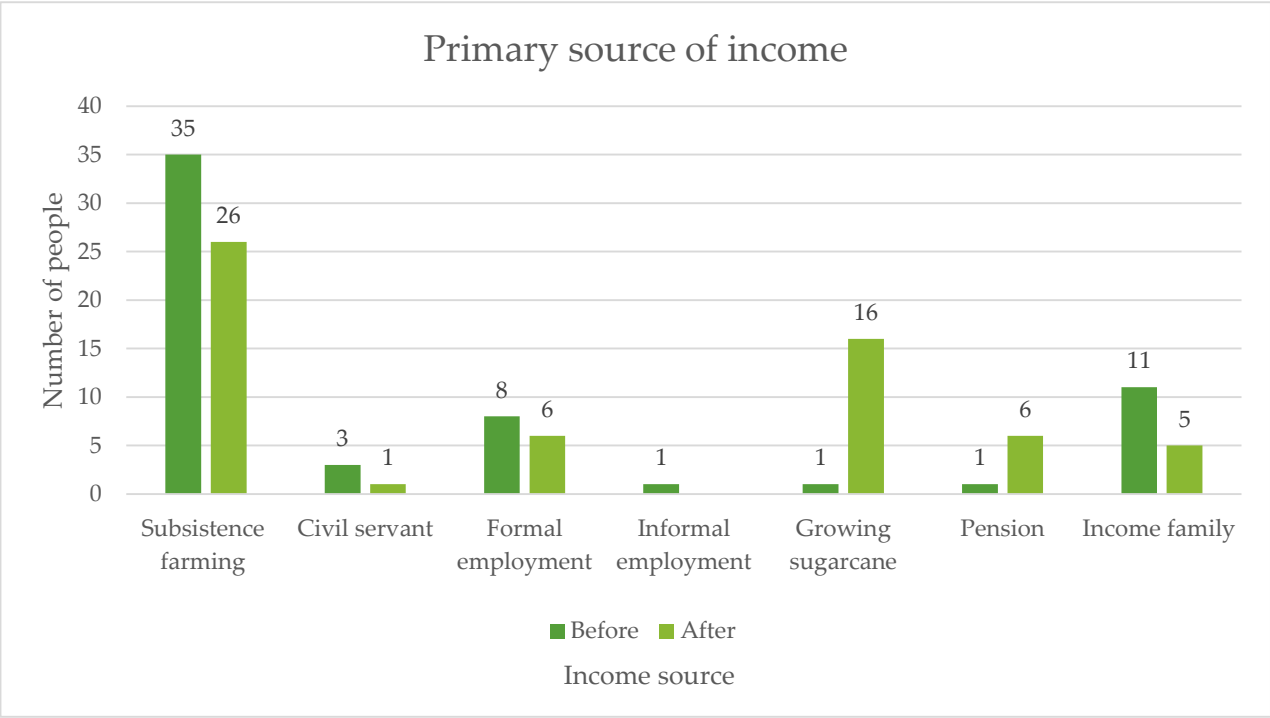


FIGURE 5: PRIMARY SOURCES OF INCOME BEFORE AND AFTER GROWING CANE

However, the question remains to what extent the cultivation of sugarcane has an overall positive impact on the lives of the farmers. For sixteen people, growing sugarcane is the main source of income, but

⁶⁵ Interview with João Jeque, general director of APAMO, Maputo, 04-05-2016

for 37 people it is the least important source of income⁶⁶. One respondent explained why: *“Income earned by cultivating sugarcane is not enough to live on. MNT 2.000⁶⁷ per year is almost nothing. Only in one year I earned enough money from selling sugarcane to Maragra⁶⁸.”* When this question was asked during the interviews, people laughed and shrugged their shoulders. This illustrates how minor the impact of the earnings is on the lives of the people. Nevertheless, others do see that earning a monetary income could have positive impacts on their lives. *“If the amount of money we made was higher it would be easy to make a difference in our daily life, since I could start a small business for example. But the money we receive is so small that it does not make a difference at all⁶⁹.”* The situation was not always how it is today. As illustrated by one of the respondents who explained: *“In the beginning the profits were good, and we made a lot of money. We were positive about growing cane. Four years ago it changed when Maragra found out that many farmers were producing sugarcane and earning well, that we started to earn less money⁷⁰. We are not happy now because it is hard to get around, but we continue to produce with the hope that it will get better. And it is still easier to earn an income by growing sugarcane than for example by growing corn⁷¹.”*

Besides monetary income, the respondents were asked whether they had sufficient food to feed their families, before and after starting to cultivate cane. In the situation before growing cane, only one person was not able to feed her family. After starting to produce cane, this number increased towards eight (see

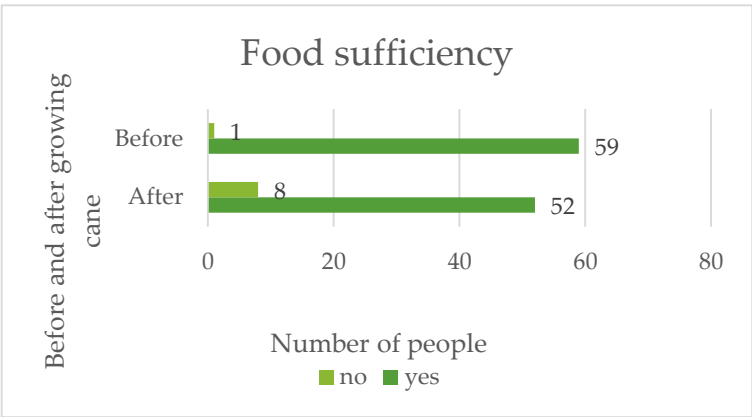


FIGURE 6: FOOD SUFFICIENCY BEFORE AND AFTER GROWING CANE

and not per se because of the shift to commercial agriculture. The partial transition to another type of agriculture has as a consequence that pieces of land were converted to that use. Whereas this has positive consequences for the people who were not able to cultivate the excess land, for others this means a reduction in the amount of food crops. One farmer explained: *“The situation has worsened a bit because the little money⁷² I receive from sugarcane production, is not enough to buy the food to compensate for the loss of the*

⁶⁶ Findings from field work, Manhiça District, February-May 2016

⁶⁷ Equals around €30, converted on 11-06-2016

⁶⁸ Farmer from Combate à Pobreza, male, 42 years old, Ribangua, 17-03-2016

⁶⁹ Farmer from Churamate, female, does not know age, Palmeira, 21-04-2016

⁷⁰ This is the perception of the respondent, it was beyond the scope of this research to check this as a fact. However, as shown in Figure 1, the price of sugar in the world market has dropped after 2011. This is around the same period in which the respondent saw a drop in proceeds. So, a drop in income could be caused by the general decrease in profits of sugar and not by company policy.

⁷¹ Farmer from Armando Emilio Guebuza, male, 56 years old, Munguine, 08-03-2016

⁷² Income in 2015 was 2.000 MNT per hectare

land⁷³.” A further reason why some respondents are positive about the transition is explained by another respondent: “When I started producing sugarcane, I had to reduce the food crops, but with the money that I gain from this deal I can buy food from the market. The income⁷⁴ is generally enough to compensate for the loss of my food cropping land⁷⁵.”

The two previous quoted answers are from farmers from different associations, with different

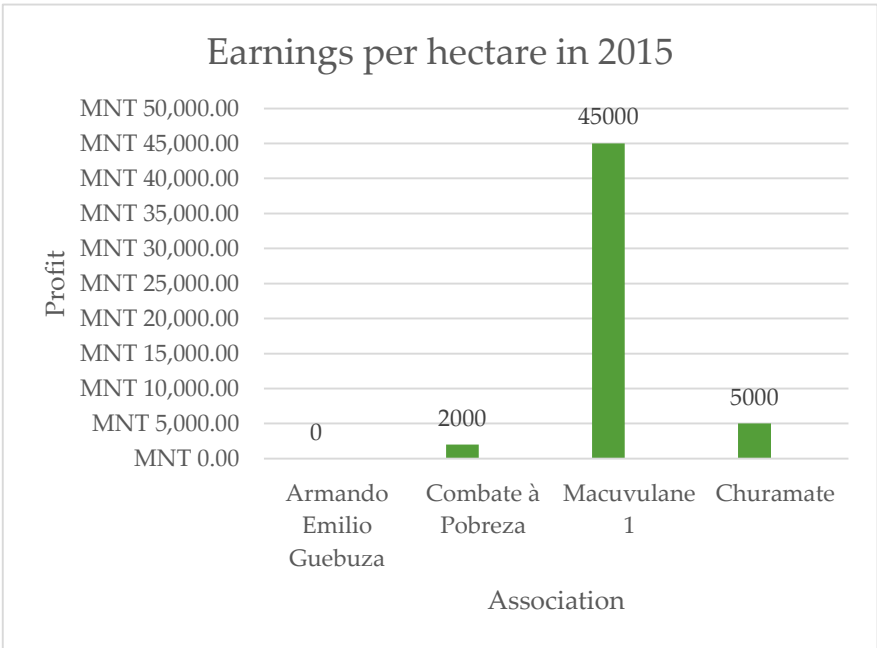


FIGURE 7: EARNINGS PER HECTARE IN 2015

profits. There is a variance in the amount of money earned per association. In Figure 4 the earnings per hectare of sugarcane in 2015 is presented for each association ⁷⁶ . The differences are significant, with Combate à Pobreza paying the lowest amount of money to the members. The low amounts for Churamate can be explained by the redemption of the loan for preparing the land. Macuvulene 1 is already

established and owns their own materials, therefore costs payable to the company are lower and income is higher⁷⁷. Farmers from Armando Emilio Guebuza received amounts ranging from 0 MNT for 8 tonnes of sugarcane, because of the costs of fertilizers that had to be paid, and 280.000 MNT for 264 tonnes of sugarcane. During December, when the money is received by most farmers, bills are paid for food, or the money is used for school supplies and Christmas presents. Building houses and infrastructure has been encouraged by the board of Combate à Pobreza⁷⁸, but since the advent of lower incomes it is not sufficient to continue these construction projects.

Despite low levels of income, less land to grow food and the drought, 52 out of 60 respondents still stated that there is enough food available for the family. The people have different coping mechanisms in order to sustain themselves and those who are dependent on them. One of the strategies, at least partly applied by 92 percent⁷⁹ of the farmers, is the cultivation of food crops: “Yes, I do have enough food, because I

⁷³ Farmer from Combate à Pobreza, female, 32 years old, Ribangue, 18-03-2016
⁷⁴ Income in 2015 was 43.500 MNT for 37 tonnes of sugar
⁷⁵ Farmer from Armando Emilio Guebuza, male, 27 years old, Munguine, 10-03-2016
⁷⁶ There is no data for Armando Emilio Guebuza, since farmers in this association do not grow the cane on communal lands and are therefore all earning a different income depending on amount and quality of the cane
⁷⁷ 45.000 MNT equals \$756,30 and €672,15. Divided by 365 this is \$1,84 per day, which is less than the poverty line of \$2 per day.
⁷⁸ Farmer from Combate à Pobreza, male, 23 years old, Ribangue, 30-03-2016
⁷⁹ 55 out of 60 people

am still producing crops other than sugarcane⁸⁰". Others depend on family members⁸¹: "Yes, also thanks to my daughter's support, who has a permanent job at Xinavane, working with the irrigation systems⁸²". Another option is formal employment, whether with the companies or another employer, which can lead to additional income. "Now I do have enough money to buy food, it is better now thanks to his job at Açucareira de Xinavane⁸³". This strategy is applied by 46 of the 60 respondents. In the end, the money earned by growing sugarcane alone is often not enough to sustain the people, "... the money from the sugarcane is only once per year, so during the rest of the year we have to do something to earn more money. We still depend on our own struggle for survival⁸⁴".

The biggest threat to agricultural production and food security is drought. Expectations for Southern Africa are that temperatures will rise and the amount of rainfall will drop. This poses a problem for a region which is highly dependent on agriculture for both domestic consumption and export commodities. The sugar companies reach 5,044 outgrowers through their programs (Table 1), excluding the family members of these outgrowers. If sustainable agricultural practices and climate-smart agriculture would be prioritized by these companies, and implemented in the training programs, this could have a positive effect on the farmers and their dependents. In the long run, this is beneficial for both parties. Improved yields could lead to higher profits, which in turn could result in an improvement of the socio-economic development of the communities through increased spending on health and education. Sustainable agriculture has thus far been promoted at a grassroots level. Donna Margarida⁸⁵, member of UDACAM, president of an association and a member of various other boards and bodies, teaches other farmers about the importance of sustainable agriculture. She illustrates the practices at her own farm and explains to others how to apply this on their own plots. Nevertheless, the scale in which she can reach people is minimal, compared to the potential reach of the companies.

FAIRNESS OF CONTRACTS

Now that the farmers are part of a commercial enterprise as one of the suppliers of sugarcane, as well as members of associations, they have to deal with new challenges. One aspect of these challenges is their position within the sugar supply chain and their ability to speak up for themselves and have an influence on the agreements between the different parties. This is not a position in which the farmers have previously found themselves. The history of Mozambique has been one in which the population has experienced many

⁸⁰ Farmer from Armando Emilio Guebuza, male, 37 years old, Munguine, 10-03-2016

⁸¹ 16 out of 60 respondents (partly) rely on family members. In two cases sons work in South Africa, two relatives work for Xinavane, the sons of one respondent live and work in the capital Maputo, five relatives have found other employment in the area and 6 people receive a pension

⁸² Farmer from Churamate, female, does not know her age, Palmeira, 20-04-2016

⁸³ Farmer from Macuvulene 1, male, 53 years old, Xinavane, 22-04-2016

⁸⁴ Farmer from Churamate, male, 38 years old, Palmeira, 21-04-2016

⁸⁵ Interview with Donna Margarida, Manhica, 15-03-2016

difficulties. The state was paternalistic, and during the socialist-communist era the government provided for the people. After the war, the hopes and livelihoods of the population were shattered and today there is a lack of entrepreneurial spirit among the Mozambicans⁸⁶. Furthermore, the farmers are not used to working as a collective, since they lived in poverty and provided for themselves⁸⁷. Hence, becoming a commercial farmer, an activity that is structured around collective farming on communal land, is a new situation in which the people have to find their way. The smallholders have no experience in commercial farming, or in dealing with financial and contractual agreements with powerful entities like the international sugar companies. These issues are critical to questioning the actual extent to which the farmers have relative bargaining power within these relationships.

The contracts that are implemented by the companies are called Cane Supply Agreements. These stipulate the terms and conditions of the supply of the sugarcane, but do not include a set price. Furthermore, the contract that Macuvulene 1 has with the contract is valid for 25 years⁸⁸, which is a long commitment, but is also the only association that was able to show the contract. None of the other contracts were obtained during the research. This is not surprising, since 48 percent of the respondents do not know whether they, or their association, has a contract as opposed to 40 percent who do know there is a contract and 12 percent who do not have a contract. In the case of Maragra, there is a lot of uncertainty about the contracts. At Armando Emilio Guebuza, there have been contracts in the past but these are taken back by the company after the farmers found irregularities and went to Maragra to complain. They did not get a new contract afterwards. For Combate à Pobreza, there was a contract signed in 2006, but there is no copy. The two associations at Xinavane did receive contracts.

Problems around the contracts are not new. Mr. Samoge⁸⁹ explained that there have been issues with the contract of Maragra in the past. The contracts contained irregularities and were not compliant with the law. Furthermore, the members of the associations were represented by the board members but they did not follow the right procedures. However, the contracts that are now used do respect the laws, and the communication from the companies towards the people is much clearer. Nevertheless, the issue around payment is not resolved. There is still uncertainty among the farmers, and distrust towards the company around whether or not the company pays the right amount of money. As one farmer described it: *“the company sets the price without letting us (the farmers) know, so I can’t predict the amount of money I will receive”*⁹⁰. The uneven division of power to the advantage of the company makes this possible. Capacity building training sessions that are implemented by Maragra and other training sessions that Xinavane hosts might change this in the future.

⁸⁶ Interview with Ernesto Sechene, Dutch Embassy, Maputo, 11-03-2016

⁸⁷ Interview with João Jeques, APAMO, Maputo, 04-05-2016

⁸⁸ Farmers from Macuvulene 1, Xinavane, 13-03-2016, 14-03-2016 and 22-03-2016

⁸⁹ Interview with Sergio Samoge, SDAE, Manhica, 14-04-2016

⁹⁰ Farmer from Armando Emilio Guebuza, male, 47 years old, Munguine, 12-03-2016

Since many farmers do not have, or are not aware that they do have a contract, it is difficult to make a conclusion about the fairness of these contracts. After all, how can something that does not exist be fair? Farmers that possess a contract do not perceive them as fair, and believe that the benefits and risks are not evenly divided between the company and the outgrower, where the benefits are for the company and the risks for the farmers⁹¹. The association that is still in the start-up phase, Churamate, is content with the contract, or, more specifically, the board members are, because other members are not aware of the existence of the contract. Nevertheless, Mr. Mudumane⁹² from Xinavane is hoping that the cooperation with Churamate will change after this first contract. At present, the company takes care of the farm and the production, and the farmers come and collect money at the end of the year. Xinavane would prefer to see that the farmers work the land and take ownership of the production process.

THE DIVISION OF RISKS, BENEFITS AND POWER

In an ideal world, the risks, benefits and power of the different actors within an agreement is equivalent, so that all parties equally benefit from a contract. However, this is not a perfect world, and the division of risks, benefits and power are not perceived as equal by the farmers of the associations. Table 3, as shown below, provides an overview of the perception of the farmers concerning their trust in the company to pay the correct amount of money, the division of risks and benefits between the associations and the company, and, when applicable, the division of risks and benefits between the members and the board members of the association. The two circle diagrams (Figures 5 and 6) represent a summary of the answers. Only 12 percent of the respondents trusted the company to pay enough money for the sugarcane, against 80 percent who did not trust them. The division of risks and benefits is neither perceived to be fairly distributed, according to 55 percent of the respondents. Neither the farmers nor Mr. Samoge⁹³ believes that the risks and benefits are equally divided between companies and farmers. The companies possess the knowledge of the production process and benefit flows, whereas the farmers do not have this knowledge. Furthermore, the company is the party that sets a price, and the farmers have to accept this. The lack of proper communication and discussion between company and farmers, also resulting from weak internal and intra-communication of the associations, exacerbates these unequal relationships.

⁹¹ Farmers of Macuvulene 1, Xinavane, 13-03-2016, 14-03-2016 and 22-03-2016

⁹² Interview with Jeremias Mudumane, Tongaat-Hulett, Xinavane, 08-04-2016

⁹³ Interview with Sergio Samoge, SDAE, Manhica, 14-04-2016

TABLE 6: PERCEIVED DIVISION OF RISKS AND BENEFITS

Association	Trust in company to pay the right amount of money	Risks and benefits equally divided between association and company	Risks and benefits equally divided between members and board
Armando Emilio Guebuza	Yes: 0 No: 16 Don't know: 0	Yes: 0 No: 15 Don't know: 1	N.A.
Combate à Pobreza	Yes: 4 No: 6 Don't know: 4	Yes: 3 No: 4 Don't know: 7	There is distrust towards the board, explicitly mentioned by 4 people. Nobody knows how much the board gets paid and farmers are divided in whether or not to trust their honesty
Macuvulene 1	Yes: 0 No: 14 Don't know: 1	Yes: 1 No: 13 Don't know: 1	Because of the clear rules and transparency within the association this was not a question, since it is all equal
Churamate	Yes: 1 No: 12 Don't know: 2	Yes: 12 No: 1 Don't know: 2	14 people are not happy with the way they are represented by the board, one person never comes to the meetings and has no opinion on this matter

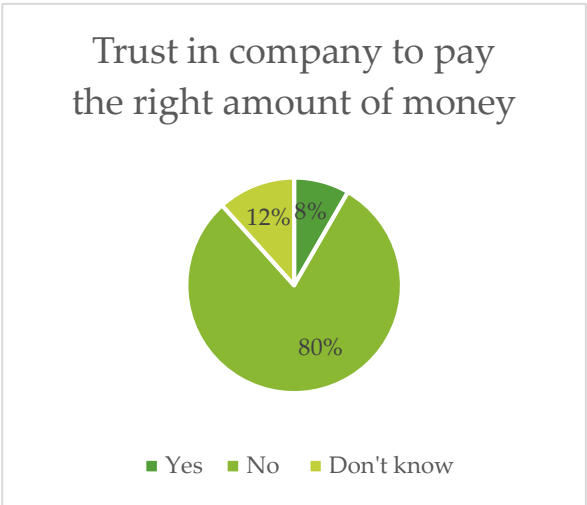


FIGURE 5: TRUST IN COMPANY

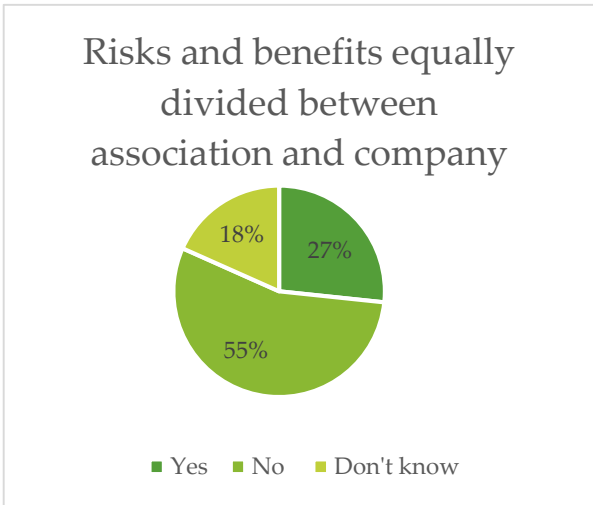


FIGURE 6: PERCEIVED DIVISION IN RISKS AND BENEFITS

The two sugarcane companies are in a position of power, both with respect to the government as well as towards the organizations. Amelia Muconto, Corporate Social Investment Officer at Xinavane, explained that the company takes over tasks that should be executed by the government⁹⁴. Her explanation is that the government is lacking capabilities and budgets, and that is why people go straight to the company to ask for infrastructure, like roads and schools, and services, like healthcare. It also happens that the government asks the company to organize governmental events, when their own budget does not suffice. Since the government is dependent on the company, it can have an influence on their tasks as

⁹⁴ Interview with Amelia Muconto and Renato Ribeiro, Tongaat-Hulett, Xinavane, 28-04-2016

mediator between people and company, as well as monitoring whether the companies are compliant with the laws.

With regards to the associations, the company is again the entity with most power. During the research it became clear that the company is the one that sets the prices for inputs, as well as the price paid for the sugarcane. Compared to the companies, the farmers do have very limited access to resources, and are therefore less able to benefit from the agreements. Furthermore, contracts, if there are contracts, are designed by the company and there is little to no room for input from the farmers⁹⁵. Though the companies claim to have an open door policy and to be willing to listen to the farmers, should there be complaints or requests, this is information not always known by the farmers. Nevertheless, even when the farmers do complain, as for example in the case of the first rounds of contracts of Armando Emilio Guebuza, the outcome was not that the farmers received a better contract but that they were left with no contract at all.

Within some of the associations⁹⁶, there is a clear division in power between the board members and the normal members. In the two associations where this is the case, most board members were the initiators of the association and organized the formation of the communal land. Members were asked to give up a piece of land, in exchange for another piece of land elsewhere to grow food crops. However, the land that was given back in return was not always of the same size or distance from the house as the land that was given up⁹⁷, and not all the board members were known to have given their own land to the communal lands⁹⁸. For both associations, the constitution of the board has not been changed since the founding of the association⁹⁹, and members do not have the feeling that they can have any voice within the association. Furthermore, it is unclear to the people how much (more) money the board members gain from their position. One of the farmers said, with respect to the land issues within the association: *"I don't think I would get the land back, unless all members want to quit"*¹⁰⁰. This shows that she is aware that there is power in numbers, but none of the members act accordingly, even though more respondents have mentioned standing up together as a way to get more clarity. The power, including decision making power over the division of benefits, remains in the hand of primarily the company and secondarily the boards of the associations. A lack of knowledge and transparency, as well as a lack of capacity and resources, facilitates this division.

Overall, there is the confirmation that the most power is in hands of the companies and the extension companies (like Unitrans that is responsible for transportation for Xinavane). The sugar companies are the entities that draw the contracts and set the terms for cooperation. Even though the

⁹⁵ Farmer from Macuvulene 1, male, 65 years old, Xinavane, 13-03-2016

⁹⁶ This is the case for Combate à Pobreza and Churamate

⁹⁷ Farmer from Combate à Pobreza, female, 42 years old, Ribangua 29-03-2016

⁹⁸ Farmer from Combate à Pobreza, female, 42 years old, Ribangua 29-03-2016

⁹⁹ Farmer from Combate à Pobreza, male, 64 years old, Ribangua, 17-03-2016

¹⁰⁰ Farmer from Combate à Pobreza, female, 62 years old, Ribangua, 18-03-2016

companies strive to work closer together with the associations and meetings are being held, there is still an imbalance of power and influence. Hence, the contracts are not fair as perceived by the farmers. The differences between risks and benefits are substantial and a broader understanding of the terms of the contracts are limited. The fact that there is little to no room for negotiation on contractual terms emphasizes the differences in power between the two parties. The lack of coordination within and between the associations means that the voices of the local farmers are not united. As long as the associations do not stand together as one power block against the companies, this imbalance will remain. Furthermore, the farmers do not seem to be aware of the degree to which the companies are dependent upon their production of cane. The company needs to make use of the out-growers in order to expand¹⁰¹, and more knowledge about this position might also strengthen the positions of the associations in negotiations with the companies. In this way, the farmers are better able to benefit from the agreements, and have access to relationships and resources that can reinforce these benefits. If the farmers would be more knowledgeable and united, they might have a stronger voice in negotiations on, for example, the price of the sugarcane. A better price might lead to more financial reserves, which in turn provides the option of not producing cane in a given year and instead planting another crop to maintain soil quality. Furthermore, increased knowledge about the sugarcane crop and its impacts on the environment can lead to sustainable agriculture practices. Currently, the farmers are relatively new to growing this crop and so they do not know about the impacts it has on the soil. Informed decisions on crop rotation and whether or not to grow the cane during a season can therefore not be made. Hence, this is an essential element in developing a sustainable business. As stated by Mr. Jeque; *"better quality crop is beneficial for both farmer and company, since both will make more money^{102"}*.

¹⁰¹ This point was made by Ana Margarida Mariguêsa (European Delegation), João Jeques (APAMO), Sancho Cumbi (Xinavane), Steven De La Harpe (Maragra)

¹⁰² Interview with João Jeque, general director of APAMO, Maputo, 04-05-2016

8. CONCLUSION AND RECOMMENDATIONS

This research focused on the presence of environmental sustainability practices in contract farming in the sugar sector of Mozambique. The main objective was to assess what mechanisms of empowerment were available to the farmers to address the sustainability issues. Since the farmers work on a contract basis with the companies, further objectives are to investigate the fairness of the contracts, as well as the power relations between the different actors. Examination of power relations are also relevant in determining the options that farmers have to address problems that they experience, as well as their access to resources and the ability to benefit from them. The final aspect of the research aim is to assess the relation between sustainability in contracts and food security. The main research question for this research is:

“Does contract farming, currently promoted by large-scale land investors, address environmental sustainability?”

Based on the data collection and analysis the conclusion of this research is that environmental sustainability is not addressed in the contract farming schemes of the two sugarcane companies in Manhica. The priority of the sugar sector is to make a profit and farmers focus on earning an income. Whereas the companies think in the long term and are therefore implementing practices such as crop rotation, farmers did not implement this practice on their plots. Lands are assigned towards the production of sugarcane, and since the cultivation of sugarcane is still relatively new and the people do not know what the impacts of this crop are, the cane is planted and cultivated for up to 7 years on the same area. This might be the wisest decision economically in the short term, since costs for clearing the fields, planting new crops to eventually plant sugarcane again are not made. Furthermore, the outgrowers have no knowledge on what the price for their cane will be for the next year, and are therefore unable to plan accordingly. This way of producing sugarcane is not the most sustainable option in the long term. Nonetheless, these schemes are intended to be long term, and that makes the further education of farmers in environmentally friendly agriculture of utmost importance. The fact that Xinavane is now considering teaching the farmers directly about environmental sustainability indicates that this has not been done before, but that the need for inclusion of sustainable practices is recognized.

The basis of cooperation between the farmers and the companies are the contracts, or Cane Supply Agreements. Even though the companies claimed that all outgrowers have a contract, this did not prove to be the case based on findings in the field. When contracts were available, the farmers were not content with the terms. Problems that were mentioned relate to a lack of transparency, unfair divisions of benefits and risks and low levels of payment. There is little trust among the outgrowers that the companies treat them fairly, and local government authorities also expressed concerns on this topic. Hence, the contracts are not perceived as equitable, and the benefits favour the companies. The difference in power between companies

and farmers makes it more difficult for the farmers to negotiate better terms. This might be because the company does not act when errors in the contracts are pointed out, or because farmers do not have sufficient time to go over the terms and make adjustments, or because the farmer did not receive a contract to begin with.

Being organized as an association should provide the farmers with a stronger voice in negotiations around the terms and conditions of the contract. However, internal relations, lack of organization, lack of knowledge and a lack of transparency result in the potential benefits not being realized. Furthermore, conflicts of interest are present within the associations as well. Those with most influence, either based on possessions, the initiative of forming an association or because of customs, are typically the ones that make decisions concerning the sugarcane production and the division of the proceeds among the members. Hence, power relations are not only uneven between company and association, but also within the associations. People with the least resources, or access, are the ones that benefit the least from their involvement in the contract farming scheme.

The issue of food security is included in the contracts. When farmers start to produce cane for the companies, part of the land is in principle held apart to produce food crops. Irrigation facilities are installed for the cane, as well as on some of the areas of food production. However, the knowledge of the farmers on the use of these irrigation systems is at times insufficient, in which cases these improvements are not fully exploited. Besides reservation of land and the supply of irrigation systems, sustainable agriculture practices for food security are not yet encouraged by the companies although the viability of sustainable agriculture practices is being advocated for from a grassroots level.

Within the theoretical debate on “land grabbing”, contract farming is proposed to be an opportunity for a win-win situation for both investors and local farmers. The condition under which such a scenario could be successful for both parties is that the relationship between farmers and investors is based on mutual trust and respect. This research found that in the case of the sugar companies in Manhiça District the precondition of trust was not realised. Furthermore, the farmers do not perceive the contracts as equitable, and sustainable agriculture practices were neither to be found within the contracts. It can so be stated that the contract farming agreements examined in this case study lacked veracity either in the contracts themselves or in terms of sustainable agriculture. The inclusion of environmental sustainability criteria in the training sessions, as well as providing the farmers with an approximation of the price, would help them to make more and better informed decisions. In this way, contract farming could become more equitable and more responsible. Nevertheless, this research focussed on only one sector in a single country, and further research should be carried out to determine whether these findings are unique to the case or are more universal.

The findings of this research are translated into recommendations. In order to make the most efficient use of the land, whilst realizing sustainable development as defined by the Brundtland Commission, it is advised that the companies include sustainable agricultural practices in their operations. These should be incorporated in the whole supply chain, and therefore include the outgrowers. Besides advocating sustainable agriculture, these recommendations focus on improving the capacity of the smallholders, increasing transparency within associations and between association and company, increase the strength of associations in terms of negotiation, and improvement of development opportunities for smallholders in terms of access to finance and security.

1. *Ensure that all the farmers have a contract and are aware of its contents* – Findings have pointed out that the contracts in the contract farming schemes are not always present, valid or perceived as fair by the farmers. A possible solution to solve this problem is to arrange meetings, either at the company or at the associations, with all the members, company representatives and government officials. The contractual terms should be explained in the local language to make sure that everybody involved is aware of the contents. Before asking the smallholders to sign, they should have time to take a copy of the contract home to scrutinize the clauses and have the option of suggesting variations. In a follow-up meeting these changes should be discussed and monitored by an independent third party, be that the government or an NGO. When the contract has been adjusted to incorporate potential adaptations and both parties are ready to sign, the contract can be formalised. Farmers and companies should both get an original copy, signed by both parties, to ensure the validity of the contract.
2. *Specific training sessions and regular audits of association management* – Issues of transparency and divisions of proceeds have been identified within the associations during the research. One possible way to improve the situation is to provide at least one training session with all the members of the association to explain what the roles of different members and board members are. In this initial session some general rules can be made clear, and the division of the profits can be specified, so that all members know how much the (board) members earn. Furthermore, rights of the farmers should be explained, as well as election procedures of board members, complaint management and participation in farming methods used on the communal land. An independent third party could be assigned to audit the books of the associations on a regular basis and by doing so increase trust and transparency, and hence reduce internal corruption. The contract farming scheme is after all intended as a means of reducing overall poverty and not just a mechanism to enrich a certain few.
3. *Changing location for meetings with farmers in the different localities, as suggested by João Jeque* – Another issue about transparency among the association members is that the representatives of the associations are the ones that go to the meetings and training sessions of the companies.

Complaints have been heard about the absence of shared information and feedback from these meetings to other members. João Jeque, general director of APAMO, suggested that these meetings could be held at the associations themselves, thus changing location every week. The aim of these rotating meetings is that the trainers can actually check how much knowledge the farmers have, and intervene when necessary. In this way, the capacity of all farmers is increased, and not just of the board members or a selected group of people.

4. *Development of a teaching program in sustainable agriculture practices* – Sustainable agricultural practices can help to improve the sustainability of the operations. Teaching the smallholders about the crop and ways to implement environmentally sustainable practices, as is now being decided on by Xinavane, is a step in the right direction. More knowledge could help the farmers to make plans and decisions, and also apply the knowledge onto other crops so as to increase food production. This is especially important in times of drought, as mistakes are expensive and should be reduced as much as possible. In this manner everybody, including the company, benefits from best practices being applied to the whole supply chain.
5. *Establishment of national body of farmer representatives in the sugar industry* – According to Antonio Chemane¹⁰³ Maragra is working on establishing the Mill Board Comity, in which managers of the company and presidents of the associations come together twice a year. The aim of this comity is to improve the communication between the different parties. The formation of a national body to represent the farmers was also made by Mr. Manjate of CEPAGRI, in order to give the smallholders a greater voice against the companies. Uniting the farmers is highly recommended. In this way, they can increase their negotiation power and have a weighted voice in determinations around the price of both the sugarcane and other products and services that are associated with sugarcane production. An increase in transparency and feeling of ownership may lead to more trust in the companies.
6. *Access to (micro-) financing and insurance for outgrowers* – The possibilities for small scale farmers to receive a loan are slim, and this limits the potential developments that farmers can realize. Insufficient income from the selling of sugarcane to the companies resulted in people being unable to make investments in, for example, setting up a little store. Entrepreneurial initiatives are hindered by a lack of financial funds and a limited access to resources. If loans and insurance would be more accessible for farmers, they could make investments in machinery or enterprises and thereby improve their standard of living. This is in line with the strategy of Maragra, who wants to stimulate SMEs in their area of operations.
7. *Cooperation with civil society, government and companies in creating and executing trainings on sustainable agriculture* – The benefits of sustainable agriculture, as discussed above, could potentially lead to socio-economic development, as well as better resilience for changes in climate. Since the

¹⁰³ Interview with Antonio Chemane, Illovo, Maputo, 04-05-2016

companies are not the only party with responsibilities in this regard, it is advised that companies, government, civil societies and NGOs all work together to develop a public awareness campaign and training sessions to educate the people in the district. In order to do so, it is advised to set up a commission with members of all groups so as to construct a program and apply for funding. The connections of NGOs and civil society can be used to reach the communities, whereas government officials might have the option of implementing the program over the region and companies can contribute knowledge and professional advice.

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ANNEXES

ANNEX 1: STANDARDIZED QUESTIONNAIRE FOR THE FARMERS

CONSULTA ÀS FAMILIAS

Data do inquérito:
Nome:
Empresa:
Nome de associação:

Recursos da pesquisa

O inspector irá explicar:

- *The objective of the study is to investigate the impact of the presence of the sugarcane plantation on the local farmers who grow sugarcane for them. This includes the benefits and the problems that are experienced by the community. The two topics within the research are the impact of producing cane on women within the household, and the environmental impacts on farm level of growing cane, and how farmers can address these issues.*
- *You were selected to participate because the farmer’s association you are a member in is part of the MSSDP.*
- *We will use your answers to write our Master Thesis. This document will be distributed to NADEC and ActionAid so they can use the information for their policies.*
- *We will not use your name in the research and the report is used for our studies and as a source of information for NADEC and ActionAid*
- *The interview will last for around 90 minutes.*

1. Dados dos agricultores:

a. Sexo

Masculino	Feminino
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b. Idade

Anos

c. Você pode ler e escrever?

Sim	Não
-----	-----

d. Qual é o seu mais alto nível de educação formal?

Nenhum	Primário	Secundário	Universitário
--------	----------	------------	---------------

e. Quantas pessoas fazem parte do seu agregado familiar?

Pessoas

f. Você possui esta terra ou você está arrendando a terra de outra pessoa?

Proprietário	Arrendatário
--------------	--------------

g. Você tem um DUAT?

Sim	Não	No processo de aplicação	DUAT da associação
-----	-----	--------------------------	--------------------

h. Quantos hectares de terra você possui?

Hectares

i. Qual é a porção desta terra que é usada para cultivar cana-de-açúcar para o contrato?

Hectares

j. Por que você escolheu se tornar um membro da associação?

1. Contrato

a. Quando você começou a produzir cana-de-açúcar para a empresa?

b. Você tem um contrato com a Xinavane para produzir cana-de-açúcar?

Sim, agora	Não é mais válido	Não, nunca
------------	-------------------	------------

c. Em que ano você assinou o contrato?

d. Você já leu o contrato?

Sim, antes de assinar	Sim, depois de assinar	Não, nunca
--------------------------	---------------------------	---------------

e. Quais são as cláusulas que estão incluídas no contrato?

f. Por quantos anos é a duração do contrato?

Anos

g. Se não houver um contrato válido agora, como o negócio é regulado entre você e a empresa?

h. Quem o informou sobre a possibilidade de assinar este contrato? A pessoa de contacto também poderia ajudá-lo com outras questões?

i. Foi tudo claro no contrato quando você assinou?

Sim	Não
-----	-----

j. Você estava envolvido durante o processo de concepção do contrato?

Sim	Não
<i>Se sim, como?</i>	

k. Você pode explicar o sistema de pagamento utilizado pela empresa e como o preço da cana-de-açúcar que você vende para a empresa é determinado?

Sim	Não
<i>Se sim, como é que funciona?</i>	

l. Você acredita que a empresa paga a quantidade correta de dinheiro?

Sim	Não
-----	-----

m. Você acha que os benefícios e riscos da produção de cana-de-açúcar são divididos igualmente entre você e a empresa?

Sim	Não
-----	-----

Porquê:

n. Está satisfeito sobre como a associação dos agricultores representa você? E quando você quiser reclamar sobre algo, como e onde você faz isso?

Sim	Não
Porquê:	

o. Qual é o empréstimo que você concordou com Xinavane?

Meticais

p. Quanto dinheiro você ganha com o contrato?

Meticais/Ano

2. Fontes de renda

a. Quais foram as principais fontes de renda da sua residência antes de você assinar um contrato com a empresa? Incluem, por exemplo, remessas de familiares no exterior ou pensões de emprego anterior.

Posicione o que está a contribuir mais para o seu rendimento total.

Ocupação	Posição
Trabalho camponês	

Criação de gado	
Funcionário público	
Comerciante	
O emprego formal (sector privado)	
Outros:	

- b. Quais são as principais fontes de renda do seu domicílio depois de assinado um contrato com a empresa?
Incluem, por exemplo, remessas de familiares no exterior ou pensões de emprego anterior.
Posicione o que está a contribuir mais para o seu rendimento total.

Ocupação	Posição
Trabalho camponês	
Criação de gado	
Funcionário público	
Comerciante	
O emprego formal (sector privado)	
Agricultura por contrato	
Outros:	

- c. Você foi capaz de fornecer alimentos suficientes para a família antes do estabelecimento da plantação?

Sim	Não
-----	-----

- d. Você está agora em condições de fornecer alimentos suficientes para sua família?

Sim	Não
-----	-----

- e. É o fluxo de renda para a família mais estável após a assinatura do contrato?

Sim,	Não,
------	------

Porquê:

3. Os benefícios sociais para a comunidade

a. Houve mudanças em termos de acesso à água, educação, mercados e de cuidados de saúde como resultado da criação da empresa? Se sim, por favor, explique.

	Melhorada ou diminuída	Explicação
Água		
Educação		
Mercados		
Cuidados de Saúde		
Outros:		

b. Você acredita que a empresa se preocupa com o bem-estar da comunidade?

Sim	Não
-----	-----

Porquê:

4. Impactos Ambientais

- a. Como avalia o impacto das açucareiras (incluindo a utilização de pesticidas) sobre os seguintes aspetos?

Água	
Solo	
Culturas alimentares	

- b. Você já ouviu sobre agricultura sustentável, e se sim, como você aplicá-la?

Sim	Não
-----	-----

A saber:

5. Avaliação global do modelo do contrato

- a. Quais são os três (3) mais importantes benefícios para você no crescimento da cana-de-açúcar para a empresa?

1.	
2.	
3.	

- b. Quais são os três (3) aspectos mais desagradáveis para você no crescimento da cana-de-açúcar para a empresa?

1.	
2.	
3.	

- c. Você está em geral satisfeito com a decisão de ter um acordo contratual com a empresa, por exemplo, as diferenças entre as expectativas e a realidade?

Sim	Não
<i>Porquê:</i>	

- d. O que você sabe sobre o projeto de União Européia?

e. Você acha que este projeto terá um impacto positivo na sua vida?

ANNEX 2: OVERVIEW INTERVIEWS

Overview of conducted interviews with stakeholders other than the general members of the farmers’ associations

	Date	Place	Name	Organization	Function
1	26-02-2016	Manhiça	Hifolito Benfica (president), Joagquim Mabui, Filipe Enoque	NADEC	Founders and board members of NADEC
2	29-02-2016	Manhiça	Fiona Lawson and Treunha Mária Zangado Vontade	NADEC	Inspirator from ActionAid and employee NADEC (Alternative Economies)

3	01-03-2016	Manhiça	Group interview	UDACAM	Board members of UDACAM. Total of 14 members, 8 men and 6 women
4	03-03-2016	Munguine	Group interview	Local gate keepers	Main Chiefs of the community and the farmers' associations in Munguine
5	04-03-2016	Manhiça	Rebecca Mebui	UDACAM	Board member
6	04-04-2016	Maragra	Piet Jan Zijlstra and Andrew Cochrane	European Delegation and Illovo ltd.	EU technical assistant and Project Coordinator for the EU support
7	08-03-2016	Moluana	Augusto Fernande Guambe	Government	Chefe de localidade de Munguine
8	08-03-2016	Munguine	Group interview	Farmers' association Armando Emilio Guebuza	Board members and general members
9	11-03-2016	Maputo	Ernesto Sechene	Dutch Embassy	Department of agribusiness and private sector development
10	15-03-2016	Manhiça	Donna Margarida		Facilitator Sustainable Agriculture (among others, including board functions)
11	16-03-2016	Manhiça	Group interview	Farmers' Association Combate à Pobreza	Board of Combate à Pobreza
12	29-03-2016	Manhiça	Group interview	Farmer's Association Combate à Pobreza	Board of Combate à Pobreza
13	31-03-2016	Xinavane	Sancho Cumbi	Tongaat-Hullet	Agricultural operations, training and small-scale growers' development manager
14	05-04-2016	Maputo	Ana Margarida Mariguêsa	European Delegation	Representative of European Delegation
15	08-04-2016	Xinavane	Board of Macuvulene 1	Farmers' Association Macuvulene 1	
16	08-04-2016	Xinavane	Board of Churamate	Farmers' Association Churamate	
17	14-04-2016	Manhiça	Sergio Samuge	Local government	Director of SDAE
18	16-04-2016	Maragra	Steven De La Harpe	Illovo lmt.	Agricultural Manager
19	28-04-2016	Xinavane	Amelia Muconto and Renato Ribeiro	Tongaat Hulett	Corporate Social Responsibility Officer

20	28-04-2016	Manhiça	Mr. Mambero	Government, environmental office	
21	04-05-2016	Maputo	Antonio Chemane, João Jeque	Maragra, APAMO	Human Resources Manager Maragra and General Director of APAMO
22	13-05-2016	Maputo	Jorge Manjate	CEPAGRI	Sugar Production and Market

ANNEX 3: BANNER NADEC



PICTURE 1: BANNER OF NADEC

ANNEX 4: ARMANDO EMILIO GUEBUZA



PICTURE 2: BUILDING ARMANDO EMILIO GUEBUZA



PICTURE 3: YOUNG SUGARCANE PLANTS OF THE ASSOCIATION



PICTURE 4: WATER IRRIGATION



PICTURE 5: INTERVIEW WITH SOME OF THE FARMERS

ANNEX 5: COMBATE À POBREZA



PICTURE 6: ONE OF THE BUILDINGS OF COMBATE À POBREZA, FUNDED BY FAIRTRADE



PICTURE 7: THE ROAD THAT LEADS TO THE SUGARCANE FIELDS OF THE ASSOCIATION



PICTURE 8: BUILDING WHERE MEETINGS OF THE ASSOCIATION ARE BEING HELD, FUNDED BY FAIRTRADE



PICTURE 9: GROUP PICTURE WITH THE BOARD MEMBERS OF COMBATE À POBREZA

ANNEX 6: MACUVULENE 1



PICTURE 10: STORE FOR MACUVULENE 1



PICTURE 11: MACHINERY AND EQUIPMENT



PICTURE 12: OFFICE BUILDING AND EDUCATION CENTER

ANNEX 7: CHURAMATE



PICTURE 13: FEMALE FARMERS IN FRONT OF THE SUGARCANE



PICTURE 14: WOMEN PARTICIPATING IN THE RESEARCH IN THE ASSOCIATION BUILDING