



Smallholder Sugarcane Production Systems in Xinavane, Mozambique - Report from the Field

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Smallholder Sugarcane Production Systems in Xinavane, Mozambique: Report from the Field



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List of abbreviations

AdX	Acucareira de Xinavane
APAMO	Associação dos Produtores de Açúcar de Mozambique
AMSP	Accompanying Measures for Sugar Protocol
ARA-Sul	Administração Regional das Águas, Regional Water Authority for southern Mozambique
CEPAGRI	Centro de Promoção da Agricultura
EBA	Everything But Arms
EC	European Commission
EIB	European Investment Bank
EU	European Union
GoM	Government of Mozambique
GTZ	Deutsche Gesellschaft für Technische Zusammenarbeit
JMC	Joint Management Company
MTn	Metical (Mozambican currency)
NGO	Non Governmental Organisation
ORAM	Organização Rural de Ajuda Mutua
PARPA	Plano de Acção para a Redução da Pobreza Absoluta
PAF	Performance Assessment Framework
SDEA	Serviços Distritais das Actividades Económicas (District Agricultural Office)
SSG	Small Scale Growers
SSIP	Small Scale Irrigation Project
TH	Tongaat Hulett

1. Introduction

In the PROAGRI II strategy for agricultural development the Government of Mozambique (GoM) identifies commercial agriculture as a frontrunner for rural development. The GoM therefore stimulates foreign investments which have to provide the required knowledge and capital to develop a modern, commercial agricultural sector that is capable of capitalizing on the vast agricultural potential of the country. The GoM and donor organizations emphasize however that also smallholder agriculture has its place in these developments. The reasoning is that local farmers obtain access to modern technologies and capital via foreign investments and that these local farmers accumulate and reinvest their profits in the local rural economy. This could trigger an endogenous process of transition from a subsistence-oriented, low input-low output agriculture to a market-oriented more productive one, which then reduces rural poverty (Marini 2001).

In Mozambique there has been considerable interest in the production of bio-fuel crops in the past few years. The GoM supports these developments as there appears to be an attractive international market for bio-fuels, whilst at the same time bio-fuel production could reduce the need for expensive fuel imports. Also the favourable trade concessions with the EU under the Everything But Arms (EBA) agreements, stimulates foreign investment in the agricultural sector in Mozambique as it provides opportunities for agricultural produce to access the European market on favourable terms (LMC International 2004; LMC International 2006; Zílio, Liddell et al. 2008; Açucareira de Xinavane SA 2010).

One of the crops which experiences a strong revival in Mozambique stimulated by these developments is sugarcane, which according to the International Sugar Institute (ISO 2008, 4) has witnessed an average production increase of 30% annually between 2000 and 2006. Besides the EBA agreements the EU also reforms their sugar policy. In the new policy there are more opportunities offered to Mozambique to export sugar to the EU for prices that are still above world market prices (LMC International 2004; ISO 2008; ADE 2009). The EU Sugar Adaption Measures stimulate the provision of opportunities for smallholder agricultural development, which are in line with the objectives of the PARPA (poverty reduction strategy) of the GoM. Marini (2001) warned however for a lack of interest for smallholder outgrowers in sugarcane production due to the abundance of land and preference of the sugarcane industry for large scale outgrowers which come with fewer constraints as numerous small scale outgrowers.

Although in the African context there are many kinds of smallholder sugarcane programs (see e.g. IFAD, 2003; Danish Agricultural Advisory Service 2007; ISO, 2008), there appears little experience with the inclusion of smallholder sugarcane production into modern, company lead sugarcane production in Mozambique. The only cases reported on smallholder outgrowers appear to be in Xinavane, where in 1998 the first smallholder sugarcane pilot project commenced. The EU therefore even qualified Xinavane as an example of smallholder activities in Mozambique. The sparse sources that report on Xinavane provide a non-uniform overview of the feasibility of Xinavane as a model for other outgrower activities. However, it is obvious that Xinavane has a lead in Mozambique concerning sugarcane smallholder outgrowers (MINAG-CEPAGRI 2008) and during this research it was observed that smallholder sugarcane production is rapidly expanding in Xinavane.

As there is such limited information available whilst investments in agriculture are increasing rapidly, the objective of this study is to provide insights into current smallholder activities in sugarcane production at the local level in Xinavane. This information will be used to analyze how policy is translated into the local context, what its effects are and what lessons can be learned from this in order to achieve the goals set by the GoM in the PARPA II policy framework. By analyzing what goes on at ground level this study aims to provide insights and suggest possible (policy) interventions/alternatives on current activities and thereby seek to contribute to the improvement of current and future sugarcane production practices.

2. Methodology and structure of report

2.1 Research techniques

This study included two weeks of literature study in The Netherlands, three months of fieldwork in Mozambique of which one month was spent in Maputo and two months in the Xinavane area, and six weeks for data analysis and report writing. In order to obtain the desired information the following research methods were applied:

- Literature study
- Interviews
- Field observations
- Survey

The literature study focussed on the retrieval of documentation on sugarcane developments in Mozambique and Xinavane specifically. Most documentation was retrieved in Mozambique from actors like the Açucareira de Xinavane (AdX), CEPAGRI, and the EU delegation in Mozambique. Although there is some documentation on sugarcane development in Mozambique, literature considering smallholder sugarcane development in Mozambique proved scarce, most likely as only recently sugarcane production is expanding again.

The majority of fieldwork was carried out in the Xinavane area, consisting of the north western part of Manhiça district and the South eastern part of Magude district, both in Maputo Province. In the Xinavane area farmers, leaders of farmer associations, technical staff supporting the associations, Açucareira de Xinavane management, NGO's and government officials were interviewed. These interviews consisted of group interviews as well as individual interviews depending on the preference of the interviewees. Some respondents were interviewed several times. Information was also gathered in Maputo city, where consultants, (semi)-governmental organisations and NGO's were interviewed. For this research 45 semi-structured interviews were conducted.

The survey consisted of 125 questionnaires (see Annex 1) that was conducted over a five day period by eight locally recruited surveyors. As time and finances were constrained, only five associations were surveyed. These associations were selected on the basis of their characteristics. In each of these associations 25 members were randomly selected and asked to participate in the research.

2.2 Structure of the report

This report starts with a brief introduction of sugarcane developments in Mozambique (Chapter 3) in order to set the context of (smallholder) sugarcane developments in Xinavane. Chapter 4 continues with a description of the (smallholder) outgrower activities in the Xinavane area. This introduces the location and provides a small introduction on the different phases of development. Chapter 5 then continues with an overview of the most relevant actors involved and their roles in the Xinavane smallholder sugarcane expansion. Chapter 6 delves into the smallholder organizations and demonstrates what structures are in place to organize the smallholders, what the issues in these organizations are and what needs to be improved. In Chapter 7 the actual labour arrangements are presented and some information is provided on pros en cons of different labour arrangements. The financial dealings between the smallholders and associations are dealt with in Chapter 8, where also information is provided about incomes of smallholders. Chapter 9 then provides information relating to different contractual agreements (or lack of contractual agreements) between the various partners. Finally conclusions are provided in Chapter 9 and some recommendations for improvements in Xinavane or future other smallholder sugarcane plantations are provided in Chapter 10.

Several boxes are inserted touching upon issues which are relevant for a better understanding of the context of smallholder sugarcane developments in Xinavane. Also Annex 7 provides some photographs illustrating developments in Xinavane.

2.3 Scope and limitations

From the start of this research there existed a very limited understanding and knowledge on what (smallholder) sugarcane activities were present in the Xinavane area, or in Mozambique as a whole. The objective of this research covered many aspects and therefore could only touch upon subjects, whilst each subject touched upon would warrant its own four months of research. The research must therefore be regarded as explorative rather than comprehensive, touching and identifying issues rather than treating each issue in an exhaustive manner.

A major limitation was the local language, being Shangana, which the researcher was incapable of speaking and understanding. Therefore thorough research into complex social relations, for which it is necessary to build trust, understand subtleties and remain in the field for a prolonged period, was not really possible. Also translations were performed by a non-professional translator.

A key advantage enjoyed in this research was the CEPAGRI support through the provision of legitimacy, documentation, contacts and an introduction to AdX management. Their recommendation letter proved a valuable credential which opened many doors, although some remained closed.

3. Sugarcane developments in Mozambique

3.1 Sugarcane in general

The commercial sugarcane sector in Mozambique commenced in 1908 with the establishment of sugarcane estates and mills in the Zambezi and Buzi valleys, being followed by the establishment of the Xinavane plantation on the Incomati River banks in 1914. Two more estates were established in the 1920s (Marrameu and Luabo) and then in the late 1960s two new estates were created (Maragra and Mafambise), explaining the large increase in production in Figure 1 (Marini 2001; Açucareira de Xinavane SA 2010). In the early 1970s sugar was the third largest export product in Mozambique, with an average production over 300,000 tons per year. All of the estates and mills were owned by foreign entities and much of the produce was exported to Europe (Marini 2001).

Performance of the estates and mills dropped rapidly after 1973, due to an outflow of knowledge and skills associated with the exodus of the (mainly) Portuguese management staff, due to uncertainty surrounding the Independence of Mozambique and the subsequent new socialist regime and economic program. Subsequently, the civil war from 1977 till 1992 paralyzed rural Mozambique and had detrimental effects on the sugar industry, taking most sugarcane mills out of production (Instituto Nacional do Açúcar 2000; Marini 2001; Açucareira de Xinavane SA 2010). Only Xinavane and Mafambisse kept on producing, albeit far below their potential (Instituto Nacional do Açúcar 2000).

Box 1: Sugarcane Export Market

According to the National Adaption Strategy the average production cost of raw sugar in Mozambique was estimated at USD 260 (€ 210) per ton in 2005. This Strategy also forecasted production increases from 240,000 tons in 2007 to 500,000 in 2010, which will lead to increased scale advantages and costs are expected to diminish to about USD 230 per ton (about € 170). Fobbing, freight and insurance costs were estimated at €90 per ton, bringing the total cost of Mozambican raw sugar delivered to the European market to € 260, where sugar is bought for € 335 per ton. Therefore exporting sugar to the EU is and will remain a profitable business for the Mozambican sugar industry.

Source: (ADE 2009) and (AdX 2010)

Sugarcane production in Mozambique from 1961 till 2008

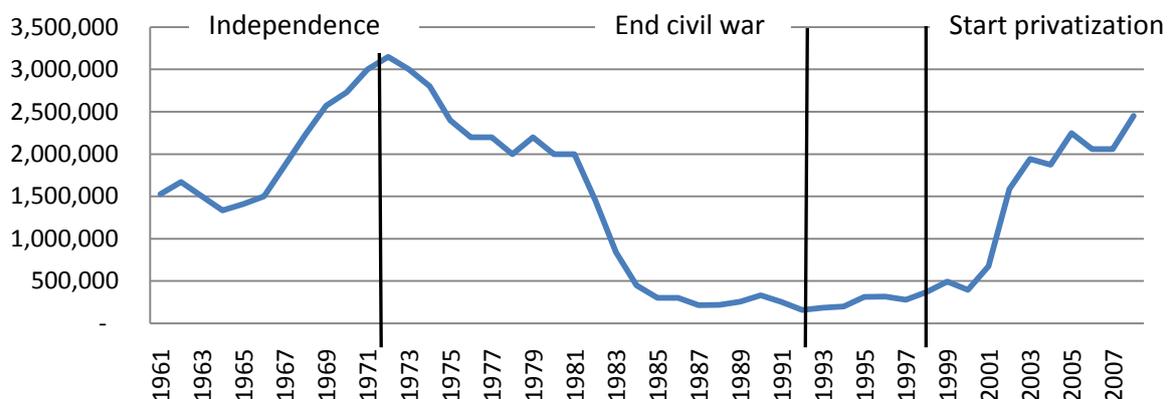


Figure 1 Sugarcane production in Mozambique from 1961 till 2008 (Source: FAOSTAT, visited 10-07-2010)

When peace was signed in 1992, the Mozambican government aimed to rehabilitate the sugarcane sector since its production in Mozambique bore comparative advantage. These comparative advantages, according to INA (2000), include excellent agricultural conditions for cane growing, a

labour surplus in rural areas and sugarcane estates and mills which only needed to be revitalized. Batidzirai (2006) confirms that the physical conditions in Mozambique are favourable for bio-fuel production, of which sugarcane would be an important crop and Schut (2010) provides a more detailed overview in which he combines the agro-ecological conditions with socio-economic conditions in establishing where bio-fuel feedstocks are produced, indicating socio-economic conditions are crucial for the actual development of bio-fuel production in Mozambique. It was clear to the government however that the private sector was needed to develop this industry as well as access to foreign technology and capital. Companies from nearby countries with well developed sugar industries (South Africa and Mauritius) were invited to participate in the revitalization of the Mozambican sugar industry. These companies were attracted by the potential of increased production for US and EU markets which allows for sugar prices above world market prices, whilst expansion opportunities in their own countries were limited (see Box 1) (Instituto Nacional do Açúcar 2000).

3.2 Smallholder sugarcane activities in Mozambique

Marini (2001) notes that the strategy adopted by the government to revive the sugarcane sector emphasized the need for more involvement of Mozambicans in the sugarcane industry. Marini anticipated two scenarios for sugar production in Mozambique: sugarcane grown by mills with large estates or mills hiring outgrowers on their estates. These mills and management were expected to be run by experienced foreign companies with the outgrowers being Mozambicans. Advantages of including Mozambicans would be that less profit is expatriated and more stays in Mozambique to stimulate the national economy. Marini (2001) expected especially larger outgrower companies to profit from the sugarcane expansion, whilst the number of small scale outgrowers, which could stimulate the local rural economy, would be minimal. This assumption was based on the fact that land availability for the estates would not form a problem, whilst millers then regarded risk externalization and the need for capital as priorities. Marini also points out that the management of smallholders would be more complicated than the management of a few larger outgrowers.

However, smallholder activities in sugarcane production are stimulated as they fit the development goals of the GoM and EC, with the EC supporting the Ministry of Agriculture to the tune of 6,000,000 Euro for the Accompanying Measures for Sugar Protocol (AMSP) adaptations (interview CEPAGRI, 22-03-2010) (Delegação 2006; LMC International 2006; ADE 2009). Engaging with smallholders is not compulsory by law but it constitutes policy and as such is recommended practice for companies operating in Mozambique's sugar sector. The expansion of smallholder activities forms a prominent part of the Sugar Adaptation Plan as adopted by the GoM and the Association of Sugar Producers of Mozambique (APAMO), which is to guide the Mozambican sugar industry into the near future (see: LMC International 2006).

Table 1 Overview of smallholder activities in the four currently active sugarcane estates as reflected in Performance Assessment Framework (PAF) 2008 (*prediction in 2008)

Plantation	Costs (€) of smallholder expansion plans	Social Services (€)	Training (€)	Tons of cane produced by smallholders in 2007	Tons of cane produced by smallholders in 2010*
Marromeu	1,122,000	202,500	67,500	3,150	31,200
Mafambisse	1,442,970	202,500	67,500	-	31,500
Xinavane	11,261,482	638,198	1,777,059	31,886	180,500
Maragra	1,492,998	202,500	67,500	2,064	27,826
Total	15,319,450	1,245,698	1,979,559	37,100	271,025

According to the executive director of APAMO (interview 01-04-2010) and a representative at CEPAGRI (interview, 22-03-2010), all sugar plantations apply their own sugarcane outgrower strategies and projects and there is no national plan, strategy or guidelines on how to organize or implement smallholder activities. The Performance Assessment Framework (PAF) monitors the adaptations in the sugarcane sector in order to fulfil the requirements for AMSP funding. It does so through an assessment that includes 35 (environmental and social) indicators. This assessment illustrates that the smallholder plans and activities at Xinavane are considerably more ambitious than the activities and

plans handed in by the other sugarcane mills. The latter plans roughly correspond with a 25% share in the 6,000,000 Euro budget made available by the EC (see Table 1).

3.3 Conclusion

In conclusion it can be observed that the sugar sector in Mozambique has witnessed a strong revival since the start of the implementation of privatization policies, benefitting from the prevalent favourable (growing) conditions. The sector is set to grow even further in response to a newly emerging market for biofuels (ethanol). The Mozambican government would like to stimulate more smallholder involvement in sugar production in order to foster rural development and pro-poor economic growth. It does so through the facility of Accompanying Measures for the Sugar Protocol (AMSP). So far Xinavane sugar estate has been the most responsive to policies fostering the development of smallholder outgrower schemes. That is why the rest of this study is devoted to the study of these developments in Xinavane.

4. Xinavane

This chapter provides a closer look Xinavane sugar estate by presenting its location (4.1), history (4.2) and the phased development and scope of smallholder sugar outgrower schemes (4.3).

4.1 Location

The Xinavane sugar estate (25° 11' 53 S; 32° 52' 3 E) is located in the districts of Magude and Manhica, Maputo Province, Mozambique, with most of its plantation area on the southern banks of the Incomati River. There are basically three production sites, comprising the Maholele Expansion Area (west of Magude), the Western Expansion Area (east of Magude and close to Xinavane) and the Eastern Expansion Area (further east of Xinavane). In all three areas smallholder activities are being developed as well. Figure 2 illustrates the area of the plantation, which in total amounts to roughly 15,000 ha, including planned expansion till 2011 (Tongaat Hulett 2009). The pink/gray areas demonstrate smallholder expansion areas.

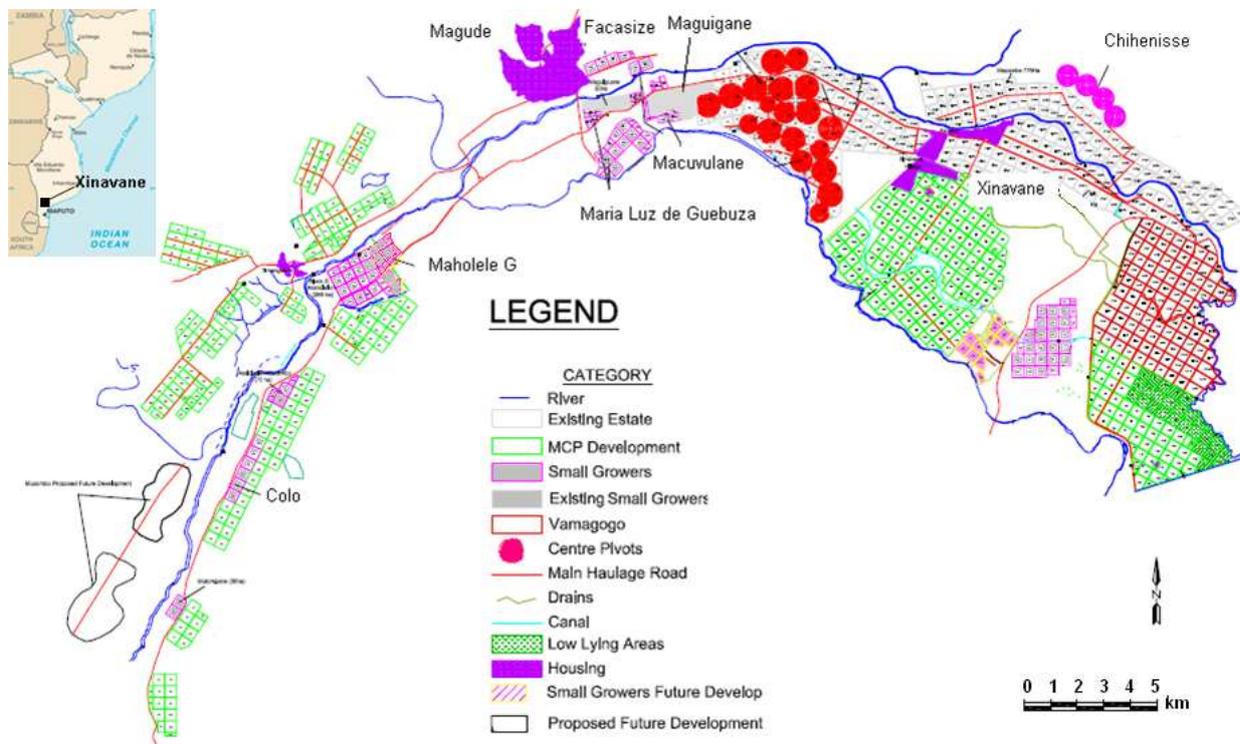


Figure 2 Location of Xinavane in Mozambique and map of Xinavane plantation (based on Agricane map)

4.2 Sugarcane developments in Xinavane

In 1914 a British-owned company founded a sugarcane plantation and sugar mill at Xinavane. The estate was taken over by a Portuguese company in the early 1950s and in 1975 the newly independent Mozambican State took a 51% share in the estate. Although the Xinavane estate suffered from the outflow of skilled personnel due to decolonisation and civil war, resulting in a serious drop in production after 1975, the estate and mill kept functioning (Instituto Nacional do Açúcar 2000; Açucareira de Xinavane SA 2010).

The Açucareira de Xinavane (AdX) comprises the sugar mill and nucleus estate in which Tongaat Hulett Sugar took a 49% share in 1998. In 2000 a rehabilitation program for the mill and estate commenced after which the share of Tongaat Hulett increased to 88% (Vaz and P. van der Zaag 2003; Açucareira de Xinavane SA 2010). Currently a new expansion program is being implemented in which the mill capacity expands from 69,000 tons of raw sugar in 2007 to 208,000 tons in 2011. For efficient use of the mill 1,680 million tons of cane are required, of which 594,000 tons will be provided by the existing

nucleus estate; 726,000 tons by expanding the nucleus estate; 198,000 tons by existing outgrowers and 164,000 tons by new outgrowers (see Figure 3).

AdX intends to expand to 15,858 hectares in 2011, comprising 11,879 hectares of nucleus estate and 3,979 hectares with outgrowers (Tongaat Hulett 2009). There are two types of outgrowers: a larger outgrower company as described by Marini (2001) being Vamagogo comprising ca. 1,400 ha) and smallholder outgrowers. The EC clearly indicates that its Adaption Measures are a form of pro-poor development aimed at increasing the share and number of smallholder sugarcane producers, not at larger outgrowers like the Vamagogo company who have no connection to smallholder activities at all (interview EU attache, 29-03-2010) and (União Europeia Delegação da comissão Europeia em Mozambique 2006).

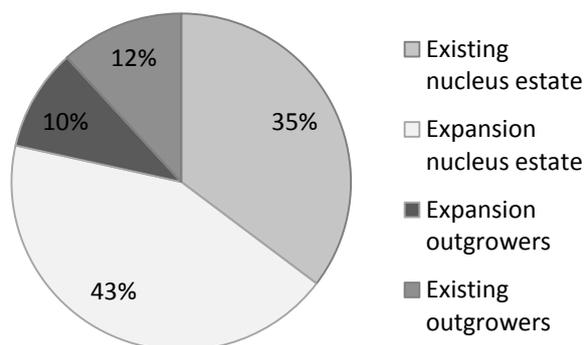


Figure 3 Projected distribution of origin of cane production at Xinavane (Source: AdX, 2010)

4.3 Overview smallholder sugarcane associations in Xinavane

This section provides an overview of the smallholder sugarcane activities in Xinavane. The section is primed on Table 2, which provides an overview of the associations and some of their characteristics. There are 15 associations, most of which have only recently been established. Each smallholder association has its own management which comprises at least a president, treasurer and secretary. Associations are meant to safeguard the interests of smallholders and form an interface between company and smallholders. More details on smallholder management arrangements are provided in Chapter 6.

The data presented in Table 2 were mostly provided by AdX, which acknowledges that the actual numbers of smallholders might differ from the indicated numbers, especially regarding newly established associations. The latter associations still need to obtain their final shape after their recent establishment (interview Sancho Cumbi, 21-05-2010 and own experiences).

In the remainder of this section we will briefly discuss their phased development; the size of the irrigated plots; and the funding modalities underlying the associations established in different phases.

Table 2 Overview of Xinavane smallholder associations and some characteristics (based on AdX 2010)

Phase	Year	Association	Size sugarcane area (ha)	No. of Small-holders	Ha/ small-holder	Irrigation system	Funding agency	Loan or grant
I	1998	Maguigane	90	66	1.4	Dragline	GoM and Southern African Development Bank (DBSA)	Grant
II	2005	Macuvulane	185	180	1.03	Dragline	GoM and African Development Bank (AfDB or BAD)	Grant
	2008	Chihenisse	200	40	5.0	Pivot		Grant
III	2008	Macuvulane 2	73	89	0.8	Dragline	AdX, with funding sought at the European Investment Bank (EIB) and other parties which are interested to	Loan
	2009	Maria de Luz Guebuza	263	200	1.3	Dragline		Loan
	2009	Hoyo-Hoyo	189	150	1.3	Dragline		Loan
	2009	6 de Janeiro/ Colo	74	200	0.4	Dragline		Loan

	2009	Maholele Macamo	72	4	18	Dragline	support these developments.	Loan
	2009	Buna	218	110	2.0	Dragline		Loan
	2009	Olhar de Esperança/Facasize	107	250	0.4	Dragline		Loan
	2009	Maholele G 1st Stage	266	6	44.3	Dragline		Loan
	2010	Chichuco	95	150	0.6	Dragline		Loan
	2010	Maholele Mutombene	56	4	14.0	Dragline		Loan
	2010	Tres de Fevereiro D	133	10	13.3	Dragline		Loan
	2010	Mucombo Est.	70	80	0.9	Pivot		Loan
Total			2,091	1,539	1.4			

4.3.1 Three phases of development: scope and timing

Xinavane was the first sugarcane estate in Mozambique to engage in smallholder sugarcane outgrower activities through the establishment of the Maguigane Farmers Association in 1998, which was funded by the Development Bank of Southern Africa. In a second phase Macuvulane and Chihennisse smallholder associations were established in 2005 and 2008 respectively. This second phase was initiated by the Small Scale Irrigation Project (SSIP), which was funded by the African Development Bank. So far only Maguigane and Macuvulane associations experienced multiple harvests and payments.

In 2007 the Xinavane Smallscale Grower Development Project was launched, which is currently being implemented and represents by far the largest smallholder sugarcane expansion project till now. This third phase includes the development of more than 1,600 ha of newly irrigated command area, managed by 12 new associations and has over a 1,200 members. From the start there have been negotiations between AdX and the European Investment Bank (EIB) concerning the financing of the smallholder outgrower expansion. However, funding for this expansion is currently provided by Tongaat Hulett itself, since it wanted to commence activities as soon as possible (see Table 3) (interview Sancho Cumbi, 01-04-2010)(Açucareira de Xinavane SA 2010). The EIB might still engage in the financing of the project and thereby relieve Tongaat Hulett of (part of) its investment (interview Sancho Cumbi, 01-04-2010).

AdX indicated that their expansion program is dynamic and a process of '*learning by doing*'. This implies that there is no detailed blueprint or example which the company copies from outgrower activities undertaken elsewhere and also that problems are solved as they come along. Therefore the establishment of the third phase represents a very dynamic process in which information which is correct today may be outdated tomorrow (interview Sancho Cumbi, 21-05-2010). In the case of Maguigane and Macuvulane I associations the development path has become clearer after running for 12 years and 5 years respectively. Although AdX learned from these associations, the sheer size and different conditions faced in phase III calls for different approaches.

4.3.2 Size of smallholdings and projected income variations

Table 2 illustrates a considerable variation in sugarcane plot sizes per member, ranging from 0.4 ha per member in association 6 de Janeiro to more than 44 ha per member on average in Maholele G. As demonstrated in Table 5 this translates into considerable differences in projected incomes per smallholder. AdX recognizes that smallholding plots need to attain a certain size to be economically interesting for smallholders. The assistant manager of the outgrower expansion program regards 3 hectares a reasonable size for livelihood support in Xinavane, taking nearby future developments into account (interview Sancho Cumbi, 01-04-2010). However, other sources advocate bigger plot sizes, the Danish Agricultural Advice Service (2007) for example notes that although 2.5 to 3 ha is enough to

sustain a family if grants are provided but it takes 8 to 10 hectares to make smallholder sugarcane production truly viable. The variation in economically viable plot sizes also depends on the local conditions and more information on this will be obtained during further developments in Xinavane. The 3 hectare plot size, regarded as sufficient by Mr. Cumbi, already exceeds what most associations currently have per member (see Table 2). It will be interesting to assess at a later stage what size smallholdings need to have for average association members to obtain a satisfactory income. Of course this also depends on whether and how many other sources of income smallholders have.

AdX attempts to stimulate associations to bring down the number of members in associations like Facasize or Maria de Luz Guebuza which presently have only small areas per member. A problem Mr. Cumbi encounters is that within associations there exist many informal agreements. Some members subdivide plots amongst their children while others attempt to have their children registered on the members list. Meanwhile all income goes to the same person eventually. Mr. Cumbi has little insight in these internal dynamics in associations but acknowledges that these practices can produce undesirable consequences (interview 16-04-2010). In interviews with smallholders it proved impossible to elicit any solid statements about these informal subdivisions. However, payment data from Macuvulane association indicate that there are more people receiving income from the produced sugarcane than the official number of members registered at the association.

Mr. Ussivane, the former SSIP project manager, who supervised the development of Macuvulane I and Chihenissee associations, indicated that there is a conflict of interest between the development agency and government on the one hand, who want as many people as possible to benefit, against the associations on the other hand, who want to limit the number of participants to increase the income per member (interview, 26-04-2010). Although Mr. Ussivane claims this is a key issue of contention and the association leaders officially maintain the standpoint of aiming for limited numbers of members, it is in contradiction with the observed practice of multiple members unofficially dividing their plots, thus increasing the number of beneficiaries. Leaders of associations also indicated that they have to deal with many people who want to join the association, claiming they have ceded land for the outgrower scheme. More information on land issues and the membership of associations is provided in Section 5.4 on smallholder outgrowers

Another variable that influences the income earned by individual association members is the irrigation technology that is in use (see Box 2). Dragline systems prove to be more costly, and consequently less remunerative, than systems that use Centre Pivots.

4.3.3 Funding modalities: grants versus loans

An important difference between the first and second phase compared to the third phase of smallholder outgrower development is the financing. Whereas in the first two phases grants paid for the costs associated with the establishment of sugarcane fields (land levelling and installation of the irrigation system) as well as provision of the first inputs (e.g. land preparation, training, planting of sugarcane), the third phase is financed through a loan, meaning smallholder associations have to repay all costs associated with the establishment of their sugarcane fields, including an initiation fee for AdX for organising the scheme (interview Sancho Cumbi 01-04-2010) (Açucareira de Xinavane SA 2010).

There are indications, for example in reports by ADE (2009), ISO (2008) and IFAD (2003), that smallholder sugarcane production is not feasible when the capital development costs are not

Box 2: Pivot versus Dragline

Most associations operate a dragline irrigation system, with the exception of Chihenissee and Mucombo associations that operate Centre Pivot systems. The irrigation technology produces different consequences for the labour activities and costs associated with irrigation. In drag hose systems sprinklers need to be moved every 12 hours while a pivot system only needs one central operator for the whole command area and runs fairly automatically. Also the electricity costs associated with the pivot are lower than with a sprinkler system (pivot costs about $\frac{1}{4}$ of the costs of sprinkler), mainly due to the lower pressure needed to irrigate.

(Pers. comm. Collert Moyo, 18-07-2010).

covered by a grant. Smallholders incur high levels of debts with the initial investments, leaving smallholders in some cases not interested in continued sugarcane production. Mr. Ussivane, project leader of the SSIP project, indicated that a feasibility study was performed to see whether the smallholders could repay the initial investment costs (7,000 US\$/ha, according to Mr. Ussivane and 9,000 US\$/ha according to AdX in (AdX, 2010)). As this was deemed infeasible it was decided by the SSIP project to provide funding in the form of a grant (interview Mr. Ussivane, 26-04-2010).

AdX however provides cost projections which show an internal rate of return of 20.64% for the smallholders who have to repay the capital investment costs (Açucareira de Xinavane SA 2010, 30). In the same document AdX also claims that the loan will be repaid in 10 years, leaving smallholders with an average annual income of 1,307 US\$ per grower, assuming the grower has two ha of sugarcane at his/her disposal. A possible explanation, which has to be looked into further, is that smallholders in above mentioned studies which deemed smallholder outgrower sugarcane production non-viable received prices for their cane which are below the prices used by AdX. AdX also assumes a sucrose content of 14.2% in its calculations, which is far above the 11.7% sucrose content obtained in 2009 ((Açucareira de Xinavane SA 2010) compared to data provided in pers. comm. with Mr. Ferronha (06-07-2010)). The assumptions AdX makes in their feasibility study are clearly optimistic. More information about the breakdown of payments to smallholders is provided in Chapter 8 on Finances.

Mr. Cumbi (interview, 16-04-2010) indicated that he is afraid that although smallholders were told that they have to repay the loans, and the smallholder management clearly acknowledges this, the association members might be disappointed by the final payments they receive as these will be lower than what the grant funded, phase I and II, association members get. This fear appeared not unfounded. Indeed the association leaders of Macuvulane II made this comparison, explaining that they did not understand why AdX paid them the value they received (interview Macuvulane II, 14-6-2010).

The first two phases of the smallholder expansion projects appear to reflect a development oriented project mindset as they were gifts from the government to smallholders and the company with very limited risks attached for either smallholders or company. In contrast, the third phase appears more based on a business mindset with considerably more financial risks attached for the company. In response, the company seeks to reduce this risk by inviting outside organisations to take over (part of) the financing. Smallholder outgrowers ceded their land and face considerable costs that were made on their behalf to develop the land and infrastructure. However, if the calculations of AdX are (more or less) correct the business model will create a win-win situation in which both company and local communities benefit.

AdX claims that the third phase expansion project will cost up to 15,765,490 US\$ and Table 3 shows the projected distribution of costs over different funders¹. AdX is still looking for other funders in addition to the ones mentioned in Table 3, but it is unclear how much of the costs they will cover.

Table 3 Overview of distribution of investment costs to finance 3rd phase outgrowers (Source AdX 2010, 30)

Actors involved	Costs (US\$)	Share in total cost	How is this financed
Smallholder debts	7,500,000	47.5%	Pre-financed by AdX. To be repaid with a 10% cession of income from sugarcane over 10 a year period + an interest rate of 6% over income for 10 years, totaling repayments to tune of 16% of projected income annually for 10 years for smallholders. EIB is asked by AdX to cover this loan.
Grant from E.U.	3,780,000	24%	As part of the E.U. Accompanying Measures Programme (unclear whether this is actually delivered or agreed upon by E.U.).
AdX equity into project	4,485,490	28.5%	AdX becomes shareholder in the smallholder project, and part of the profits therefore go to AdX.
Cost project	15,765,490	100%	

¹ It is unclear to what extent smallholder outgrowers are aware of this cost distribution.

Table 3 demonstrates that smallholders have to repay a considerable part of the development costs for establishing sugarcane outgrower schemes. However, it also demonstrates that AdX takes a considerable stake in the 3rd phase smallholder outgrower project by taking a 28.5% share for which it will receive income if all goes well.

4.4 Summary

Smallholder activities are booming in Xinavane, where AdX is currently establishing 15 sugar cane outgrower associations. Most of these associations have only been established in the past two years and developments are dynamic, implying that information is quickly outdated. Although the older associations have more or less taken a definite shape and modus operandi, the third phase associations can still merge, split or grow. In this study not all associations could be investigated and surveyed as the number of associations was too large.

A major difference between the associations in Xinavane is the financial basis. The projects in the first two smallholder expansion phases were based on grants and included very limited financial risks for smallholders whilst the third outgrower expansion phase is based on a loan which smallholders have to repay. It appears that the associations in phase I and II were instigated more with a development goal in mind, whilst the associations in phase III were set up to fulfil other motivations, like the company's interest in expanding production. The high investment cost associated with sugarcane establishment has created high levels of debts for smallholders in other places in Africa. However, according to AdX this is not a limitation in Xinavane. AdX itself also has a considerable equity in the smallholder project and takes considerable financial risks itself, reflected by the fact that they are the main funders of the project. Table 2 illustrated that smallholder associations differ in many respects, like plot size per smallholder, irrigation system and financing of capital development costs. It will be very interesting to see how smallholders are able to repay and whether the profits during this repayment period will be sufficient to keep smallholders motivated.

5. Actors involved

Multiple actors are involved in the development of smallholder outgrower activities in Xinavane. This chapter provides an overview of the most relevant actors, their motivations for participating in smallholder activities and their roles and responsibilities. The actors that are treated comprise companies (5.1), NGOs (5.2), government agencies (5.3), and finally the smallholder outgrowers themselves (5.4).

5.1 Companies

There are three main companies active in the sugar production process at Xinavane. These companies are AdX, Agricane and Unitrans. Local people often conflate these different companies as either AdX, Tongaat Hulett, Incomati or just Empresa (Portuguese for company). A brief introduction highlights the main functions of these companies.

5.1.1 Açucareira de Xinavane

The Açucareira de Xinavane (AdX) clearly dominates the area as it employs many people in its sugar mill and nucleus estate. Many people walk around in AdX/Tongaat Hulett uniforms, or uniforms from Unitrans (see next section). Not only is its presence manifested through company uniforms, but also the ambulances, garbage tractor and police cars carry the logo of the AdX mother company, Tongaat Hulett.

AdX participates in smallholder outgrower activities for two key reasons (interview Sancho Cumbi 01-04-2010):

- *Expand sugarcane area and increase sugarcane production.* Land is becoming scarce in the Xinavane area. By involving local communities AdX can extend sugarcane production to areas previously unavailable to them.
- *Involve the local community.* By maintaining good relations with the local community and contributing to the socio-economic development of the area, AdX hopes to avoid conflicts with local communities, which could (and did) negatively affect the production of sugar.

Motivations ascribed to AdX by other actors include:

- *Externalize the management of the sugarcane procurement area.* This involves a transfer of responsibilities whereby smallholders organise their area and cane production themselves in a proper fashion.
- *Externalize the risks of sugar production.* If something happens with the cane production it is the responsibility of the smallholders. Hence AdX reduces risks associated with production failure.
- *Gain access to extra sugarcane production at reduced costs,* since smallholders, development agencies, and/or government cover part of the costs for the development of cane.

In the 3rd phase expansion it is the AdX department of agriculture which is responsible for the technical aspects concerning smallholder outgrower production in the first three years. However, AdX has contracted Agricane for the development of the outgrower schemes as is further explained in section 5.1.2. Of course the AdX financial department remains responsible for the transactions and some legal/financial aspects. More information on this is provided in Chapter 8.

Key activities related to smallholders that AdX currently performs are:

- *Secure a market for the produce provided by smallholders.* The milling capacity of AdX is more than adequate to process, package and market all produce generated by smallholders;
- *Provision of fertilizers, herbicides, pesticides and other inputs which are procured in bulk, thereby reducing the production costs for smallholders* when compared with individual procurement of these inputs by smallholder associations;

- *Provision of technical assistance.* Technicians trained by AdX work at the associations (mostly one technician per one or two associations). They keep an eye on the sugarcane production progress and inform the smallholder management what activities need to be performed. AdX has the capacity to provide technical assistance and has the knowledge and networks to perform, or at least organize, repairs. Mr. Ferronha, the financial manager of AdX, indicated that for small repairs (e.g. sending an AdX employee for a 20 minute job) they do not charge smallholders whilst for big ones (e.g. the restoration of a pivot in Chihénisse) they do (Interview Ferronha, 18-05-2010).
- *Provision of credit.* At the request of the leadership of smallholder associations AdX provides credit which it recoups by imposing deductions from the final payments to smallholders (more on this in Chapter 8). It is unclear however what the limits are for this and what criteria AdX applies on providing or withholding credit. As contracts appear rather vague (see Chapter 9) it is most likely that the responsible AdX manager (from the financial department) assesses each request on a case by case basis, judging each request on its own merits.
- *Coordination of activities between different actors involved in the cane production process.* AdX is responsible for the coordination and procurement of inputs and the coordination and contracts with the two service providing companies dealt with in sections 5.1.2 and 5.1.3.

On top of the above mentioned services, AdX also provides for social aid projects in which the company indicates what activities it undertakes for community development (Tongaat Hulett undated). Some of these social projects appear to have been implemented, such as arranging a tractor and crew to pick up the garbage in Xinavane. It was not checked in this research however whether all envisaged activities were implemented, what the costs were, to what extent these projects are executed or who monitors these plans.

5.1.2 Agricane

Agricane is an agricultural engineering and development company, active in many countries in southern and central Africa. In Xinavane AdX contracted Agricane to implement the third phase of smallholder outgrower activities and organize the technical support for this, as the AdX agricultural department is currently too occupied with their nucleus estate expansion (interview Ges Bester and Michael Mapisane, 14-05-2010). In the *Proposal for the provision of management service to small growers supplying cane to the Mill* by AdX (2009) it is proposed that Agricane also arranges for the legalization of associations, recruitment of staff, training of smallholders and crafting of management structures of the smallholder associations. Although considerable progress has been made in the establishment of sugarcane fields and the provision of technical training on how to grow sugarcane, the actual crafting of management structures and other administrative tasks appears to have received scant attention from Agricane at the time of the study. Although Agricane focuses upon the activities in the most recent smallholder expansion, they also maintain contacts with the older associations and are actively involved in Chihénisse association.

Agricane hires field, section and area managers who organize and supervise the activities that need to be performed in the fields. The section managers, also called technicians, personify the interface between the company and the leadership of the smallholders (management). Section managers (technicians) are the ones in the field communicating with the associations' leaders and training selected association members who then train the responsible persons in the associations. These technicians are paid by AdX, who then recover the costs for this service through deductions in the pay-outs to smallholder outgrowers (interview Russel Longhurst and Ges Bester, 28-04-2010). Agricane indicated that they face a shortage in qualified manpower and material (possibly indicating lack of finances but maybe also indicating a lack of qualified personnel in Mozambique/Xinavane area). Therefore they are unable to provide all services required (interview Ges Bester and Michael Mapisane, 14-05-2010). Agricane does not have any written manuals which clarify how smallholders should be trained. Also there is very limited contact with the NGOs (see Section 5.2) involved in the sugarcane expansion activities (interview Russel Longhurst and Ges Bester, 28-04-2010). These NGOs

are supposed to provide literacy courses and train the association members in socio-organizational aspects. This should facilitate the technical knowledge transfer needed to efficiently grow sugarcane.

The focal point of Agricane is the leadership (management) of the smallholder associations, which is approached when Agricane wants something implemented or needs labourers to perform certain tasks. Agricane is able to propose ideas to smallholder associations and advise them on how to organize their activities. Although theoretically Agricane might be able to compel smallholders to execute certain activities as Agricane is responsible for the implementation of the smallholder outgrower activities, in practice Agricane cannot force associations as this would severely damage the relationship between Agricane and the smallholders (interview Ges Bester, 14-05-2010). Currently AdX is trying to convince smallholders to adopt labour teams instead of mobilizing individual labour provided by smallholders (see Section 7.2). It does so by pointing out the advantages of employing teams rather than individual labourers.

5.1.3 Unitrans

Unitrans is a South African company specialized in the transport of sugarcane, hired by AdX. Unitrans provides transport and haulage services for many other sugar producers in southern Africa. On their website it is indicated that Unitrans undertakes land preparation activities as well, though it is unclear whether in Xinavane they are responsible for this. It is clear that in Xinavane, Unitrans is responsible for:

- *Harvesting*; Unitrans organizes crews and the transportation of these crews to the sugarcane fields that are ready to be harvested. This is done manually in Xinavane, after the cane has been burned. Part of the harvesting process is to put the cane (manually) in neat piles thereby making it ready for loading.
- *Loading*; this process is highly mechanized with some large machine picking up the cane and putting it into a truck, or tractor with carts behind it.
- *Haulage*; this comprises the process of transporting the cane from the fields to the mill.

The contract Unitrans has with AdX also covers all smallholder outgrower areas. Services of Unitrans are bought in bulk by AdX, who give the associations deductions for this. It is unclear however whether the deductions made to smallholders are based on distance to the mill or based on average haulage distance for the whole plantation area. Unitrans was not interviewed for this research since they basically work for AdX and are hardly interacting with smallholders. It was observed that smallholders neatly check how many Unitrans trucks leave their fields at the time of harvest.

5.2 NGOs

There were three NGOs involved in the formation of smallholder associations. All three have a different background and a slightly different focus. It is unclear whether or what NGO was involved in the establishment of Maguigane association.

5.2.1 KULIMA

KULIMA is a Mozambican NGO, founded in 1984. In 2007 KULIMA was asked by the Small Scale Irrigation Project (SSIP) to arrange the organization of Macuvulane association as KULIMA is known to have considerable experience with setting up associations. Domenico Liuzzi, the director of KULIMA, pointed out that KULIMA was invited two years after the association was set up, as the SSIP management only then realized that the association needed more training in order to take on the responsibilities ascribed to a smallholder association (interview, 13-04-2010). Their activities included providing literacy courses as illiteracy was, and is, regarded as a major constraint in training association members. Other courses included basic accountancy skills and the formulation of statutes and rules on how the association should function (interview Mr. Ussivane, 26-04-2010). However, according to KULIMA, the rules in the associations remained very informal (interview Domenico Liuzzi, 13-04-2010). Mr. Liuzzi indicated that the trainings were successful in Macuvulane as a fairly well functioning association was created. In Chihennisse however the period to train the people proved too short as the

pivots were only installed at the end of 2008 and KULIMA only provided trainings in Chihennisse for one year, compared to three years in Macuvulane. In Chihennisse, KULIMA could only explain how an association should be organized without being able to demonstrate this (interview Domenico Liuzzi, 13-04-2010). The smallholder management in Chihennisse confirmed that they enjoyed no training from KULIMA. KULIMA concluded its activities for SSIP in 2009 and is no longer active in Xinavane.

5.2.2 ORAM

ORAM is an NGO founded in 1992 with much experience in addressing land right issues like the delimitation and legalization of community land titles and associations. Other activities ORAM carries responsibility for are: teaching all members about the statutes² and financial management (for treasurer, president and other relevant functions) in which they provide basic finance and accountability training. ORAM has been involved in the Xinavane smallholder sugarcane activities since 2008 (interview Mr. Kalisto, 14-04-2010). Their involvement was recommended by the potential European funders to AdX (interview Sancho Cumbi, 16-04-2010). ORAM works with four associations of which two are situated in the Eastern expansion area (i.e. Hoyo Hoyo and Buna) and two are located in the Western Expansion area (i.e. Macuvulane 2 and Maria de Luz Guebuza).

A difference between the associations is that many of the Western Expansion Area outgrowers worked in the Xinavane cane plantation before, whilst for the people in Eastern Expansion Area the sugarcane activities are new. The sugarcane smallholders in the Eastern Expansion Area have no experience yet in sugarcane production. Mr. Kalisto, the ORAM officer in charge of the Xinavane activities, indicates that a major difficulty for ORAM is the short term contracts they have with AdX, in which the results of their activities are difficult to measure. The time needed to implement all the objectives properly is 1.5 year, as proposed by ORAM. However, this was not agreed upon by AdX as it would cost too much and now ORAM works with short term contracts that last for a few months only (interview Kalisto, 14-04-2010).

There is no ORAM office in the area and AdX indicated that ORAM still had some obligations to fulfil. ORAM was observed to be active in Maria de Luz Guebuza, where there was internal disagreement and a new leadership was elected into office. Other associations, like Macuvulane II, indicated that ORAM provides them support but that activities like literacy courses have never been performed. ORAM is also involved in setting up the MHOVA supra association, comprising an umbrella organisation for all smallholder outgrowers associations (interview Kalisto, 24-05-2010). However, some association leaders indicated that ORAM focuses too much on the umbrella organisation, whilst not paying enough attention on creating strong outgrowers associations.

5.2.3 Gwevahne

Gwevahne is officially not an NGO but a Xinavane based association which was founded by community members. These community members perceived several issues in their area required pressing attention and therefore formed a true grassroots organization which can be regarded as an NGO. The association basically relies on volunteers, who are mostly members of the local community and includes teachers and AdX staff. This association works with an EU grant and states that they work with local communities that were forced by government and the company to cede land for sugarcane development (Gwevhane 2008). This created conflicts between local communities and the company, mainly because many members of involved communities did not understand what was going on. Therefore Gwevahne wrote a project proposal entitled "*Positive and Sustainable change*," whose objective is to empower local communities by organizing them into well functioning associations which are able to participate in negotiation processes between local communities and AdX. The activities mentioned in the proposal include the training of communities about the benefits of associations, provision of leadership courses, financial management strengthening and promotion of the freedom of expression (one of the goals of the EU). Funding from the EU amounts to roughly 95,000 Euro spread

² Statutes comprise rights and responsibilities. It basically is a standard document without too many written amendments by association members, but in practice these might be dealt with differently.

over two years (interview Catela, 03-05-2010 and Gwevahne, 2008). However, Gwevahne also generates funding from other sources, which might include AdX (interview Catela, 03-05-2010).

Gwevahne was originally only involved in those third phase associations where ORAM was not active. However, over time they also started to work with associations like Macuvulane I and Macuvulane II. Also during the survey, in which Gwevahne assisted considerably, Gwevahne actively promoted their existence and activities in those associations which did not have previous experience with them. The association runs an office in Xinanave and is fairly easily accessible, which might explain their engagement with many smallholder sugarcane associations as well.

Gwevahne mediates negotiations between the company and local communities but also assists in strengthening the smallholder associations. The role of mediating between company and smallholder associations should be a temporary one, which passes once the associations are stronger and can voice their complaints to AdX better, according to the assistant manager of AdX (talk with Sancho Cumbi, 20-04-2010). Currently the intensity of the disputes between AdX and associations appears to have diminished, whilst conflicts within associations themselves are becoming more frequent. Gwevahne tries to refrain from meddling in the latter type of conflicts, leaving the resolution of those to communities themselves.

5.3 Government

The role of the government is different in the first and second phase compared to the third phase of smallholder sugarcane expansion. The obvious difference being the government's involvement as a funder and implementer of the smallholder activities in the first and second phase, whilst in the third phase there is no governmental grant or other source of government financing involved. In interviews the role of the government proved often to be fairly limited as extension work was/is mostly done by AdX since AdX has more experience with sugarcane production than many government extension workers.

5.3.1 CEPAGRI

CEPAGRI is the Agricultural Investment Centre, representing an organisational structure within the national government, also tasked with monitoring the smallholder sugarcane outgrower activities. CEPAGRI receives a budget from the EU to undertake this task (ADE 2009). As there is no national strategy or guidelines on how to organise smallholder activities, all companies devise and implement their own schemes and models with their own specifications. The CEPAGRI sugarcane expert indicated that they do not have the time to go into the field for prolonged periods to check in detail what is going on at a ground level. Therefore CEPAGRI largely depends on what is shown to them by the companies during brief visits to their estates (interview Mrs. Nhaquila, 22-03-2010 and 28-06-2010).

There is no standard design on how to implement a farmers' organisational set up, but CEPAGRI clearly is interested in learning more about how smallholder sugarcane outgrowers are organised and how their organisation could be improved so that they can adjust their policies and intervene if necessary. Also CEPAGRI conducts studies into aspects where CEPAGRI suspects improvements are necessary, an example being the payment system for smallholders (see Chapter 8).

A clear motivation for the national government to be involved in smallholder sugarcane activities is the foreign currency that is brought in with the sugar exports and the cash incomes the rural populations earn, both of which can contribute to poverty reduction, as stated in the PARPA.

5.3.2 Local government

A major responsibility of local government is assisting in the legalization of the associations and resolution of land right related conflicts associated with associations and the establishment of sugarcane outgrowers schemes. Unfortunately time constraints as well as limited access to provincial authorities, precluded in-depth study of the formal involvement of different government agencies. The survey amongst smallholder outgrowers indicated low levels of government involvement in their

dealings. Yet, it is suggested to pay more attention to particularly the role of local government in future studies.

The administrador (district administrator) of Magude district (interview 25-05-2010) and Mr. Cumbi (interview 21-05-2010) indicated the main role of the local government is connecting communities with AdX concerning the possibilities of commencing sugarcane activities and convincing the local communities of the benefits of smallholder sugarcane cultivation. If the major role for the government is to inform people about the plans of AdX, apparently AdX decides what the possibilities are and the government is more or less just passing these on. Another role fulfilled by the district government is to check whether the promises between the company and the communities are honoured. According to the administrador, previously no monitoring was done causing the emergence of various conflicts. However, the administrador claims that as agreements are written down now the situation improved considerably (interview 25-05-2010). In a previous study on smallholder outgrowers in Massingir, it was recommended to establish pro-deo legal advisory services at District level (Manjate *et al.* 2009), This might be useful also in Xinavane to facilitate a dialogue about differences of interpretation of agreements between the various actors involved in the sugarcane developments.

The Xinavane Administrative Post agricultural officer indicated that although he should be informed about the activities concerning smallholders in Xinavane (not Magude), he was often left out of the loop. The real decisions between AdX, association leadership of Chihenisse and the local government were made in Manhica at meetings to which he was not invited. Mr. Cumbi indicated that an office they want to work more with in the future is the District Agricultural Office (SDEA), which could assist in the provision of extension services and maintain a longer term commitment than the NGOs³.

A motivation for local government to stimulate sugarcane development is to attract economic activity towards the area, in a bid to develop and fulfill the targets for poverty reduction. Cash income can be earned, and taxes can be collected (fairly easily due to all registration of produce at AdX), broadening the financial basis of the municipality and District Councils to undertake income-generating activities for the inhabitants of the District.

During an interview with a Gwevahne member (interview 22-05-2010) it was pointed out that although local government officials have good intentions they only have limited power compared to the managers of AdX, who in general received more education and can rely on powerful networks.

5.4 Smallholders

This section presents the selection criteria, the background of smallholders, and the motivations of smallholders to take part in sugarcane outgrowing. The activities of smallholder farmers in sugarcane production vary per association and are dealt with in Chapter 7.

5.4.1 Selection criteria and background of smallholders

The selection criteria for joining a smallholder association appear to be the same in all associations. The most important precondition for members to join an association was owning a piece of land in the area where the sugarcane was to be planted. There were no requirements regarding age, occupation, income, marital status or any other (interviews with various smallholder association leaders) as for example in development schemes targeting certain populations (i.e. FELDA smallholder oilpalm schemes in Malaysia).

Although there is the official precondition of landownership in the area, it is unclear whether in practice this was the only way in which smallholders obtained membership to an association. In an interview with some smallholders who had formed a sort of rebel management there was talk of nepotism. For several associations it is still unclear how many members there are exactly, and retrospectives on who owned what appear difficult because many previous plots have never been properly registered whilst now the sugarcane is already there. Assessments on who is in an association

³ This study failed to provide a follow-up at SDEA because the right person to talk to, Mr. Chambu, was ill for a considerable time already and there was no one in the SDEA office who could replace him.

and who is not, basically talking about the redistribution of land, are frequently a source of conflict, and Xinavane is not different in this regard. More information is provided in Chapter 9 on contracts and Annex I.

Cachomba (2007) claims that most of the members of Macuvulane association originally came from the area and our survey confirms that only 6.5% of smallholders settled in the area after 1992. This finding appears in line with the precondition for becoming a member, which is that members owned a piece of land which was ceded for the production of sugarcane. It appears from the survey that most sugarcane outgrowers were farmers before, with a considerable number of them also being cattle owners, which fits with the regions reputation for being a cattle producing area. Other livelihood activities undertaken by many smallholders are fishing, charcoal manufacturing/trading and subsistence agriculture (survey results). The education level amongst smallholders appears low, with 44% of smallholders admitting they could not read or write, 49% indicating they had no schooling and another 34% indicating having enjoyed only the first classes of primary school (survey results). Education levels are lowest in Colo, where 80% of the respondents indicated they could not read or write, considerably complicating their understanding of written contracts.

5.4.2 Motivations for smallholders

Table 2 shows there is some differentiation amongst smallholders. The smallholders in Maholele G for example are a different kind of smallholders than in most other associations as their plots are considerably larger (44.3 ha/member). These 'smallholders' can be seen as agricultural entrepreneurs compared to the subsistence/small scale farmers. Their motivations for participating varied somewhat from the motivations of these subsistence/ small scale farmers as well. Whereas the motivations of small scale sugarcane outgrowers usually concern (expected high) *cash income* as their main motivation, sometimes followed by *certain market, less dependency on rainfall* and, incidentally, *nice to get together in an association*, larger smallholders would also indicate that AdX brought in the *capital* which is required for the development of their land, the expected *limited diseases in sugarcane* and the *technical support* that AdX can provide in case there is a pest outbreak or some other difficulty (interview Maholele smallholders, 19-05-2010). An advantage not mentioned by smallholders is the road construction between Moamba and Magude, partially financed by AdX. AdX needed this road to be improved to facilitate cane transportation from their expansion areas in Maholele. This certainly reduces the remoteness of people in the Maholele area.

There were not so many disadvantages mentioned by smallholder sugarcane farmers. The largest disadvantage mentioned was that the contracts were unclear and payments were delayed (more on this in Chapter 9). Only in Colo association there was a general negative attitude towards AdX. Colo smallholders claim their land was taken from them by force and there is no more land accessible for them to farm on (see Box 8, Chapter 9). The Maguigane association technician (interview, 15-04-2010) as well as the leadership from Chihenisse (interview, 25-05-2010) also indicated that they participated since they did not have to pay investment costs and therefore there was little risk involved for them. For the new associations this is clearly different as roughly 9.000 US\$ per ha (according to AdX, 2010) has to be repaid.

5.5 Concluding remarks

The main actors in Xinavane are AdX and the smallholder outgrowers, whereby AdX acts as the initiator of most activities and smallholder outgrowers respond. AdX consists of a mill and nucleus estate whose majority of shares is held by Tongaat Hullet, a large South African sugar company. Smallholder outgrowers comprise, in general, local populations with low levels of education.

The role of the government appears limited although it does play a role in the monitoring of agreements between smallholders and AdX (including those pertaining to land issues and the land law; see Box 7). Whereas in the first two phases of the Xinavane outgrower schemes the government had quite some involvement, funding the development of these projects and provision of technical support, in the third phase their direct involvement appears to be smaller.

There are NGOs involved in assisting and strengthening the smallholder outgrower organizations in order to facilitate smallholder outgrower - AdX relations. These NGOs also assist smallholders in the legalization procedures, including land (use) registration, and introduction of the concept of what an association is and how it should function. However, the position of NGOs is weak as they do not get sufficient funding or time to set up well functioning associations, and it is unclear whether they have the professional skills to defend smallholder interests successfully or create the necessary counter-vailing power amongst smallholders to defend their interests. Moreover, the NGOs with a possible exception of Gwevahne, tend to suffer from upward accountability towards their funders rather than downward accountability towards their smallholder outgrower clientele ('you cannot bite the hand that feeds you').

These observations raise two fundamental questions with regard to the company-smallholder partnership. Firstly, it may be asked who is monitoring the partnership when the outgrower associations are still at the initial stage of getting organized whilst already important decisions concerning representation of community and land use rights are taken. A related question is how such monitoring can be organised. Secondly, it will be critical to establish what role the government can play in securing the pro-poor effects of smallholder sugarcane outgrowing.

The emerging partnership in Xinavane produces a number of benefits for the parties involved. Major benefits for the company are its extended access to land, externalization of production risks and cheap expansion since it is external funders or the smallholder outgrowers themselves who ultimately pay for the expansion (Section 5.1.1 and Table 3). The major benefits for smallholders, according to the outgrowers themselves, are a secure market (provided by the company), anticipated cash income, and reduction of their dependency on rainfall. Larger, entrepreneurial, smallholders also indicated that the capital and skills provided by the company enabled them to cultivate land they previously could not cultivate due to a lack of resources (Section 5.4.2). Besides the motivations provided by smallholders, AdX also provides access to capital, inputs like fertilizers, technology and expert knowledge farmers otherwise would not have access to. It is obvious however that land use rights play a key role in the driving the development of smallholder outgrower schemes, be it the company that wants to increase its access to suitable land or smallholder outgrowers who want to make more efficient use of it. Therefore registration of land in the cadastre before engagement in outgrower activities appears crucial in creating clarity for all actors involved, thus limiting possibilities for fraud or other misunderstandings concerning access to land.

Although for the new associations it is still unclear how much smallholder outgrowers will earn, most smallholders appear fairly happy with the sugarcane developments and expect good cash incomes. That repayments need to be made is known to smallholders, but the magnitude of these repayments or the height of their income is unknown to third phase outgrowers. More information on the anticipated financial benefits and the type of contractual arrangements between the various parties involved in the partnership is provided in Chapters 8 and 9 respectively.

So far AdX and associated companies perform most activities in sugarcane outgrower production, including planting, provision of inputs, cutting, transporting and checking for diseases and need for agrochemicals. The role of technicians is crucial in this as they provide the interface between the company and the smallholder outgrower leadership, who then communicate to their members the recommendations of AdX or Agricane. The nature of smallholder involvement in the sugarcane production cycle has been limited so far. More information on the labour activities of smallholder outgrowers is provided in Chapter 7.

6. Smallholders' organization development

This chapter focuses on the smallholders organizations and deals with smallholder association management, the current formation of associations and an envisaged supra association to streamline the interests of the associations. The role of smallholder management is twofold. The smallholder management serves to streamline activities within the association so that all individual smallholder activities can be managed in a professional and efficient manner so that production is optimized and costs are reduced. Also it functions as a central point and facilitates communication with third parties. For participating in the smallholder sugarcane expansion, local communities had to organise in associations in order to facilitate communication with AdX. These associations could be initiated by a fairly simple procedure involving 10 autographs of community members (interview Gwevahne 20-04-2010). When talking to the associations, AdX or the NGOs, it proved however that many of the associations did not have their legal status as an association yet and also that having a bank account proved difficult. These aspects lead AdX to delay payments to associations as Chihenisise and Macuvulane II which should, according to the cane payment rules (see Chapter 8), have been paid much earlier.

6.1 Smallholder management selection procedures

Smallholder management is chosen from and by the members of the associations. Several elections took place during fieldwork period and also in other smallholder sugarcane associations there appear to be elections. Although elections can increase smallholder engagement with their associations, elections might also hinder continuity and undermine development of management skills in associations as managements can frequently change. It was observed that in some associations it is the traditional leaders that take the role of leaders in the associations as well (e.g. Chihenisise and Olhar de Esperanca), whilst in other associations it is people who do not have any traditional leader functions (e.g. Macuvulane I). The management usually consists of a president, a vice president, a treasurer and a secretary. According to Mr. David, the technician of Maguigane association, these functions have little meaning in many smallholder sugarcane associations as these associations are completely dependent on AdX, the association leadership does not have any skills required for leading an association and it is unclear to the management what they should actually be arranging (interview 03-05-2010).

6.2 Trainings for the establishment of functioning smallholder associations

It is unclear what the training for Maguigane association comprised of or what organizations were involved in this. It appears however that AdX (or government) provided a technician for this who was quite experienced in working in sugarcane and had considerable experience in sugarcane development. Maguigane is a small association however, which was fairly easily to oversee with its 66 members. For Macuvulane the technical training was performed by AdX as well and for the creation of a functioning smallholders organization KULIMA (see Section 5.2.1) was involved (interview Mr. Ussivane, 26-04-2010). In Chihenisise the creation of a functioning association was not a success as KULIMA and government agencies that should be involved in the training of the association, did not have the time or capacity to guide this association. It appears however that Agricane assists this association now and Agricane and Chihenisise management claim now that the organization of activities is well under way (interview Joao, 18-05-2010; interview Ges Bester and Michael Mapisane, 14-05-2010).

For the third expansion phase there is a three year period in which AdX, really through Agricane, is responsible for all labour activities and trains the smallholders so that they can in the future manage their own association without the involvement of AdX. This training appears to take place at a limited scale by ORAM and Gwevahne (see Sections 5.2). There are no trainings provided by outside research institutes or experts, and Agricane (see Section 5.1.2) has difficulties in recruiting enough capable staff to provide the trainings required. The smallholders in Maholele G were deeply disappointed in the

technician they received from Agricane, who according to them used to be a mechanic and did not have any skills in sugarcane cultivation or training of their personnel (interview, 19-05-2010).

In order to establish well functioning associations trainings on the following issues should be provided:

- *Group dynamics*: comprising of clear and understood agreements about the rights and responsibilities of smallholders in their associations and procedures for decision making. In Xinavane there have been some introductory courses for Gwevahne by the EU and some NGO's have participated in setting up statutes for associations, but extensive trainings in building/forming smallholder groups have not been performed yet. As a Gwevahne member and several technicians indicated, many people do not understand how an association functions and what the benefits are which undermine the credibility of the same associations (fieldtrip Chipene and Colo, 11-05-2010; interview Olivio Catela, 03-05-2010; interview Basiliu, 12-05-2010; etc.).
- *Technical training*: comprising of upkeep of the plantation and possibly activities in which smallholders are directly engaged with the production of sugarcane. Currently technical training is performed by Agricane in the new expansion areas and Chihenisse. However trainings of smallholders are limited, partially due to fear of smallholders of being charged for the service. According to one of the technicians smallholders also appear worried about following courses as they fear they will get more reductions for this (interview Manique, 29-04-2010). Reductions are something smallholders clearly want to avoid as they want/need direct incomes. Also when smallholders are old it might not be interesting for them to take trainings anymore or for AdX to provide training to them. According to Agricane and smallholder section managers the performance of duties by smallholders is sub-optimal as many members appear not to have the discipline required for optimal cane production, an example being moving the sprinklers every 12 hours (interview David, 01-04-2010; interview Basiliu 12-05-2010; interview Manique, 29-04-2010). Solutions proposed by Agricane are provided in Section 6.3 and 7.2.2.
- *Management skills*: comprising of book keeping, administrative and other organisational skills needed to manage the smallholder organisations. The association headquarters have no electricity and there are no computers for bookkeeping. Bookkeeping appears to be an activity in which AdX plays a major role (see Section 8.2.1). Basiliu, the section manager of Macuvulane I and II, points out that the effects of the minimal trainings that were performed by NGO's regarding management skills were also lost when a new management is elected. In an interview with Macuvulane I management it became obvious that it was difficult to retrieve some documents as they did not know exactly where the previous management had left these. A similar situation was encountered in Maria de Luz Guebuza association, where the former president was said not to share his documentation with the new management. During the surveys it became obvious that most association were very well able to mobilize the requested members to participate in the survey, indicating good communication between smallholder management and smallholders.

Sancho Cumbi (interview 21-05-2010) indicated that in Swaziland there have been programs to train smallholder associations three years before the sugarcane was planted. According to him even these trainings did not lead to fully functional associations and therefore AdX takes the approach of planting immediately and training and strengthening of smallholder associations at the same time.

From the Ophir smallholder oilpalm plantation, which proved to be successful in training smallholders and creating robust smallholder organisations, it is clear that costs associated with the set up of a proper management infrastructure are considerable, amounting to 8% of the total costs of the project (see box 3). Ofcourse an oilpalm plantation is different than a sugarcane plantation, and a direct costs comparison would probably be false, it would be interesting to find out how much resources are allocated for the strengthening of smallholder associations in Xinavane. Although the AdX (Açucareira de Xinavane 2009) indicates what costs are for the services to smallholders, these costs merely include capital items as buildings, machines and offices. There are no indications on budgets for group

dynamics trainings or management skills trainings within the associations. The PAF (2008) (see Table 1) indicates that for training of smallholders 1.7 million Euro is set aside but it would be interesting to see how this is spend. If 1.7 million Euro is spent on training this would roughly equal 8% of the total US\$ 16 million smallholder outgrower expansion project.

Box 3: Successful setup of farmer organisation in a smallholder oilpalm project in Indonesia

The creation of successful farmer groups from people who have limited experience in working together in an association is a time and resource consuming activity. Tables A and B illustrate an example of costs and time spend on the creation of strong and functioning smallholder organisation in the Ophir smallholder oilpalm project in Indonesia, in which 2400 smallholders successfully run their 4800 ha section of the project.

Table A Overview of costs associated with Nucleus estate Smallholder project in Indonesia

Components		USD (Million)	USD ha ⁻¹	%
Infrastructure	Mill, harbour, offices	16.4	2,036	42
Roads and houses	Settler houses, roads	5.0	620	13
Plantation	8,056 ha plantation	10.8	1,341	28
Training	Farmers organisation	7.0	869	18
Total		39.2	4,865	100

Table B Phases in project and GTZ contribution

Phase	Years	Activities	Man months			
			Sociologist	Economist	Agronomist	Total
1	82-84	Building of farmer groups	21	21	-	42
2	84-86	Building primary cooperatives	33	29	-	62
3	87-90	Creation management structures	39	39	12	90
4	90-93	Building structures for sustainability	36	24	18	78
5	93-96	Post project support phase	18	18	12	48
Total		82-96	147	131	42	320

The results were independent smallholders who were able to arrange many activities by themselves. Also yields were above the yields of the nucleus and credit repayments were finished years before expected. Smallholders have had high incomes for more than 27 years and the project functioned as an engine for rural development in the West Pasaman district, West Sumatra, Indonesia (Jelsma, Fairhurst et al. 2009)

There are statutes which guide the rights and responsibilities in the association, but these are standard documents, which were implemented by the NGOs but involved little negotiation with smallholders. Although there are statutes in most associations now, it is doubtful whether all members know these statutes and whether they agree with them.

The section managers that are assigned to the associations are in some cases more experienced than others. When asked for the background of these section managers some indicated they worked in the establishment of the cane or first or in the factory. AdX indicated that with the current expansion they are having difficulties finding capable personnel, which was also indicated by the larger outgrowers at Maholele G. Also the Maguigane technician indicated that many of the other technicians do not have the skills to manage the creation of well functioning sugarcane producing associations, certainly as the smallholders are analphabetic in many cases and it is difficult for these people to understand the production of a commodity crop as sugarcane in an association.

When company, technicians, NGOs or government were asked about major problems in setting up the smallholder associations all these organizations indicated the low level of education and comprehension of the smallholders (e.g. interview Sancho Cumbi 01-04-2010, interview Benjamin 24-04-2010; Mr. David, 01-04-2010). The low education level of the smallholders was confirmed in our survey.

6.3 Creation of supra association/Joint Management Company: MHOVA

In order to increase the smallholder efficiency in their organizations AdX works on creating supra-association, or Joint Management Company (JMC), called MHOVA. AdX will be 20% owner of MHOVA by the investments it has done in the smallholder outgrower project and the other 80% will be owned by the associations, relative to their hectareage of cane. This supra association is then to be the speaking partner of AdX, so that no longer direct contact between AdX and all individual associations is required (see Box 4) (Açucareira de Xinavane 2009; Açucareira de Xinavane SA 2010). According to Ferronha (18-05-2010) MHOVA is especially intended for new associations and not to Maguigane and Macuvulane. It is unclear whether Chihenisse will join as well. Maguigane association and Macuvulane I association indicated that it might have benefits for them as well to function in MHOVA as smallholders would increase their bargaining power when organized, but they also fear that they have to pay for the debts of the other associations. Also concerning MHOVA there is still a lot of unclarity amongst the associations. AdX/Tongaat Hulett lawyers were working on the legal aspects concerning MHOVA and this supra-association was not functional yet during this research. There is little input from smallholders concerning the setup and requirements of such an organization. MHOVA appears a company driven initiative as well.

As further explained in Section 8.2.1 currently AdX still has two accounts for the smallholder associations, which include an account for credit to smallholders concerning living expenses and other issues. All these activities will fall under the responsibility of MHOVA in the future. When MHOVA is created the payment system (one payment per year) might also change into a system which distributes income more evenly over the year (interview Mr. Cumbi, 21-05-2010).

Mr. Cumbi (interview, 21-05-2010) indicated that it is acknowledged by AdX, and observed by EIB, that the smallholder associations are weak and that proper trainings need to be provided to the associations. This will also be a responsibility of MHOVA, where there should be a person who makes an inventory on what courses are useful for smallholders and has such knowledge that he can identify who can provide these courses and arrange these courses to be provided to the smallholders. These costs will then be paid by MHOVA. It appears the MHOVA supra association relieves AdX of many of their current activities as credit provision and dealing with all individual associations and their problems. It is also clearly a corporate driven activity at this time and smallholder associations even indicate that they want to focus on the associations first and then

Box 4: Communication between smallholders and company

In order to facilitate communication between smallholders and AdX, associations were established. In these associations the leadership represents the smallholders as speaking partner of AdX.

The statutes of associations, which are (based on) national blueprints, states that associations must hold elections in which the leadership is chosen. It was observed that in most associations elections were held and managements changed, leading in Macuvulane to a situation that no management had ever finished its three year term.

It was also observed however that the technical advisor is an important link between smallholders and company. This is however a non-democratic position which cannot be changed easily if smallholders or company are discontent as capable personnel is scarce.

There appear no written standard procedures which smallholder leadership must follow when there is an issue with AdX. Smallholder leaders do have contact with the people at AdX however and frequently call Sancho Cumbi, the assistant project manager expansion. Also Rosario Cumbi, the general manager is known amongst smallholder management and is contacted by smallholders when there is a problem. It was observed that smallholder association leaders also visited the AdX office making their complaints known to AdX. Smallholders complained however that often they were told to go to another manager who was not there. Smallholders however also appear not to understand that when they have a complaint there is not someone immediately available at that moment to solve the issue.

Depending on the kind of problem smallholders also go to ORAM and Gwevahne, who then make reports of the issue and present the issue to AdX. This kind of communication is only temporarily till communication structures and skills are improved. The MHOVA supra-association should in the future streamline the communication between company and smallholders.

discuss a secondary association. This appears somewhat a chicken and the egg situation, in which the company states a supra-association is needed to create strong associations, whilst the associations state strong associations are needed before a supra association can be established. It is clear however that for AdX the quick creation of a supra-association would have its benefits and would be a clear externalization of smallholder activities and costs.

MHOVA will take some responsibilities from the association management and needs to be provided decision making power by the associations. This means associations have to give up some rights and AdX establishes more control over the associations as they are clearly present in MHOVA. The institutional distance between smallholders and decision makers is also increased, which might decrease smallholder's commitment and trust in the organization. A key question is to what extent should smallholders be involved and feel commitment when they hardly fulfill any tasks anyway?

MHOVA however can also strengthen the associations as coordination between the associations will be improved and bargaining power could be increased. Although still small compared to the nucleus, there might be more opportunities for smallholder associations to negotiate better prices or undertake activities themselves such as procurement of inputs or other activities now performed by third parties as scale of individual smallholder associations are to limited.

The creation of MHOVA can in some regards be seen as strengthening of the smallholder's position whilst at the other side it could also increase control over associations by AdX as smallholders hand in decision making power to MHOVA and thereby become more distant from the decision making process. In an oilpalm smallholder project in Indonesia it was observed that secondary associations are more prone to corruption, or at least suspected of it (Jelsma, Fairhurst et al. 2009).

There are signs however of growing smallholder independence as well. The Maguigane smallholder association for example is growing its own cane for replanting now and also has its own tractor. With their own cane and tractor they would now be able to arrange their own replanting. For the new associations it is too early to talk about paths to independence as the associations have barely been established and lack the skills for independent management.

6.4 Conclusion

The organization of smallholder associations appears largely company driven and aimed at facilitating communication from company to smallholders. This is not surprising as associations are largely new and smallholder management received limited trainings till now. Smallholder associations are completely dependent on AdX for their finances and AdX also maintains responsibility for many of the financial activities of the smallholders, thereby minimizing the financial risks of AdX.

A clear issue is that, although the smallholder organizations are democratically chosen and this could increase commitment of smallholder, the smallholder managements in several associations appear to have a short lifespan due to lack of trust. This creates a loss of management skills as former leaders who received (very limited) trainings disappear and are replaced by people who have even less professional management skills. The high turnover in management and loss of management skills might be overcome by committed and prolonged guidance of a development organization which trains management and gains the confidence of smallholders.

MHOVA is an initiative however by AdX to reduce their direct involvement in the smallholder associations and simplify their relation with smallholders. MHOVA is a supra-association which is to safeguard the interests of all smallholder associations. Hereby the smallholders are able to obtain scale advantages and decide over required inputs more independently from AdX, which does have a 20% share in MHOVA. Also at supra association level services can be obtained which are too difficult for individual associations to organize efficiently. MHOVA will also simplify the contact between AdX and smallholders, but also increase distance between smallholders and the management of activities. This could lead to decreased commitment of smallholders and increased risks of corruption as smallholders are unable to check what is going on. Although MHOVA is especially established for the third phase associations it is unclear whether the older associations can or want to join. As it is an AdX initiative there is much unclarity amongst smallholder associations what MHOVA will be and what the advantages for them are.

7. Smallholder sugarcane outgrowers' labour organization

The labour activities of the smallholder outgrowers appear to be fairly in line with smallholder sugarcane activities in South Africa as described by Sartorius (2005). Sartorius observes that smallholders manage the irrigation system and perform weeding, whilst the mill arranges all other activities. There is some variation however between associations, with the associations from the latest development phase having more activities arranged by AdX. This chapter will describe the labour activities performed by smallholders and the differences amongst associations.

7.1 Major labour activities for smallholders

In the latest expansion phase AdX takes over the responsibility of the management and labour activities in the first three years as experience with sugarcane farming amongst participants is very limited. In these three years the association members and management are to be trained so that they become competent sugarcane smallholders with functioning organisations. For this management AdX charges a 9% of the gross income fee, which is reduced to 4% after the three year period. It is unclear how this start-up phase went exactly in the other associations.

7.1.1 Weeding

Although weeding is not an activity unfamiliar to the smallholders, it is important and needs to be performed well before the canopy is closed. Especially during the rainy season weeds grow fast and there is a strong necessity to weed. This coincides with the weeding requirements in other fields however and smallholders therefore do not always weed on the required moment. The members of Maguigane and Macuvulane I associations receive some allowance from the associations to fulfil their weeding obligations and hire labour if necessary.

In the new associations there are labour teams at work who are paid by AdX. It is unclear however whether these teams shift their attention to AdX fields when there is peak demand in the nucleus estate as well, or whether they keep on working for smallholder associations then.

7.1.2 Fertilizer application

In some associations, notably Maguigane and Macuvulane I fertilizers are also applied by smallholders. The section manager/ technician orders these at AdX, receives it and distributes the fertilizers amongst the association members, which apply the fertilizers. How to apply the fertilizers has been taught by the technician who, with his team of inspectors (trained smallholders), checks whether the fertilizers have been applied and if they are applied in the correct way.

7.1.3 Irrigation system activities

A major difference in irrigation systems is the pivot vs. sprinkler divide, with most associations having a sprinkler system in place. More information on sprinkler system is provided in Box 2. In the pivot system there is a team of operators which operates the system centrally. In the sprinkler system all sprinklers need to be moved every 12 hours to irrigate another section of the field. This needs to be done consequently as otherwise some areas are flooded whilst other dry out.

In some (sprinkler using) associations there are teams performing the required labour, whilst in other (sprinkler using) associations it is individual smallholders performing tasks. Associations appear to have some decision making power in establishing how some labour activities are performed on their land, whilst Agricane promotes the use of machinery and equipment and the employment of labour teams.

7.2 Individual plot labour versus labour teams

A key issue in smallholder organisations is to decide whether smallholders should work as *individuals* within the associations or with some kind of *collective management*. A feature and goal of efficient crop management in commercial estates is the implementation of uniform standards of management

across large areas and, in well-run plantations, agreed standards of upkeep and field maintenance are applied over large areas.

7.2.1 Individual plot labour

In Maguigane and Macuvulane I associations it is the individuals who work a certain plot and carry responsibility for weeding, fertilizer application and sprinkler movement. The technician/section manager checks whether the individuals have maintained their plot correctly. In the case of Macuvulane I association the section manager informs the association management who then inform the smallholder about the improvements that must be made. In Maguigane the section manager talks to the members themselves and informs the management. Smallholders and technicians know very well what the borders of the plots are.

Box 5: Fine system for non performance

Maguigane and Macuvulane I both have a fine system in place for smallholders who do not perform their activities up to standards. The procedures for this vary slightly and appear not to be written down or standardized as several people provided different answers when asked how high the fines were for certain non performance. It is the management, or *assemblea* of the association, that decides how high the fine will be and what considerations are in place.

Agricane and the section managers do not regard the system described above as efficient and try to implement a more group or estate management style in the third phase expansion areas. Reasons for this are:

- (Old) smallholders are physically incapable to perform all activities;
- Smallholders are not able to perform all activities at the needed moment (maybe due to lack of discipline, other demands for labour or experienced non-direct returns from labour with its single payment that can be very far apart from the moment labour is required)
- Smallholders are unable/ unconvinced to learn new activities or adopt improvements promoted by AdX or Agricane.
- Smallholders do not hire labour as they do not want to share income;
- Absenteeism, some members live in other cities and do not attend their fields.
- It is too expensive and inefficient to provide all members with the equipment that could facilitate the labour activities. An example is the equipment used by AdX staff for fertilizer application, which makes AdX staff easily, quickly and precisely apply fertilizers. Another example is the popular protective cloths worn by AdX staff.

A local (Mozambican) reality emphasized by the Maguigane technician is that there is no social security system for the old people (pers. comm., May 2010). Old people are therefore unwilling to hand over their land to a new generation or have others work their land as they fear losing income. Also it appears that short term vision of having to spend cash for labour wins from the long term vision of receiving higher income because of higher overall production. Not understanding the concept of associations plays a role here as well, leading to the prevalence of the individual interest above the group interest. It might be however that the fine system (see box 5) does not function properly and old people are spared as they are regarded as their parents and need some understanding.

Agricane also highlights that although members work their plots individually, they do have a combined association income, implying individuals are not stimulated to work their plots efficiently (interview Ges Bester and Michael Mapisane, 14-05-2010). In this system members who perform their activities well and have high yields are not rewarded for their good practices as their income is combined and shared with the people that do not perform their activities that well and have lower yield.

7.2.2 Labour teams

In order to avoid the above mentioned issues, Agricane proposes two solutions being individual payments or setting up labour teams.

Ges Bester (Agricane) suggested individual payments to individual smallholders, but this was deemed impossible by Michael Mapisane (AdX) as cane testing cannot be done for all smallholders individually. Organising labour in ca. 19 ha field units and arranging payments to these fields instead of the entire association (see Box 6) might be feasible however. In these fields people can control each other better and well performing subgroups earn higher salaries.

Agricane also promotes the creation of labour teams. This means that labour activities are no longer arranged at individual plots but at the association level (and in the future maybe supra-association level). The association (management) arranges that a certain group of people is provided for the labour activities required in the field. This group of people will be capable and fit, receive a proper training for the activities from AdX/ Agricane and receive, against deductions, the right equipment to fulfil labour activities. These people could be association members, outsiders or a combination. This option makes smallholders more or less land labourers on their own association's land, which they provided themselves to the association.

Agricane attempts to promote the team system as much as possible to the associations, especially the third phase associations. However, smallholders near the older associations copy the activities which are common in the older associations as this is what they see around them. It appears therefore that there are hybrid labour systems there with for weeding teams being present, whilst for moving the sprinklers the individual smallholders perform the activities. How this functions in practice has to be investigated further as it is difficult for the researcher to understand how individual plot activities can be undertaken when it is unclear still how many members there are in an association, therefore how it is decided who manages what piece of land (as was the case in Maria de Luz Guebuza). In the associations farther away from the old associations it appears as if the teams perform the labour activities. Examples are the Tres Fevrero (Eastern development) area, Chihenisse and Colo. Whereas in Chihenisse (interview Joao, 18-05-2010; interview Chihenisse management) and Tres Fevrero (interview Ges Bester and Michael Mapisane, 14-05-2010; interview) these labour teams are claimed to function very well and include people from the associations as well as other community members, in Colo this appears more problematic, with a section manager not being available and association members/ community indicating they are not involved in labour activities at all (talks with Colo association, 22-06-2010 and Ges Bester and Michael Mapisane, 14-05-2010).

A disadvantage of the team system would be the selection criteria for the workers. The older people would most likely not participate in these teams, giving them the impression that they are left out of possibilities to gain income. Smallholders indicate they can do many activities themselves but Agricane countered this by stating that smallholders might say they want to do many activities themselves they often lack the discipline to execute them.

Box 6: Group vs. individual payment system

Although the group system can be criticised for not providing initiative to individual farmers in a smallholder oil palm plantation it proved to function and have advantages as:

- High incomes for smallholders
- Well maintained and uniform plantations with yields above nucleus estate.
- Social security system for smallholders in case of illness

From this project key factors to contribute to the success of a group system appear:

- Size of groups – people need to know each other and not disappear anonymously in a group.
- Make smallholders feel involved in shaping their organisation thereby creating commitment to it.
- Proper and extensive trainings in technical issues, management and group dynamics.

Source: (Jelsma, 2009)

It is obvious that currently there are different models in the organisation of labour in place in Xinavane. Agricane certainly has its preferences for organizing labour and might legally be able to implement their wishes in the third phase expansion areas. However, in practice Agricane cannot force associations to anything as this could sour the relations between Agricane and associations considerably (interview, Ges Bester and Michael Mapisane, 14-05-2010). It is therefore in the associations where it is decided how labour activities are organized and Agricane can see how it supports such activities.

Agricane acknowledges that they have not investigated yet why some fields are not maintained well. They know there are issues as absenteeism, with plot owners living in Maputo or other cities, but they do not know on what scale this is happening. Also they do not know exactly what the reasons are for members not performing their activities properly, except for old age of some members (interview Ges Bester and Russell Longhurst, 28-04-2010).

Besides not having clear information on the social motivations for below average production, also there has been little research so far in the different physical conditions within the plantation, including the smallholder sections. Although there is some rough and inaccurate data on how high yields in sugarcane blocks are, this needs to be improved in the future in order to implement micro-management of smallholder blocks. For this closer cooperation and more communication between the field managers, technicians/section managers and area managers are needed (pers. comm. Michael Mapisane, May 2010).

7.3 Cultivation of other crops and competitiveness of sugarcane

With the establishment of sugarcane, AdX also provided irrigated fields for other crops in several associations. This is regarded as providing the associations with more food security and provide them with the opportunity to produce more food on less land (Açucareira de Xinavane SA 2010) (pers. comm. Sancho Cumbi, May 2010), see Table 2. In some of the associations it was observed that these irrigated fields were not efficiently used (e.g. in Macuvulane I, Chipene and Colo). Ges Bester indicated that the yields from these fields were very poor. Whereas the reasons for the observed inefficient use in Macuvulane I is unknown, in Colo and Chipene a land conflict between these associations is the cause for underutilization. The amount of irrigated land in Macuvulane I is two hectares and in Chihenisse this is unknown. AdX claims that in some associations they proposed to set aside some land for other crops as well, but associations refused and wanted everything planted with cane (e.g. Facasize).

From our survey it appears that many smallholders have access to other fields where they cultivate crops. Only in Colo the claims by smallholders concerning the lack of land to cultivate crops were extensive. Whether this land scarcity is real or only perceived could not be established during this research. However, during a fieldtrip it became clear that the association did have 20 hectares of irrigated land at its disposal for the cultivation of other crops. At the time of the field visit, this land was not in use due to the above mentioned land conflict with Chipene association.

Another common practice which has been observed in Xinavane concerns smallholder outgrowers cultivating crops at the side of the haulage and connector roads in the sugarcane plantation. Although this appears a nice way of making additional use of the irrigation system that is used for the sugarcane fields, this is an undesired practice as the crops are sprayed with chemicals intended for the sugarcane, killing the side crops. Once this happens smallholder outgrowers complain to AdX and ask for compensation. AdX is clearly not happy with this situation (interview Ges Bester and Michael Mapisane, 14-05-2010).

In Cabo Delgado province a Swedish company explored options to involve smallholders in sweet sorghum production. Farmers were only prepared to engage in this when it would outperform cotton or sesame production, which yielded about 2,500-6,000 MTn per hectare and 3,000-28,000 MTn respectively. As will be further substantiated in Chapter 8, these returns are below what smallholder outgrowers in Macuvulane received for their hectare of sugarcane production for which they received roughly 37,000 MTn (see Table 5). Based on the Cabo Delgado experience it appears sugarcane

production is quite a profitable cash crop compared to other cash crops. A clear note however is that Xinavane is located close to Maputo and its harbour, whilst in Cabo Delgado it is more difficult to find markets for commodity crops (pers. comm.. Maja Slingerland, August 2010).

7.4 Concluding remarks

The labour input of smallholder outgrowers is limited, with weeding, fertilizer application and arranging irrigation as the main activities (at most). In the older outgrower schemes labour is performed on individual plots that smallholders manage. AdX indicated however that labour consuming activities in these old outgrower schemes are not always performed up to standards. There are various reasons why labour is not availed as required and therefore AdX proposes a labour team approach in the new associations. In this labour team approach smallholders do not work their individual plots, but AdX, via the associations, arranges that labour teams perform all labour requiring activities on the association fields. Although it is possible that the (strongest and most capable) smallholders now perform most labour consuming activities most efficiently, the new approach transforms smallholders into shareholders in the association without any (labour) involvement in the association anymore. This also reduces the advantages that smallholder farming can have, *viz.* good labour practices compared to labourers who have less interests in/commitment to optimal yields. This labour system also more or less represents an extension of the normal AdX nucleus practices. The new associations close to the old associations appear to have some hybrid arrangements with regard to the labour system applied. It seems there is some decision-making power for smallholders in how they want their labour to be organised. It will be interesting to see how the different smallholder associations develop and whether their location might play an important role in their further development.

Maybe there are also more activities smallholders could perform once their organisations have professionalized. Examples are arranging the transport to the mill, arranging harvesting, and procurement of inputs or the takeover of other activities presently still performed by AdX, or other companies in the partnership. Andre Novo, an EMBRAPA researcher doing his PhD on cattle-sugarcane integration in São Paulo, has observed that a common scenario in Brazil is that smallholders rent out their land to sugarcane mills, who then take care of all activities and risks associated with sugarcane production on behalf of the smallholders. He emphasizes however that the choice to participate in this kind of sugarcane 'smallholding' is informed by many considerations like age of the smallholder farmer, debt levels experienced by the farmers, availability of other land, etc.. In contrast, Andre Novo indicates that there are also smallholders with one hectare of sugarcane, who intensively farm their own plot, applying irrigation and fertilizer, thus achieving yields of more than 200 tons per ha (pers. comm., 09-09-2010) and (Alencar, undated). If this could be (partially) achieved in Xinavane, projected incomes (see table 4 and 5) could improve considerably.

8. Financial arrangements

This chapter provides an overview of the financial arrangements between the actors involved in the sugarcane outgrowing partnership. It starts with the cane payment rules as provided by AdX and examples indicating what kind of deductions and incomes are applied to smallholder outgrowers (8.1). This is followed by a section on the financial management in which the financial roles and responsibilities between AdX and the associations and the associations internally are explained (8.2). The last section addresses the transparency of this system for the involved parties. The chapter ends with a brief concluding section (8.3).

8.1 Cane payment rules

The cane payment rules are based on the gross proceeds from the sugar extracted from the sugarcane, from which then all kinds of deductions are performed for services provided and costs incurred by AdX. The deductions vary somewhat per association, because some associations decide to undertake more activities themselves whilst others prefer to have more labour provided by Agricane/ AdX (see Section 7.2 on Teams versus Individual labour arrangements). Table 4 and 5 illustrate that although the gross income from sugarcane is considerable, the amount of deductions is considerable as well. This implies that margins for smallholders are quite limited and that a change of costs or yields produce large impacts on the final income smallholders receive.

AdX provided documentation about their payment system and claims that their system is a standard system in the sugarcane industry, firmly based on the sugar extracted from the sugarcane only. For the cane payment rules as provided by AdX, see Annex 2. However, AdX acknowledges that there are going to be difficulties in the future when the mill will also start producing ethanol and electricity that is to be exported to the grid (interview Sancho Cumbi, 01-04-2010). Already smallholders are complaining they want payment for molasses as well (interview Fenias Antonio Nguenha, 22-04-2010; interview Macuvulane 2, 04-05-2010). There is no solution yet on how the inclusion of these activities will affect the payment system. CEPAGRI (see Section 5.3.1) is interested in an in-depth investigation into the cane payment rules to establish how this system, along with the contracts (see Chapter 9), can be improved (interview 28-06-2010).

Table 4 Overview of income (in US\$) from one hectare as predicted for third phase smallholder outgrower scheme in the three different periods⁴, based on AdX 2010, Annex D (excluding tax).

	During three year grace period		During 10 year repayment period		After repayment period	
Proceeds from 1 ha (=105 tons) in US\$		3675		3675		3675
Costs (US\$)						
Planting (per year in 7 ratoon system)		138		138		138
Ratoon cultivation		812		812		812
Irrigation		632		632		632
Harvesting + delivery		983		983		983
Road maintenance		44		44		44
Management fee (= X % of proceeds)	9%	331	4%	147	4%	147
Repayment (16% of proceeds)		Not relevant		588		Not relevant
Sum of costs		2,941		3,345		2,757
Proceeds minus costs		734		330		918
Equity to AdX (28.55%)		209		94		261
Revenue for smallholder (US\$)		525		236		657

⁴ The three different periods reflect the first three years, the consequent next ten and rest. The figures contain static variables to illustrate the impacts of the repayment schedule on smallholder outgrower income. Assumptions are a production of 105 T ha⁻¹, which is above the 2005 till 2009 average of 99 T/ha for Macuvulane I and Maguigane associations. The average sugarcane price assumed is USD 35 per ton, and the applied exchange rate is 1 US\$ = 28.5 MTn., as indicated by Mr. Ferronha (pers. comm. on 18-05-2010). A tax rate of 10% is not included. This overview reflects a situation in which teams perform all labour activities and the individual smallholder has no labour activities to perform at all. If smallholder outgrowers are involved in labour activities for AdX or associations, their incomes will rise.

Table 4 also illustrates that AdX's claim that smallholders will have an annual income of US\$ 1,307 per year for a 2 ha plot over a 20 year period should be interpreted with care as income will, based merely on repayment schedule and leaving aside changing market and natural conditions, vary considerably over this 20 year period. The first three years render more than the following ten, which are followed again by seven good years. However, smallholders cannot work with 20 year averages and need decent incomes on shorter time spans. Therefore care should be given that sugarcane cultivation is also an interesting activity in the 10 year repayment period. Smallholders must be aware of this construction in order to avoid unmet expectations.

Table 5 Projected incomes and yields based on information provided by AdX (based on agricultural operating costs (Annex D in (Açucareira de Xinavane SA 2010)), AdX Excel sheets provided by Mr. Cumbi (see Annex 3) and Mr. Ferronha (pers. comm., 18-05-2010)⁵.

Phase	Name	Year Est.	No of farmers	Sugar cane			Average cane hectares per farmer	Income per farmer before deductions and tax (US\$)	Income per farmer after deductions and tax after AdX equity share is deducted (in US\$ and if relevant)	
				Ha	Tons/ha	Ton/year				
Phase I	Maguiguane	1998	66	90	85.0	7,650	1.4	4034	1055	
Phase II	Macuvulane 1	2005	180	185	120.0	22,200	1.0	4293	1571	
	Sub-Total		246	275	108.5	29,850	1.1	4224	1433	1433
									After 3 year (grace) period	During 3 year (grace) period
Phase II	Chihenisise	2008	40	200	90.0	18,000	5.0	15,663	2,383	1,678
Phase III	Macuvulane 2	2008	89	73	110.0	8,030	0.8	3,140	209	432
	Maria de Luz Guebuza	2009	200	263	110.0	28,930	1.3	5,035	335	692
	Hoyo-Hoyo	2009	150	189	112.9	21,340	1.3	4,952	365	715
	Buna	2009	110	218	111.0	24,200	2.0	7,658	529	1,071
	Maholele Macamo	2009	4	72	94.7	6,820	18.0	59,346	1,334	5,537
	6 de Janeiro	2009	200	74	133.8	9,900	0.4	1,723	199	321
	Olhar de Esperança	2009	250	107	110.0	11,770	0.4	1,639	109	225
	Maholele G 1st Stage	2009	6	266	112.5	29,920	44.3	173,571	12,606	24,901
	Chichuco	2010	150	95	141.3	13,420	0.6	3,114	396	616
	Maholele Mutombene	2010	4	56	92.3	5,170	14.0	44,988	639	3,826
	Tres de Fevereiro D	2010	10	133	137.3	18,260	13.3	63,558	7,689	12,191
	Mucombo Est	2010	80	70	120.0	8,400	0.9	3,655	327	586
	Sub-total		1,253	1,616	115.2	186,160	1.3	5,171	408	775
Total for SSG			1,539	2,091	111.9	234,010	1.4	5,293	623	903

⁵ These numbers do not reflect actual payments but are indicative projections and do not address some uncertainties depreciation. Still the figures demonstrate that payments to individual smallholders will vary considerably per association. It is known, also by AdX, that not all figures provided by AdX reflect reality. For example, Macuvulane and Chihenisise association do have their own (irrigated) food crop fields and the food crop field for 6 de Janeiro is only 20 ha. Also the number of registered members of associations may differ from those indicated in this scheme, with Chihenisise for example having 58 members instead of 40 as indicated by AdX, while the exact number of members of associations like Maria de Luz Guebuza and Olhar de Esperança still have to crystallize. It is unclear why AdX projects large differences in tons/ha per association, which in general appear far above the average of a 7 ratoon average, inflating projected incomes. For 3rd phase associations and Chihenisise a management fee of 9% was included in the 3 year start up phase because all labour activities there are arranged for by AdX, meaning smallholders do not need to work on the land. For Maguiguane and Macuvulane associations a 4% management fee was applied and labour activities by smallholders have not been deducted from final incomes as smallholders there provide labour themselves. After the startup phase Chihenisise is regarded the same as Maguiguane and Macuvulane exempting them from making repayments for infrastructure development. For the 3rd phase associations a repayment of 16% of the gross income is deducted to cover the costs of the investment (10% per year) and interest (6% per year). A (re) planting fee of roughly US\$ 115 per ha per year has been included in the deduction list for all associations. The exchange rate applied is 1 USD = 28.5 MTn and the price per ton of sugarcane is set at US\$ 35 as is indicated in AdX figures provided by Mr. Ferronha concerning 2009 averages used (interview, 18-05-2010). For 3rd phase associations 71.55% is paid to smallholders as AdX has a 28.45% share in this part of the smallholder expansion. A 10% tax was deducted of the net income.

Although Ges Bestern (Agricane) claims that an income of US\$ 250 per hectare is a nice income for which smallholders do not have to do anything, the initial three year period should also be used by smallholders to develop the skills to manage their outgrower scheme. This training also consumes time which could be used for other activities, representing an opportunity cost.

For Macuvulane I association (185 members and 200 ha of sugarcane) a simplified overview of deductions is provided in Table 6 to illustrate what deductions are made and what the costs of these deductions are. For a more detailed version see Annex 4.

Table 6 Overview of deductions applied for Macuvulane I association outgrowers⁶ (Source AdX 2010, Annex D combined with actual figures obtained from Macuvulane I leadership).

2009		MTn	US\$
Gross Revenue Macuvulane I		31,197,550	1,094,651
Levies and surcharges		1,255,573	44,055
Net Revenue Macuvulane I		29,941,977	1,050,596
After division of proceeds (DOP), (60% for smallholders and 40% for miller)		17,965,186	630,357
Harvest and delivery to mill (performed by Unitrans)	Harvesting	718,238	25,201
	Loading	1,308,458	45,911
	Haulage	2,014,762	70,693
Irrigation	Pump and system maintenance (incl. theft and vandalism compensation)	487,432	17,103
	Electricity	1,349,427	47,348
	Bulk/ Water costs	395,530	13,878
Ratoon cultivation	Chemicals	634,550	22,265
	Fertilizers	1,768,035	62,036
	Tractors	832,685	29,217
	Ripeners	236,134	8,285
	Road maintenance	234,266	8,220
Association management and other costs		1,216,589	42,687
Payments to smallholders by association		6,769,080	193,402
Payment per association member (average size 1.03 ha)		37,606	1,320

There are two payments by AdX to the smallholder associations. The first payment is 82.5% of the value of the Economically Recoverable Crystals (ERC) (almost equal to sugar) and based on the actually delivered sugarcane. 17.5% is initially withheld by AdX as the final sugar price for that year is still unknown. The final sugar price depends on export market prices and domestic prices as well as the total production of all sugar in Mozambique, which influences the export versus domestic usage ratios and related prices. It appears that final campaign averages of all cane processed at the AdX are used to calculate the final payment, instead of assessing the individual performance of associations. In the cases of Macuvulane I and Maguigane this way of calculating pay-outs benefitted these associations as it gave them a higher sugar content than these associations had actually achieved (based on payment data provided by Ferronha, 16-06-2010). As the mill requires a continuous supply of cane during the milling season not all cane is delivered when it has the highest ERC (this also depends on the sugarcane variety). Therefore it may be the case that while the higher average ERC benefitted the smallholders, it may compensate them for being harvested in a period which is not optimal regarding ERC. It is the company who decides when which fields are cleared. It appears the yearly average ERC price has a

⁶ The figures are based on general estimates from (Açucareira de Xinavane SA 2010) combined with actual figures obtained from Macuvulane I association and AdX management for the 2009 campaign. This table therefore must be regarded as indicative and not reflecting precise payments. Also no savings for replanting are included which are assumed to amount to roughly 140 USD per year. The exchange rate used is 1USD = 28.5 MTn. The actual average yield was 95t/ha.

leveling influence on the impacts that harvesting period and cane variety may have on the price received by smallholders. Testing for ERC rates is done at the AdX laboratory and there is no smallholder involvement in this.

The cane payment rules as implemented by AdX are not always clear to the leadership of the smallholder outgrowers associations and therefore also unlikely to be clear for individual smallholder outgrowers, certainly considering the prevalence of illiteracy amongst the members (various interviews and survey). It was not possible to establish the exact magnitude of all costs and taxes, hence the presented figures have to be treated with caution and are likely to include a margin of error. Macuvulane I and Macuvulane II association leadership showed the researcher documentation from AdX concerning payments and indicated they had no idea how these figures were arrived at. They demanded an explanation from AdX.

For most new associations the cane payment system is not relevant as their fields have not been harvested yet. Some of the categories in the payment system remain vague and provide AdX with opportunities to charge what they like with limited control possibilities on the part of the smallholder outgrowers (e.g. clause 3.5e in Cane Payment Rules). It is also unclear what the company charges for smallholder management and how they spend this.

8.2 Financial management

The financial management related to payments to smallholders is performed at two levels. There is the financial management performed by AdX and there is financial management performed by the associations. First the financial management of AdX will be described, followed by the financial management undertaken by the association.

8.2.1 AdX financial management related to smallholders

The procurement of fertilizers and other inputs is usually performed by AdX as are the payments to the smallholder associations. The financial manager at AdX, Mr. Ferronha (interview, 18-05-2010), indicated that AdX currently maintains two accounts per association:

- Account 1; includes the large expenditures like haulage, cutting and the final payment to the association's management.
- Account 2; is used for incidental credit provision to allow associations a way to carry forward through the year, pay the electricity bills, pay for repairs on equipment, etc.. The cost incurred on this account is then deducted from account no.1 before final payment to associations is affected.

The financial manager indicated that they treat their financial business with the smallholder outgrower associations somewhat different than their other outgrowers on the understanding that smallholders are occasionally in need of finances which AdX then provides for them, and deducts later. However for Vamagogo they never face such needs and would also not get engaged in such incidental transfers (interview Mr. Ferronha, 18-05-2010).

8.2.2 Financial management of associations

The creation of bank accounts appears to be a problem in the new associations. Since not all associations have been legalised yet, not all associations have been able to open a bank account. AdX indicates that they have not paid some associations because the bank account is only in name of one person, making it very easy to embezzle money (which already happened in Macuvulane I association a few years ago).

It has remained largely unclear what the smallholder association leadership spends its money on. A further complication is that Macuvulane I also has access to communal fields for other crops and Maguigane runs a common chicken run. It is expected there are finances related to these activities as well which are managed by the associations. The older associations (Maguigane and Macuvulane I) both operate a tractor which they rent out. This creates extra income for the association, but brings along with it extra costs as well. Smallholders claimed they got these tractors for free from some

(unknown) donor who said they were doing a fine job. No further information on the associations' states of income and expenditures could be retrieved. The Maguigane technician indicated that the association does not really make its own financial balance because AdX administers the expenditures of the association. Also Macuvulane I was not able to present their financial balance. The other associations had not received payments yet and did not have worked out balances either. It remains unclear whether there are balances that were not shown, or whether such forms of financial administration just do not exist. Although KULIMA indicated they recommended an independent auditor to check the associations' bookkeeping, it is unclear whether this is currently happening.

Furthermore association money was used to procure uniforms in Macuvulane I. It is unclear whether a social fund exists and to what extent the association provides credit to its members. There were some rumours that credit was availed to some whilst it was refused to others. The association however does not have to provide credit to the members for the sugarcane activities as this is already arranged via AdX.

Ges Bester (pers. comm. 18-05-2010) expressed his fear that smallholders are not reserving funds for replanting. He suspects smallholders believe that AdX will replant their areas for free. The costs for replanting are not included in Table 6 as it is unclear whether Macuvulane I is setting money aside for this. From the *Small scale grower development project* (2010) document it appears that replanting in Macuvulane I would cost roughly 25,500 US\$, translating into a reduction of income of 140 US\$ per campaign per smallholder, producing an income of roughly 1,180 US\$ per campaign per smallholder.

8.2.3 Clarity and transparency of payment system to smallholders

In the older associations it appears the payment system is clear to roughly half of the members. In the new schemes, including Chihennisse, this understanding is much less common (survey). The researcher finds it difficult to believe that smallholders completely understand the payment system since around 50% of the members is illiterate. Furthermore it was already difficult for the researcher to understand the deductions made by AdX, raising questions as to how many smallholder outgrowers would be able to make sense of them. This is confirmed by the leadership of in Macuvulane I and II associations, who indicated that they had difficulties in understanding why they received the amounts of money they did. In such instances the leadership of smallholder associations are likely to ask for explanations from AdX. However, most smallholder outgrowers indicate that they believe the company cares about them and their welfare, and slightly more than half of them indicate they trust the company in paying them the correct value.

The larger, entrepreneurial, outgrowers in Maholele and the management of some associations appear more critical about the payment system and the deductions they receive. Although there exists a considerable level of trust between AdX and Maholele G outgrowers, indicated by the lack of written agreements whilst cane is grown already, Maholele outgrowers are concerned about the communication and control over the inputs by AdX. The outgrowers complain that AdX keeps accounts for the costs it incurs, but it is unclear whether the accounted costs reflect the actual services received. Two examples provided by the larger outgrowers concern the amount of labour AdX charges for and the costs of fertilizers used. The amount of labourers charged for by AdX was 214, whilst Mr. Lumbela counted only 50 people actually working in the fields. Also the amount of fertilizers charged for is not transparent to them. When the section manager applies the fertilizer they receive a bill, but they cannot assess whether the bill actually reflects the amount of fertilizers applied on the land (interview Mr Lumbele, Mr.Cossa and Mr. Timane, 19-05-2010). Although the problem is one of transparency of the costs of (non)delivered goods and bringing more transparency in the costs of the services and goods, theft also represents a considerable problem in Xinavane according to Agricane (interview Ges Bester and Russel Longhurst, 28-04-2010).

In Macuvulane I association it was observed that some payments are done via a bank account whilst other members receive a cheque. This payment system also demonstrated that more people received an income than the officially registered number of members. This also illustrates that although most people earn roughly the same, there are considerable variations whereby one member was earning nearly double the average and other members earned only a few thousand MTn. Whilst the official

policy is to allocate and register one hectare of sugarcane per member, it appears in practice there is some variation in plot sizes amongst members.

8.3 Conclusion

The financial management is largely controlled by AdX as they control the deductions even before smallholder outgrowers touch any money. This system provides the company the security that the payment for services rendered is effectuated. This is not surprising as the inputs for the production of sugarcane require a substantial amount of money, with smallholders receiving roughly 10% of the value of the final product in case of 3rd phase outgrowers and Chihenise (where all labour input is provided by AdX) compared to 25% to 35% of the value of the final product received by smallholder outgrowers in Maguigane and Macuvulane I, where smallholders provide their own labour input.

There are however many instances of intransparency in the payment system, which smallholder outgrowers are likely to scrutinize and demand clarity about. It appears there is no monitoring and financial auditing done by an independent third party who is able to check the information provided by AdX and garners the trust of the smallholder outgrowers. For the (financial) sustainability of the present payment modalities it is deemed essential to identify suitable independent auditors who could perform transparent audits for the cost accounting undertaken by both the company (AdX) and the leadership of the smallholder outgrowers associations. Moreover there will be considerable variation in payments to smallholder outgrowers due to differences in investment costs and repayment schedules, achieved yields, labour input by outgrowers, management performance by the leadership of associations and the success of income generating ventures managed by the association. It will therefore be interesting to see whether the plot sizes, and achieved yields, will prove to be important variables in achieving successful forms of smallholder outgrower sugarcane production.

9. Contracts between smallholder organizations and AdX

This chapter focuses on the contracts in place between the associations, AdX and government pertaining to four issues which are dealt with in a separate section each. The subjects dealt with are: land use rights, water rights, production and social services. This chapter is then concluded with some general observations on features which appear in all forms of contracts in Xinavane. Contractual arrangements within the smallholder associations, stipulating the rights and responsibilities of smallholders and smallholder management are not dealt with in detail and remain there for further research.

9.1 Contracts and conflicts concerning land use rights

The frequent assumption that land is plentiful in Mozambique needs to be looked into carefully in the case of Xinavane. Sancho Cumbi indicated that land is becoming scarce (interview Sancho Cumbi 01-04-2010) and one of the reasons for Xinavane to expand is to secure more access to land. This might be one of the reasons why Marini's (2001) expectation of smallholder outgrowers missing out on sugarcane developments (see introduction) appears not to become a reality in Xinavane.

The provision of land for sugarcane production was a process in which in some cases AdX approached the local community whilst in other cases the local community approached the company. Examples of the community approaching the company are Facasize and Maria Luz de Guebuza (see Figure 2 and Table 2). Cases of communities being approached by company are Colo and Mcombo (see Figure 2 and Table 2). It is AdX however who decides whether it is feasible for a community to be included into the sugarcane outgrower scheme or not.

A good understanding of how negotiations between the communities and AdX should happen seems to be lacking. Although the government has a role in this, it appears that, certainly in the beginning, negotiations were somewhat shady. Gwevahne describes these meetings as AdX organising a nice party and creating a good atmosphere after which community members would sign papers they did not understand very well. Also Gwevahne indicates meetings between AdX representatives and community leaders were held, but without broader and proper community consultation. Community leaders were invited by AdX to talk but these negotiations were not clearly written down or observed by third parties and hence became subjected to suspicions of being corrupted (interview Catela, 04-05-2010). Community leaders then poorly communicated to their communities what the agreements were, leading to frustrations and misunderstandings when AdX actually implemented their plans.

In the opinion of Sancho Cumbi, AdX did not have to check whether the agreements made by community leaders were really supported by all community members and sees it a responsibility of the community leaders to (re)present the voice or consensus of the community (interview, 21-05-2010). An example he provided is the agreements of community leaders to provide land which used to be graveyards. Local community leaders ensured him it was no problem that these be converted to

Box 7: 1997 Land law (Law No. 19/97)

The government of Mozambique adopted a new land law on the 1st of October 1997. This new law provides more space for traditional land use rights systems and states that traditional non written land use rights have just as much legitimacy in court as written land (use) rights (Soares 2009; Schut, Slingerland and Lock, 2010).

Soares (2009) notes however that although the 1997 land law and its complementing documents are an improvement of the previous land laws regarding the interests of the local communities, the interests of communities are still threatened by the assumed alignment of interests of State and private sector, lack of knowledge in communities of their rights, and internal difficulties in local communities concerning representation of community interests and good leadership. These issues are not unique for Mozambique however and are relevant in many areas where local communities meet private sector and government interests (e.g. (Colchester, Jiwan et al. 2006; Wehrmann 2008))

sugarcane production area and that AdX was welcomed to help move the graves. AdX did not go and investigate whether this was just the opinion of the leaders or of the whole community.

Sancho does recognize however that there are progressive people (risk takers) and more conservative people and that these conservative people sometimes missed out on the sugarcane developments as developments were already ongoing without their involvement (interview Sancho Cumbi, 16-04-2010). This implies as well that AdX might have readily engaged with the risk takers quickly, taking the latter as representative for the whole population, whilst in reality these may have not been reflecting the opinion of the entire population.

It remains unclear how the land use rights are arranged exactly and this requires a more thorough investigation. It appears however land is transferred from ownership of the community members, with DUATs or the local customary tenure system, towards the ownership of land by associations (as indicated in interviews with Sancho Cumbi, 16-04-2010; Chihennisse management, 25-05-2010; administrador Magude, 28-05-2010). This means that community land rights, which acknowledge individual land use rights, are given up for a collective landownership arrangement and taking away land and decision-making power from the individual smallholders and transferring it to leadership of this association, who share decision making power with AdX in the MHOVA supra-association.

For the Maguigane and Macuvulane I associations it appears the land already belonged to an association/ cooperation before sugarcane activities started. Also Macuvulane II and Facasize appear, reading Gengenbach (1998), to have some church instigated land registration/organisation in place even before smallholder sugarcane activities started. In Chihennisse the land used for sugarcane cultivation used to belong to 40 people, but was later shared with 18 more members (interview Chihennisse management, 25-05-2010). In Maholele G there are larger landowners who claim to have documentation stating that they have the land use rights (DUAT's). These land use rights were a prerequisite on the part of AdX for them to join the outgrower scheme (interviews, 19-05-2010).

Box 8: Cattle issues

The cattle raising in the nearby communities appears a serious problem to AdX as cows are moving/ driven through the young sugarcane, destroying the crop. The routes for the cattle appear to go from the pastures behind the cane fields through the cane fields to the drinking areas near the river. There have been multiple meetings on this with the local communities but promises keep being broken. Even placing fences did not prove efficient as these got stolen and used for other purposes.

(Interview Cees Baars, section manager, 05-05-2010)

Box 9: Difficulties in expansion in Maholele

In Maholele AdX got a concession from the government. Although barely populated, according to AdX (Açucareira de Xinavane SA 2010), some locations were inhabited by communities and expansion in the Maholele area proved to be more difficult than in other areas.

Also Colo community needed to be compensated for their assets and provided with equal or better circumstances. These circumstances include access to water, soil fertility, compensation for previous investments in land (i.e. compensation for fruit trees, etc.) for which there are rules set up by the Ministry of Public Works and Housing (interview Sancho Cumbi, 21-05-2010). Although AdX and Gwevahne indicated detailed assessments were performed, it is unclear what was compensated exactly, for example whether the areas which were used to gather firewood or to graze cattle were compensated properly or just the productive plots, or whether these compensations were conducted according to the intention of the law. According to Sancho Cumbi it is difficult to compensate exactly for their losses as there are nearly no areas with exactly the same conditions.

Gwevahne claims that compensations paid to smallholders were extremely low and local communities sometimes just signed papers in order to receive money on the short term, not realizing the long-term effects (interview Catela, 03-05-2010). The Colo community was also invited to participate in the sugarcane expansion scheme; giving up 650 ha of land and receiving back 120 ha of irrigated sugarcane fields, and the other 530 ha becoming part of the nucleus estate. However, Colo community did not really have a choice as otherwise all land would be taken from

them as the government had provided AdX with a concession (Catela, 04-05-2010). Colo community made claims however about high numbers of fruit trees, other valuables and people that needed to be compensated for. These claims proved to be excessive and indicate a tendency for opportunism (and plain cheating) by local communities in order to receive as much compensation as possible. Therefore Gwevahne asked members again to make lists of members and government and company checked what was in place in these areas (interview Sancho Cumbi, 21-05-2010).

Members indicated however that their land was taken from them by force and that AdX came to the area with armed people firing into the air (survey results and talks surrounding the survey on 22-06-2010), a fact confirmed by Gwevahne (interview Catela; interview Felix Langa, 23-06-2010). However, preceding this event Colo members had been setting up roadblocks and obstructing AdX activities, which resulted in poorer planting practices in that area. The attitude of the Colo community appeared very negative towards AdX and the local community demand explanations by AdX about what is happening, how the payment system functions, when they will be employed and how and when they will benefit from the sugarcane activities. Also Colo community representatives threatened that if they do not get a satisfactory explanation by AdX they will block harvesting or prevent AdX from entering the area again. They also threatened to pick up arms as they did in the civil war when their community joined RENAMO (talks surrounding survey 22-06-2010; pers. comm. Felix, 22-06-2010).

Colo is an extreme case however and in other consulted associations visited land conflicts do not appear this tense. Usually land conflicts in associations are more about who is a member of the association and who is not. The larger smallholders in Maholele D and G are not involved in these kind of conflicts with AdX however. Their landrights were also better protected as they had documents proving the land belongs to them.

9.2 Contracts concerning water rights

Currently all water rights are under AdX responsibility, with Maguigane and Macuvulane I paying for the water bill already. It is unclear however whether they pay for the volume of water they actually use or for their share in the whole plantation. ARA Sul, the water authority in Southern Mozambique, provided a list of water consumers in the Incomati basin, which indicated that the Xinavane plantation is regarded as a whole and that within AdX the water bill is specified to the associations. The names of the associations were already on the list however, indicating that in the future it could be that these associations will be charged individually by ARA SUL (See Annex 5). This is possible as each association has its own pump system.

9.3 Contracts concerning production

Multiple actors indicated that written contracts concerning issues like duration of contracts, exact conditions on delivery, provision of inputs and costs of inputs, payments for services by AdX, period for repayment of credit (and provision of short term credits), and payments to smallholders are not in place yet (i.e. interview Magude administrador, 28-05-2010; interview Sancho Cumbi, 21-05-2010; interview Macuvulane I management 28-04-2010; interview Macuvulane II management, 04-05-2010; interview Olivio Catela; 03-05-2010). Sancho Cumbi (interview 21-05-2010) and Ges Bester and Michael Mapusane (interview, 14-05-2010) indicated however that these contracts are currently being finalized. The unclarity about the exact content of the contract is one of the main sources of confusion amongst smallholder associations and also creates uncertainty for AdX as, for example, it does not guarantee AdX the duration of smallholder sugarcane production. Although the contracts are not clear yet, the sugarcane is already planted and in some cases even harvested. Mr. Sancho Cumbi (interview 21-05-2010) indicated that the exact content of the contracts is also dependent on the final loan condition they expect from the EIB. If the interest rate for that is set, AdX knows what to charge to the associations.

For the older associations the contracts should be clearer however, but it is uncertain whether fully binding contracts are in place (denied by Macuvulane I, interview 28-04-2010) or agreements are more

build upon a relation of trust, as the Maguigane management indicated (interview, 28-04-2010), or based on the perceived role of the company as a patron (Benjamin, 27-04-2010).

The contracts concerning rights and responsibilities when cane is planted appear to be of an informal nature. It is understood that AdX buys the cane, but even then it is not certain whether AdX is obliged to buy the cane as AdX does not have an official policy on this in case of factory malfunction or weather conditions which make it impossible for the factory to process cane (pers. comm. Ferronha, 16-06-2010).

This crafting of contracts is a one way process with the company having the skills and capacity to draw up the contracts and smallholders only being able to agree. Basically there is already sugarcane on their land and there are few alternative avenues if smallholders fail to agree with the company. Of course there are alternative avenues of resistance at the disposal of smallholders/ local communities, but without taking illegal actions their bargaining power will always remain limited as the share of an individual association in the total AdX sugarcane production is negligible.

9.4 Contracts concerning provision of social services

AdX has a document stating its provision of social services to the involved communities. This document was provided to CEPAGRI. This program is also in line with the requirements by the EC for the promotion of rural development. The program is added as Annex 6 and includes commitments on expenditures on HIV and Malaria prevention programs, garbage removal and road construction.

It was observed that indeed in Xinavane there was a garbage removal tractor at work and there were ambulances which all had the Tongaat Hulett logo on them, appearing to be sponsored by AdX. Also roads were improved, albeit it for the transportation of cane as well. Other social services may have been provided by AdX but the time span of the social services program is unclear. There might be more specified documentation on this in which it is also stated who performs the monitoring of the social program. AdX also points out that the social uplifting of the community also largely occurs through the extra jobs provided and economic activity created by the Açucareira (Açucareira de Xinavane SA 2010).

A persistent problem appears to be the expectations and variety of interpretations that local communities, and maybe even governments and donors, apply to sugarcane activities. It was observed that communities quickly interpret something differently as intended and these erroneous interpretations then feed unrealistic or misplaced expectations. Certainly in the early phases of the expansion this appears relevant as agreements between communities, leaders and AdX were often not documented in such a way that all parties were aware of the agreements and had clearly understood expectations towards each other. This also appears to be the case with 'promises made by AdX', for which it is unclear whether they were actually promised or whether these represent misinterpretations by local communities.

9.5 Concluding remarks on contracts

Contracts between actors in Xinavane relating to sugarcane developments appear to be largely informal. These informal contracts have given rise to many conflicts on what was agreed or not, thus creating a plethora of untransparent situations in which not all agreements are interpreted in the same way by all actors. This leads to a 'management of expectations' problem that could prove inhibitive in the medium to long term.

Despite the good intentions on the part of the Açucareira de Xinavane, the various smallholder outgrower associations and the different government agencies involved, the observed lack of clarity on land use rights, water rights, production arrangements and social service provision creates risks for all parties involved. Clearly land use rights are at the heart of the deal between smallholders and AdX, but agreements about land appear to have taken place with limited checks for the prior and informed consent of the whole local population. Regarding the role of the government, local leadership and company there certainly appears to be room for improvements in this process. Some improvements were made during the expansion process as more agreements were observed and documented by a

third party, increasing the chance of compliance with the agreements as all parties accepted the agreements as fair. There could be role for a to be established pro-deo legal advisory body, to be established by the government, in observing the validity and fairness of such agreements.

Without legally binding agreements or contracts, the company can neither be sure of recuperating its investment nor of securing the envisaged production quota for sugarcane; the various government agencies cannot play their monitoring role, maximizing public benefits and guarding the public interest; and the local community itself cannot be sure of getting their efforts rewarded, opening space for debilitating opportunistic behaviour and free-riding on the part of some.

10. Conclusion

Xinavane can be regarded as a laboratory of smallholder sugarcane outgrowing developments in Mozambique. It is clear developments have taken off as currently roughly 1.600 hectares is covered by irrigated smallholder sugarcane activities. Smallholder sugarcane production in Xinavane started with one small association in 1998, followed by a second expansion phase from 2005 to 2008 when two more associations were established, and a third expansion phase starting in 2008, which led to a total of 15 smallholder sugarcane outgrowing associations at the time of the study. Associations all have their own characteristics like land size per smallholder, organization of labour, irrigation system and financing (see Table 2). As most associations have been established only recently and most have not harvested any sugarcane yet it is impossible at this stage to assess which characteristics make for successful smallholder participation. This research however does generate insights on smallholder sugarcane activities in Xinavane and highlights relevant issues in the establishment of smallholder sugarcane outgrower projects elsewhere in Mozambique. By doing so, this study provides a basis for further research, and provides some preliminary recommendations on how sugarcane smallholder projects in Mozambique can be improved.

Whereas the first three associations were development projects sponsored by the government, the most recent smallholder expansion has been initiated by the mill, AdX, itself. AdX, covering 10,000+ ha itself after its own recent expansion, thereby clearly acknowledges the benefits of engaging in smallholder sugarcane production. Benefits for AdX include access to land and labour, involvement of local communities, risk externalization and lower expansion costs. The main motivations for most smallholders to engage in sugarcane outgrowing appear to be access to cash income and a secured market, expectations of wealth generation and, in one exceptional case (Colo, see Box 9), the use of force. Larger smallholders, the agripreneurs, also highlighted explicitly that the capital and technological inputs provided by AdX offered them an opportunity to make more productive use of their land, something implicitly acknowledged by smaller outgrowers as well. However, unclarity exists amongst smallholders about their earnings from sugarcane, which might lead to unrealistic expectations. Tables 3 and 4 illustrate that the income per smallholder is likely to vary considerably amongst associations and, regarding the most recently established associations, phase of repayment that they find themselves in. It appears however that smallholder outgrowers in (especially older) associations will earn more from sugarcane cultivation than they would if they engaged in the production of other cash crops (see Section 7.2). It will be interesting to see whether future developments in Xinavane allow for drawing lessons on the appropriate size of smallholdings, sustainable income portfolios (drawing incomes from multiple sources) and the development of communities.

That AdX takes a leading role can be considered positive since the company has the capital, capacity and technology to arrange for the expansion of sugarcane production. Participating smallholder outgrowers, whose only criteria to join the project was to possess land in the earmarked area, lack the capital and knowledge to commence sugarcane production on their own. However, it appears that the interests of smallholders have been poorly represented in this mainly company-lead initiative. Smallholders are organized in associations to facilitate the interaction with AdX, but education levels of smallholders are low (see Section 5.4.1), and association members have little experience with commodity crop production or working in associations.

Although NGOs assist the associations in their legalization process, legalizing their land use rights and structuring their communication with AdX, very limited training has been provided on the managerial skills, accountability and transparency procedures or group dynamics required for the establishment of well functioning, empowered smallholder associations. Also the trainings offered on technical production aspects appears weak in several associations. This has been partly caused by the sheer scope and speed of the expansion, for which AdX and the contracted implementing company have been unable to attract sufficiently qualified personnel. This lack of qualified personnel and the absence of trainings on structural group dynamics and management skills might jeopardize smallholder sugarcane production as it discourages smallholders from active participation, which is needed to optimize sugarcane production. Therefore it appears crucial that a well qualified third party is

attracted. Most likely this would have to be a development organization, with experience in setting up functioning smallholder organizations that is able to work on increasing both the awareness and organizational skills of smallholders and assist in creating professional smallholder association management arrangements for the smallholders for a prolonged period (years) and with sufficient funding.

AdX promotes the emergence of a supra-association (MHOVA) as a necessary step to increase the self-reliance of smallholders. The company claims this supra-association will be able to supply services which are difficult or too expensive to arrange at individual association level. Examples of such services are arranging for proper trainings or representing all smallholders to third parties. It appears however that there is little participation of communities or associations in the creation of the MHOVA and it is unclear to most smallholders and their managements what the exact function of this supra-association will be. The limited involvement of smallholders in shaping this umbrella organization might appear unavoidable at this moment since knowledge and education levels are very low concerning commercial farming, working in associations, operating irrigation systems and the actual production of the crop itself. Care should be given however not to lose the involvement of smallholders to the project, as this could lead to a situation in which not the smallholders' interests/concerns are served but those of the project implementers, which in the long run can negatively affect the smallholders' commitment.

Although an umbrella organisation like the MHOVA could improve the bargaining position of smallholders, it also strengthens the control of AdX over smallholder producers, since the associations are expected to cede decision making power to the MHOVA, for which AdX employs managers and holds a 20% share. Hence a process of externalizing smallholder control over land is envisaged. Whereas before the sugarcane developments people had full control over their land, with the creation of associations they transferred their community customary land rights to collective ownership in the smallholders associations, which with the establishment of MHOVA could be transformed into collective ownership regulated by MHOVA. This process increases the distance between smallholders, (control over) land and actual production and is accompanied by great uncertainty about what will happen with associations and their land when individual smallholders, or worse associations, want to quit sugarcane production. This uncertainty creates considerable risks for smallholders as well as for AdX and clearly needs to be dealt with. In the case of the Maholele G larger smallholders these issues appear slightly less problematic as land use rights have remained in possession of the individual smallholders.

AdX is responsible for the logistics surrounding sugarcane production, dealing with harvesting, haulage and transport, for which it subcontracts Unitrans. There is decision making power for smallholders in the labour planning process however (certainly as they often are the source of labour that actually work the land). This is reflected in the two different labour employment models applied in Xinavane smallholder fields. In the older schemes individual smallholders work their individual plots, whilst in the new associations which are located far from the old associations, labour teams are employed which perform labour on association land like hired land labours. The costs for hiring labour are recovered by the company through reductions in the income of smallholder outgrowers. The new associations in the vicinity of the older ones tend to employ a mixture of these labour employment systems. AdX promotes the use of labour teams for various reasons as avoiding perceived negligence and lack of punctuality amongst smallholders, and employing a capable, knowledgeable and well equipped work force (see Section 7.2.1). However, proper training for associations in technical production aspects, management skills, group dynamics and accountability could reverse some advantages of employing labour teams and capitalize on potential smallholder benefits as limited monitoring and organisation costs by cutting out AdX activities and having smallholders perform their tasks up to good standards by internal motivations. At the end of the day it is the smallholders through their association leadership who decide how labour activities are arranged.

The different labour regimes illustrate a tendency of more smallholder involvement in the older associations and less smallholder involvement, through the labour team approach and role of AdX, in the newer associations. The choice for either of the applied labour management approaches is

informed by factors such as the availability of land for other activities, other occupations of smallholders, age of smallholder outgrowers and their understanding of the advantages and disadvantages of both systems. If smallholders are fully dependent on sugarcane production for their livelihood and engage in no other labour consuming activities, it is more likely that they prefer to be fully engaged in labour and management activities and earn as much income from these activities as possible (i.e. outsourcing less activities). On the other hand, if members are occupied with other livelihood activities, they might regard high company involvement and responsibility as a preferred strategy. The second scenario bears similarities to smallholders renting out land for sugarcane production, whilst carrying the risk in the production process.

An advantage of an increased involvement and responsibility of smallholders could be that smallholders put more effort into production and maintain higher production standards than land labourers, who have less interest in the actual production (since their wage is not influenced by obtained production results). Also it is likely that more involvement of smallholder producers in production leads to higher yields and more income remaining with the local communities. The group income system, which is currently in place in all associations but being reassessed by some at company level, could stimulate smallholders amongst themselves to maintain optimal yields as smallholders can only receive higher incomes if others perform well. In order to achieve this however, the benefits of working in an association and the advantages of shared income (and responsibility) must be clear: this can only be achieved through training, which is currently not properly performed.

The labour involvement of smallholders in Xinavane appears to be fairly in line with those observed in other smallholder sugarcane plantations in Africa. This labour input mainly includes weeding, moving the sprinkler systems and applying fertilizers. The smallholder management also arranges operators for the pumps for the irrigation system, for which smallholders are responsible as well. There is room for increased smallholder engagement in the production process, such as tending to sugarcane nurseries as is already done in the oldest association. Also there may be possibilities to engage in transport activities and (progressively) taking over activities from (companies hired by) the nucleus. Once the management of smallholder outgrower associations becomes more professional further options of increased ownership and responsibility can be assessed better.

Although sugarcane cultivation is proceeding in all associations and some of the new associations have harvested already, there exists great uncertainty about the exact content of the contracts (see Chapter 9). This uncertainty is partly caused by the oral/verbal nature of most contracts between communities/associations and AdX and partly because the agreements are not very specific on issues like timing, quantities and prices. There are regulations and documents for arranging payments, but these are not always lived up to and/or clearly understood by smallholders and the leadership of their associations. This creates confusion and gives rise to conflicting interpretations and expectations as cultivation of sugarcane and intensive collaboration with a company is new to smallholders. Clear regulations on rights and responsibilities of the involved actors are required in which unambiguous agreements are made concerning land use rights, the production process, and the financing and payments for inputs.

Also in Xinavane land use rights, the delineation of community land and representation of local communities by local leaders appears difficult. This gives rise to conflicts as there is no clarity about what has been agreed with whom, what the consequences of these deals are and whether the agreements were endorsed by the whole community (see Chapter 9). It appears this lack of clarity decreased as more agreements were written down and NGOs were involved as a (neutral) third party when agreements were made. This has been a positive development but clearly the government should increase its presence and visibility by taking responsibility for monitoring and supervising the land registration and community consultation process. This task forms part of the government's responsibility to monitor whether laws and regulations are implemented and to impose sanctions in case of non compliance, something NGOs are incapable of.

AdX is presently sourcing funds to finance the third phase expansion, with the European Investment Bank (EIB) being a potential financier. According to AdX the interest rate that needs to be paid will probably change when other (development) organizations bring in funding. Therefore the payments

that smallholders have to make are not clear yet, hence contracts have not been finalized. Also a clear attitude prevails whereby AdX is regarded as the parent and smallholders as the children, who need to be taken care of but clearly do not stand on an equal footing. In this context it is not paper contracts or official documents that define the relation, but AdX managers deciding what is reasonable in their opinion, based on their observations and the level of trust obtained for each individual case.

Developments are in full swing in Xinavane whereby the internal dynamics within associations are difficult to monitor and guide currently, as is reflected in the multitude of different opinions and often contradictory information provided by various stakeholders (see for example footnote at Table 4). As a first step smallholders and their association management should benefit from organizational training to clarify each participant's role and responsibility in the partnership. Clear relations of accountability and lines of communication should be established to professionalize the presently existing associations and increase their capacity to act on behalf of their members. Only then transparency and organizational efficacy might increase to levels that allow for collective decision making and effective forms of bargaining. However, this will take time and requires considerable inputs from all actors involved. In the next chapter we will outline an organizational development strategy that helps to strengthen the company-outgrower partnership.

Smallholders are positive and hopeful about the sugarcane outgrowing activities and it appears there certainly are possibilities that smallholder sugarcane developments will further benefit the local population in the Xinavane area, and form an engine for regional growth. However, clearly more efforts need to be made in strengthening smallholder capacities, and formalizing and clarifying contracts, certainly with regard to land issues and the distribution of rights and responsibilities.

11. Recommendations

In this chapter we present some recommendations which on the one hand pertain to the situation in Xinavane and are therefore directed towards key actors involved in the sugarcane outgrowing partnership, whilst on the other hand we make some tentative suggestions for future research that aims at drawing lessons for improving the smallholder outgrower partnerships with sugarcane producers.

For activities that could be taken in sugarcane outgrower partnerships:

- It is paramount that an NGO or development agency is involved in the company-smallholder partnership, which is independent of the company. This third party (or fourth, if the government is counted as well) can safeguard the interests of the smallholders, create space for strengthening of smallholder associations and offer the necessary support in the form of training to smallholders which enables the latter to better articulate and safeguard their own interests in the future. It is recommended that this NGO/development organisation bears a long term commitment to the programme and can rely on long term financing in order to provide services over a prolonged period of time. It is critical that this development organisation is not dependent on the will of the company as in some cases the interests of company and smallholders are clearly not the same. NGOs which were and are present in Xinavane (KULIMA, ORAM and Gwevahne) might be able to play a bigger role but require more funding and organisational strengthening to perform these tasks accordingly. In addition their activities could benefit from external monitoring by a capable development agency. An example of a suitable development agency with experience in setting up farmer cooperatives and rural development is GTZ, which could monitor and steer developments, form a partnership with the local NGOs and support capacity building in these local NGOs and smallholder associations. Alternatively a Dutch development organisation, SNV, could play a role here. It is essential that the enrolled development agency and partners NGOs should be locally present and easily accessible for smallholders. Once the smallholder outgrower associations have achieved a modicum of self reliance, it is envisaged that smallholders employ someone themselves to safeguard their interests (possibly paid from levies exacted on cane production). There might be a role in this for a certification body, which reports to the government, thereby increasing the government's monitoring capacity on smallholder sugarcane activities, providing information independent from the sugarcane mill. Alternatively this certification body could report to the buyers of sugar (or potential labelling organisation) about practices at production level.
- It is recommended to craft clear agreements (clear in time and activities) between the government, the company and the local community. Certainly concerning the consultation process in which local communities cede land to associations there needs to be clear monitoring whether the community consultation has been fair and comprehensive and whether the consequences are understood (prior and informed consent). Registration of community land in the cadastre should take place before engaging in outgrower activities. In case this has not been achieved, registration should become a matter of priority. Responsible government agencies should take a more active role in monitoring these agreements, and establish a mechanism for recourse in case of perceived mal-treatment. It may be necessary to enrol a fourth party in this tripartite partnership, who represents the smallholders and has the capacity to understand company rationale as well as the concerns of the local population. In Swaziland this intermediary role has been taken up by SWADE (Swaziland Water & Agricultural Development Enterprise) a para-statal organisation that mediates between sugar producers and smallholder outgrowers, whilst it plays a key role in identifying and directing training needs of the latter (Lukhele, 2010). This intermediary organisation requires the trust and mandate from both smallholder outgrowers and the sugar company. One of the key roles for such an intermediary organisation is to check and monitor whether all parties have the same understanding about what is being agreed. Making clear agreements goes beyond a written contract (as many people cannot read), and might include the use of other media besides the written word (e.g. use of video, local radio, and other

visual tools for monitoring agreements). For any agreement to work it is paramount that all signatories appreciate the mutual benefits emanating from the agreement, thus strengthening each participant's commitment to the deal. Since any legally binding agreement ultimately needs to be documented and signed in legal codes, the suggestion of Manjate *et al.* (2009) to support pro-deo legal assistance at District level is a useful one, in addition to our plea for the enrolment of a fourth party.

- One of our findings regarding the existing smallholder outgrower partnerships established at Xinavane, is that the government is virtually absent, precluding the implementation of its monitoring role. Therefore we recommend that a local government agency becomes actively involved in future partnerships. The first port of call to take up an active monitoring role in the partnership is the local SDEA office. They maintain a permanent presence in the area and stand to benefit from the partnership in terms of technical capacity development, despite the high turnover in staff experienced. Also the establishment of pro-deo legal assistance, as mentioned by Manjate *et al.* (2009), could strengthen the negotiation process between the various parties involved, and decrease differences in interpretations. Ideally such a service would operate in close co-operation with the District Administrator's office.
- There is also a clear need to simplify and clarify the agreements and procedures included in the signed contracts for all participants in the partnership to act upon. Here we refer to the need to increase transparency and establish straightforward communication lines and accountability relationships, avoiding undue disappointments on the part of the partners. In the future smallholders should be capable of checking the prices given to them by AdX and make a decision whether they want to continue drawing services from AdX or have some other company do it. Transparency also requires a payment system which enables (even stimulates) smallholder outgrowers to check the company and their own association management whether they received the right amount of money and services, how much money was spend on what activities and how these expenditures are justified.
- Strengthen and increase transparency within smallholder associations, by establishing clear relationships of accountability and lines of communication. This requires further training of both the leadership of outgrower associations (possibly involving '*look and learn*' field trips to fellow sugarcane outgrowing associations in for example Swaziland, as Agricane is already planning) as well as general training for smallholder outgrowers on the managerial, technical and group dynamics aspects of sugarcane production in associations. This might entail lengthy discussions amongst members and their leadership, but is needed to get all people to understand the objectives and requirements for successful sugarcane cultivation which allows them to maximize revenue generation and benefit from smallholder potential. Also by increasing transparency and the level of self determination, smallholders understand what benefits they can derive from compliance to their own rules. This might decrease internal bickering and conflicts that outsiders have little control over.
- It is advised to support the formation of MHOVA as an (independent) umbrella organisation in which smallholder outgrowers are united and can benefit from economies of scale advantages. Consideration should be given however whether the company should be part of this supra association or not. Advantages of company representation would be access to management skills, but a potential danger is the increase of company control over smallholders, whereby the MHOVA would start to serve the company interests over and above those of the smallholders. It may be advisable to lodge only common-interest responsibilities within this supra association, since smallholders can exert less control over MHOVA leadership than over the leadership of their own association. The increased distance between smallholders and MHOVA management makes the later prone to increased possibilities for fraud and deterioration of trust of smallholders in organisation structures.

- It is advised to promote the emergence of single purpose associations so that smallholders do not jeopardize their sugarcane activities with the risks taken in other activities. This does not mean smallholders should not develop alternative sources of income generation or develop other activities, but that finances should be strictly kept separate.
- Within the present set-up at Xinavane, it is recommended to establish and strengthen clear lines of communication between the NGOs involved, the leadership of the various associations and Agricane, which deals with the technical issues. By augmenting their mutual knowledge base and understanding they can better identify what the main problems in the associations are and undertake concerted action to address some of these problems.
- In the near future, a close look should be taken at the selection criteria for smallholder outgrowers; by not only considering those smallholders who had land within the land concession given to the association, but by also including those smallholders who are motivated to participate and likely to contribute to the success of the sugarcane production activities. The dividend model of production might suit those smallholders who appear not motivated to actually participate in sugarcane production, preferring to engage in other income generating activities. Hence, alternatives should be provided for community members who have little interest in actively participating in the sugarcane outgrowing partnership.

Research agenda:

This study is only exploratory and many of the subjects touched upon warrant further investigation. Although the activities in Xinavane have been mapped to some extent, it is still a rough mapping and more detailed and specific topic directed research is deemed necessary to learn from the path-breaking developments taking place in Xinavane. Below we present some relevant research topics.

- Establish a baseline to assess at a later stage to what extent smallholder sugarcane development really contributed to poverty alleviation. In order to assess this it is necessary to set a baseline soon as developments are already under way and it will be difficult to reconstruct the past objectively after a few years. Through such a baseline study AdX could prove how their project has contributed to regional development, which they claim as a key objective of their present activities.
- Within this context it is suggested to commission a study mapping the livelihood strategies of rural populations in the Xinavane area, also to establish how sugarcane cultivation resonates with the risk management strategies of local households. This study could cover many aspects, such as land availability, labour availability (establishing how peak demand for weeding activities interferes with migratory labour by men in South Africa), income from other labour activities, etc.. These aspects will inform questions about the amount of labour smallholders can potentially perform themselves or whether it will be more interesting to have the company take care of as many activities as possible and go for a land-rent activity.
- Although some characteristics of individual smallholder associations could be identified, there still is a lot of unclarity about the differences between associations, the internal organisation of associations, the balances/bookkeeping practices and leadership accountability feed-back loops within associations. Future research may address the need for more insight on prevailing organisational and leadership practices as well as (gendered) accountability relations between individual smallholder outgrowers, household members, association leaders, and the staff employed by the various organisations involved in the partnership (e.g. staff from AdX, Agricane, NGOs and government agencies). Such research should yield lessons on what works and what does not with respect to organisational accountability and management relations.
- We recommend further investigation into land tenure and user rights issues, establishing with whom land use rights reside exactly (with individuals, associations or MHOVA, or the company). It appears that land use rights are held within the association, but it might be that there are differences amongst associations concerning this. Also the contribution to and divisions of land within associations and the internal dynamics of associations have remained largely unclear.

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List of interviews

Person	Organisation	Function	Date interview(s)/ personal communication
Mr. Sancho Cumbi	AdX	Assistant manager outgrower expansion program	01-04-2010 16-04-2010 20-04-2010 21-05-2010
Mr. Ferronha	AdX	Financial manager	18-05-2010
Mr. Michael Mapisane	AdX	Head of administrative office in Agricultural Department	14-05-2010
Mr. Cees Baars	AdX	Section manager AdX	05-05-2010
Mr. Collert Moyo	AdX	Irrigation expert	18-07-2010
Mr. Joao	AdX	Technician for Chihennisse association	18-05-2010
Mr. Hercilio Manique	AdX	Technician for Olhar de Esperanca and Facasize	29-04-2010
Mr. Basiliu	AdX	Technician for Macuvulane I and Macuvulane II	12-05-2010
Mr. Michael Mapisane	AdX	Agronomist at Agricultural Department of AdX	14-05-2010

Mr. David	Maguigane association	Technician Maguigane association	01-04-2010 03-05-2010
Mr. Russel Longhurst	Agricane	Manager Expansion	28-04-2010
Mr. Ges Bester	Agricane	Manager smallholder expansion	28-04-2010 14-05-2010
Mr. Agostino Cossa	Chihenisse association	President	25-05-2010 22-06-2010
Mr. Paolo Cossa	Olhar de Esperanca association	President	21-06-2010
Mrs. Sofia	Macuvulane I association	President	28-04-2010
Mrs. Rosa	Colo association	Leader	22-06-2010
Mr. Efram	Macuvulane II association	President	04-05-2010 14-06-2010
Mr. Lumela Mr. Timane Mr. Cossa	Maholele expansion	Larger farmers	19-05-2010
Mr. Ismael and Abu	Maholele expansion	Larger farmers	19-05-2010
Mr. Fenias Antonio Nguenha	Maria de Luz Guebuza	(former) president	22-04-2010
Mr. Salamao Mr. Fenias Mr. Ruben	Maguigane association	Management	28-04-2010
Mr. Giancarlo Monteforte	EU delegation Mozambique	Attaché	29-03-2010
Mrs. Liria Sambo Nhaquila	CEPAGRI	Agricultural engineer concerned with sugar activities	22-03-2010 28-06-2010
Mr. Ussivane	SSIP	Former project leader	26-04-2010
Mr. Zeferino Cavele	Magude government	Administrador	25-05-2010
Mr. Joao Jeque	APAMO	Executive director	01-04-2010
Mr. Olivio Catela	Gwevanhne	President	03-05-2010 04-05-2010
Mr. Felix Mario Langa	Gwevanhne	Editor/ secretary	20-04-2010 22-05-2010
Mr. Domenico Liuzi	Kulima	Director	13-04-2010
Mr. Kalistu	ORAM	Responsible officer for Xinavane activities	14-04-2010 24-05-2010

Besides the above mentioned interviews, which are all directly used in the text above, there have also been many conversations and interviews which were not directly used in this document but certainly did influence the writing of the report. Examples include smallholders, government officials and NGO representatives.

Annex 1: Questionnaire used in Xinavane

Date survey:
Name Surveyor:

Questionnaire

Background of the research

Sex interviewee	M	F
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The surveyor will explain:

- Objectives of the research
- How and why the respondent is chosen
- How the information will be used
- That the information will be analyzed without the name of the respondent and will not be used outside the survey
- The survey will take approximately 30 minutes

1. Background of the Farmer

a. Of which sugarcane producers association(s) you are a member

Maguigane	Maguvalane	Chinesse	Other.....
-----------	------------	----------	------------

b. How many hectares do you have in this/ these association(s)?

		Ha
		Ha

c. Age

	year
--	------

d. Can you read and write?

Yes	No
-----	----

e. What is your level of formal education?

None	Primary	Secondary	Tertiary
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f. Since when do you live in this area?

	year
--	------

g. Since when are you a member of the association?

	year
--	------

h. How did you earn an income before you joined the smallholder sugarcane association?

Occupation	amount of land/ cattle (if relevant)
Peasant growing crops	
Peasant raising cattle	
Civil servant	
Trader	
Employee of sugarcane estate	
Other _____	

2. The current income of the smallholder family

- a. What are your household's four major sources of income? Include, for example, remittances from family members who live in South Africa or pension from former employment. **Rank** what is most important to you.

	a. Source of income	a. If relevant amount of cattle or size of land	b. Ranking of time occupied with activity.
1.			
2.			
3.			
4.			

- b. Rank which of your sources of income consumes most of your time.

3. The services provided by stakeholders

What are the responsibilities of actors concerning the following activities: Please indicate if you are satisfied with these services provided.

	smallholders	Association	AdX/ Uni- trans	NGO	Government	Other.....	Satisfied with performance	
Fertilizer application							Y	N
weeding							Y	N
Irrigation system maintenance							Y	N
Financial issues							Y	N
Road maintenance							Y	N
Pest and disease control							Y	N
Harvesting							Y	N
Training on technical issues							Y	N
Organisational trainings							Y	N

4. Motivations and expectations in starting sugarcane production

a. Who approached you about the possibility to join the association?

Government	Other members	Community leaders	Company
------------	---------------	-------------------	---------	-------

b. What did you contribute to become a member of the association? (can choose more)

Land	Labour	Money	Other, namely	Nothing
			

If relevant, can you indicate how much of each?

Land	Labour	Money	other

c. What were/ are the 3 most important benefits for you in growing sugarcane and joining the association?

1.	
2.	
3.	

d. What are the 3 most unpleasant aspects of producing sugarcane in the association?

1.	
2.	
3.	

e. Do you hire labour? Why, or why not?

No, I do all activities myself	No, the AdX or the association management arranges all labour.	No, other reasons.....	Yes, too old	Yes, have another activity to attend to.	Yes, other.....
--------------------------------	--	------------------------	--------------	--	-----------------

f. Sugarcane production has increased the quality of my live.

True	False
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5. Contracts

Please indicate about the following statements whether in your opinion they are true or false.

a.	It is clear to me how the payment system functions.	T	F
b.	It is clear to me how much deductions I get and what the deductions are for.	T	F
c.	The management has explained me clearly what contract we have with AdX.	T	F
d.	It is the association management which is responsible that the work on my piece of land gets done.		
e.	My rights and responsibilities in the association were clearly explained to me.	T	F
f.	When I have a question about my rights and responsibilities in the association, there are people in the management who will explain it to me.	T	F
g.	I can show there is a written contract between me and the association explaining what I have to do and what responsibilities the association has.	T	F
h.	If the company does not live up to its agreements, there is nothing we can do about it.	T	F
i.	The obligations of the association towards AdX are clear to me.	T	F
j.	If the association decide we want to grow another crop we can stop to grow sugarcane.	T	F
k.	I am responsible only for the irrigation system and weeding on my plot of land gets done.	T	F
l.	The statutos is the only agreement between me and the association.	T	F
m.	The association management is responsible for the labour that needs to be done on my piece of land.	T	F
n.	The AdX is responsible for all the work that gets done on my piece of land.	T	F
o.	When I want to leave the association I can sell my plot to anybody I like.	T	F
p.	The agreements between AdX and the smallholders are clear to me	T	F
q.	When I have a problem concerning sugarcane production I go directly to the company.	T	F
r.	The rules for disciplining members who do not perform their duties correctly functions well.	T	F
s.	Can you roughly indicate about how many members in this association do not perform their tasks well?		
	1-3	4-7	8-12
			12>

6. TRUST

Please indicate about the following statements whether in your opinion they are true or false.

a. Working in an association brings me more advantages then working individually.	T	F
b. The management of the association safeguards my interests well.	T	F
c. When the payments take place I can check whether I received the right amount of payment.	T	F
d. The company cares about the wellbeing of the outgrowers.	T	F
e. The members of the association have influence on the decisions made by the management.	T	F
f. There are plenty of opportunities for the smallholders to indicate towards the management what the problems are.	T	F
g. The company does what it says it will do (keeps its promises)	T	F
h. I trust the association and company to give me the correct payment.	T	F
i. The company helps us to achieve high sugarcane yields.	T	F
j. I receive government support to grow sugarcane.	T	F
k. The government helps us when we have a dispute with the company	T	F
l. The management communicates clearly its agreements with AdX and Government with its members.	T	F
m. NGO's have supported us well in setting up and strengthening the association.	T	F
n. The technicians of the AdX are capable and teach us well how to grow sugarcane.	T	F
o. We had proper training in understanding how an association should function.	T	F
p. Almost all members do their best to make the association function well	T	F
q. A problem in the association is that many members are not doing their work for the association properly.	T	F
r. Because I work in the association I receive inputs for other crops as well.	T	F
s. The management of the association has the skills and capacity to lead the association professionally.	T	F
t. When we have a concern about the functioning of the association, the management of the association takes our concerns seriously.	T	F
u. The association provides credit to its members.	T	F
v. The association provides us with the opportunity to join interesting trainings.	T	F
w. The NGO's provide us with trainings that are use full to us.	T	F
x. Our association really needs more training to function properly	T	F
y. The company provides us with trainings that are use full to us	T	F

Annex 2: AdX Cane Payment Rules

1. Interpretation

1.1 In this agreement the following expressions shall have the meanings set out below:

- (a) "MGB" means the Mill Group Board made up of representatives of the GROWERS and the COMPANY, and having as its principal object the provision of services aimed at facilitating the transport and reception of cane delivered to the MILL in the interests of both the GROWERS and the COMPANY.
- (b) "COMPANY" means Aqucareira de Xinavane SA.
- (c) "MILL" means the sugar mill owned by the COMPANY.
- (d) "MILLING SEASON" means the period in each year during which the MILL is operating for the purpose of crushing cane.
- (e) "GROWERS" means all persons supplying cane to the MILL, including MCAI, THA and the COMPANY as a miller-cum-planter.
- (f) "APPEAL COMMITTEE" means a committee consisting of a Chairman and two other members who are accountants practicing in Mozambique whose function is to resolve disputes falling within its jurisdiction.
- (g) "YEAR" means a calendar year ending on 31 March.
- (h) "THA" means Tongaat Hulett Aqucar, Limitada in its capacity as a GROWER.
- (i) "MCAI" means Mhova, Canavieiros Associado de Incomati, Limitada
- (j) "ERC" means estimated recoverable crystal, being the mass of sucrose in crystalline form that by means of laboratory testing is estimated to be recoverable from any consignment of cane delivered to the MILL for crushing.
- (k) "RAW SUGAR" means unrefined brown sugar for sale on the domestic and export markets in bulk or packed in bags containing not less than 25 kgs of sugar.
- (l) "PARTIES" means the COMPANY and MCAI.

1.2 If the last day of a period of time falls on a day which is a Saturday or a Sunday or a public holiday, references to "that day" shall be read as referring to the first business day following after that day.

1.3 Unless the context clearly indicates a contrary intention, words importing the singular number shall include the plural and vice versa, words importing any gender shall include the other genders and words importing persons shall include corporate bodies and vice versa.

2. Cane Weighing and Testing

2.1 All cane weighing and testing shall be the responsibility of the MILL.

2.2 Cane delivered to the MILL will be weighed, sampled and subjected to laboratory tests to determine the estimated recoverable crystal in accordance with procedures laid down by the Mill from time to time.

2.3 The MILL will inform MCAI on a weekly basis in writing of the estimated recoverable crystal in the cane delivered by it to the MILL during the preceding week.

3. Determination of Cane Price

- 3.1 The payment to GROWERS for cane sold to the MILL shall be calculated in metical on a relative ERC basis.
- 3.2 The gross revenue generated by the sale of sugar manufactured by the MILL in each MILLING SEASON will be determined by multiplying the tons of RAW SUGAR produced by the MILL by the average price per ton of RAW SUGAR realized through sales of sugar produced by the MILL on the local and export markets.
- 3.3 The marketing policy of the COMPANY will be to obtain the best prices available for the RAW SUGAR produced by the MILL subject to any need that may exist to ensure that the local market is adequately supplied before sugar is exported.
- 3.4 For the avoidance of doubt, the marketing, selling and distribution of RAW SUGAR is the sole responsibility of the COMPANY.
- 3.5 The net revenue will be arrived at by deducting from the gross revenue:
- (a) Selling and distribution expenses incurred by the COMPANY, including:
 - (i) All packing and packaging material in 25 kilogram or larger packs, domestic and export marketing and selling costs, including agents fees and commissions and the cost of hedging on international markets.
 - (ii) Storage costs and any other carrying costs incurred in connection with sugar stocks, both at the MILL and in transit to final destination.
 - (iii) Transport and loading costs and forwarding agents fees incurred in connection with the sale of sugar.
 - (iv) Insurance, including relating to sugar stocks.
 - (b) The cost of testing cane delivered to the MILL.
 - (c) The expenses of the MGB which are not recoverable in terms of clause 4.
 - (d) The expenses of the APPEAL COMMITTEE.
 - (e) Any other costs which the MGB decides should be deducted from gross revenue including, but not limited to, any levies which may become payable to APAMO and any other such industry association.
- 3.6 60% of the net revenue arrived at after deducting from the gross revenues the costs referred to in clause 3.5 will be allocated to the GROWERS and is hereafter referred to as "the GROWERS' allocation". The remaining 40% of net revenues will be retained by the COMPANY as the consideration due to it for milling.

4. The GROWERS' Allocation

- 4.1 Each GROWERS' share (including that of MCAT) of the GROWERS' allocation referred to in clause 3.6 shall be calculated using the tons of estimated recoverable crystal delivered by each GROWER as determined in the manner set out in clause 2;
- 4.2 There shall be deducted from the amount allocated to MCAI:
- (a) The actual cost incurred by THA and / or the COMPANY in harvesting, loading and transporting MCAI's cane.
 - (b) Any other amounts owed by MCAI to the MGA, THA and/or to the COMPANY, in terms of any other agreement.
 - (c) It is recorded that the harvesting, loading and transporting of MCAI's cane in each season will be undertaken by THA and/or the COMPANY for MCAI's account on terms no less favourable than applicable to THA.

5. Payment to GROWERS

5.1 At the end of the first month of each MILLING SEASON the COMPANY will give MCAI:

- (a) An estimate of the price per kilogram which it will receive for RAW SUGAR produced during that MILLING SEASON.
- (b) An estimate of the expenses referred to in clauses 3.5 and 4.2,

5.2 The estimates made in terms of clause 5.1 will be updated by the COMPANY on a monthly basis.

5.3 The COMPANY will estimate the amount which will become payable to MCAI in accordance with:

- (a) The estimated recoverable crystal delivered by the MCAI determined in the manner set out in clauses 2 and 3;
- (b) The estimated mass of RAW SUGAR to be produced by the MILL in the season concerned;
- (c) An estimate of the expenses to be deducted from the revenue attributable to the cane delivered by MCAI to the MILL so as to arrive at an estimate of the payment to which MCAI will become entitled.

5.4 The estimates made in terms of clause 5.3 will be updated by the COMPANY on a monthly basis.

5.5 MCAI will be paid 30 days after the end of each month during which it delivered cane to the MILL 70% of its estimated entitlement for the season-to date deliveries of cane, less all prior payments credited to it for cane delivered to the MILL during that MILLING SEASON.

5.6 On the last day of the second month following upon the end of the MILLING SEASON, and on the last day of each of the next four consecutive months, MCAI will be paid an additional **3%** of its estimated entitlement calculated as at the last day of the immediately preceding month.

5.7 When all of the sugar produced during a MILLING SEASON has been sold and the actual amount payable to MCAI has been determined, MCAI will be paid the balance of the amount due to it for cane delivered to the MILL during that MILLING SEASON.

6. Adding Value to RAW SUGAR by the COMPANY

6.1 RAW SUGAR produced by the MILL for its own use or in any way is used by the MILL to add further value to RAW SUGAR, and which would have been sold by the MILL on:

- 6.1.1 The Mozambique domestic market: then it shall deem a transfer price for that RAW SUGAR calculated using the price of RAW SUGAR packed in 25 kilogram bags ruling in the local market at that time.
- 6.1.2 The Export market: then it shall deem a transfer price for that RAW SUGAR calculated using the price of RAW SUGAR on the export market (defined as the market to which the sugar in question would otherwise have been exported) .

7. Byproducts

For the avoidance of doubt it is recorded that the value of by products such as bagasse and molasses will not be brought to account in the calculation of gross revenue in terms of clause 3.2.

8. Disputes

Any disputes which may arise concerning payments made or to be made to MCAI for cane delivered to the MILL which cannot be resolved by the PARTIES shall be referred by the PARTIES to the APPEAL COMMITTEE whose decision shall be final and shall not be subject to appeal.

9. The APPEAL COMMITTEE

- 9.1 The PARTIES shall, by the beginning of each YEAR, establish an APPEAL COMMITTEE consisting of a Chairman and two ordinary members.
- 9.2 The two ordinary members shall be chartered accountants practicing as such in Mozambique.
- 9.3 One of the ordinary members shall be appointed by the COMPANY and the other ordinary member shall be appointed by MCAI.
- 9.4 The ordinary members shall appoint the Chairman who shall be an independent person experienced in the sugar industry.
- 9.5 The members of the APPEAL COMMITTEE shall hold office for a period of three years at the end of which time they will be eligible for re-appointment.
- 9.6 If either the COMPANY or MCAI fails to appoint a member of the APPEAL COMMITTEE, or if there is a temporary vacancy, the remaining members may continue to act provided that their number does not fall below two, the quorum in such circumstances being two members.
- 9.7 The members of the APPEAL COMMITTEE shall be remunerated for their services at such rate as may be agreed from time to time between the members of the Committee and the PARTIES.
- 9.8 The quorum for a meeting of the APPEAL COMMITTEE shall be three. If a quorum is not present at a meeting, that meeting shall stand adjourned until the same time one week hence. If, at a re-convened meeting, the three members are not present, the meeting may proceed with a quorum of two.
- 9.9 Each member of the APPEAL COMMITTEE shall have one vote. If an issue is put to the vote the decision of the majority shall be the decision of the Committee.
- 9.10 A person appointed to fill a casual vacancy occurring on the APPEAL COMMITTEE shall hold office for that period of time that the member whom he replaced remains absent.
- 9.11 The function of the APPEAL COMMITTEE is to adjudicate and resolve disputes referred to it by the PARTIES in accordance with these rules that the APPEAL COMMITTEE will have no power to alter.
- 9.12 The APPEAL COMMITTEE shall have the discretion to award costs and to decide upon the amount of such costs or, alternatively to give directions as to how the amount of such costs is to be calculated and finally determined.
- 9.13 The awards of the APPEAL COMMITTEE shall:
 - (a) Be given in writing to the parties to the dispute and to the PARTIES.
 - (b) Be final and binding.

10. Amendments

- 10.1 These rules shall be reviewed by the COMPANY and MCAI at intervals of not more than XX years with a view to proposing amendments made necessary by changed or otherwise unforeseen circumstances.
- 10.2 No amendment shall come into effect until it has been signed on behalf of the COMPANY and on behalf of MCAI.

Annex 3: Original AdX small scale growers cane area and production summary

Scheme	Name	Year Estabd	No of farmers	Sugar cane		Sugar	Food crops	Cane hectares
				Hectares	Tonnes p.a.	Tonnes p.a.	Hectares	per farmer
Old	Macuvulane	2005	180	185.0	22,200	2,741	0	1.03
	Maguiguane	1998	66	90.0	7,650	944	0	1.4
	Chianhisse	2008	40	200.0	18,000	2,222	0	5.0
	Total		286	475.0	47,850	5,907	0	1.7
New	Macuvulane 2	2008	89	73.0	8,030	991	4	0.8
	Maria de Luz Guebuza	2009	200	263.0	28,930	3,572	0	1.3
	Hoyo-Hoyo	2009	150	189.0	21,340	2,635	14	1.3
	Buna	2009	110	218.0	24,200	2,988	28	2.0
	Maholele Macamo	2009	4	72.0	6,820	842	0	18.0
	6 de janeiro	2009	200	74.0	9,900	1,222	37	0.4
	Olhar de Esperança	2009	250	107.0	11,770	1,453	0	0.4
	Maholele G 1st Stage	2009	6	266.0	29,920	3,694	0	44.3
	Chichuco	2010	150	95.0	13,420	1,657	39	0.6
	Maholele Mutombene	2010	4	56.0	5,170	638	9	14.0
	Tres de Fevereiro D	2010	10	133.0	18,260	2,254	34	13.3
	Mucombo Est	2010	80	70.0	8,400	1,024	30	0.9
	Total		1,253.0	1,616.0	186,160	22,970	195	1.3
Total for SSG			1,539	2,091.0	234,010	28,877	195	1.4

Annex 4: Overview of income of Macuvulane I smallholders in 2009.

Overview of income of Macuvulane smallholders in 2009.				1US\$ = 28.5 Mtc.			
Primarily figures from Macuvulane I were used, only if not available general data from <i>Xinavane SSG feasibility study</i> was used.							
				Total amounts in Mtc.	Total amounts in US\$	MTn./ ton cane according to own calculation with figures from Macuvulane association	MTn./ ton cane according to AdX sources
Basic info	Macuvulane I	Amount of cane harvested (tons)	17504				
		Amount of ha	185				
		No. of members	180				
		Average tons/ ha	95				
	General Info (for 2009)	Average sugar price Mozambique (Mtc.)	15354.66				
		Actual ERC % Macuvulane	10.57%				
		Adjusted AdX ERC	11.61%				
		Adjusted Tons Cane ERC in Macuvulane	2031.8				
Gross Revenue Macuvulane				31,197,550	1,094,651		
	Levies and surcharges	Selling and distribution cost					
		Costs of testing cane					
		Expenses of the AdX					
		Expenses of the Appeal Committee					
		APAMO Levies					
		Other costs as identified by AdX					
		Total		1,255,573	44,055	72	2.7
Net Revenue				29,941,977	1,050,596	1,710.54	
Division of proceeds (DOP 60/40), 60% of revenue for Macuvulane association				17,965,186	630,357	1,026	
Grower's allocation		Final Revenue from cane		17,965,186	630,357	1026	992
Deductions	Harvest and delivery to mill (performed by Unitrans)	Harvesting		718,238	25,201	41	52
		Loading		1,308,458	45,911	75	52.2
		Haulage		2,014,762	70,693	115	162.7
	Irrigation	Pump and system maintenance (incl. theft and vandalism compensation)		487,432	17,103	-	2,635
		Electricity		1,349,427	47,348	-	77.1
		Bulk (=Water) costs		395,530	13,878	-	22.6
	Ratoon cultivation:	Chemicals		634,550	22,265	-	3430
		Fertilizers		1,768,035	62,036	101	69.0
		Tractors		832,685	29,217	-	4501
		Ripeners		236,134	8,285	-	1276.4
	Association management and other costs			1,216,589	42,687	70	71
Total income for smallholders, without deduction management				7,985,669	280,199	456	

Actual payments to smallholders by association			6,769,080	237,512	387	
Average income per smallholder			37,606	1,320		
Not included is charge for replanting funds			726,387	25,487		41.5
Replanting per farmer			4,035	142		
Average income per smallholder incl. replanting fund (1.03 ha)			33,571	1,178		

Annex 5: Overview wateruse in Incomati area (Source ARA-Sul)

Nº Ord	Nome do utente	Local	Distrito	Fonte/Rio	Area (ha)		Volume (m³)/mês	Culturas Praticadas
					Potencial	Irrigada		
1	Assoc. dos Agric. de Gavaza	Gavaza	Moamba	Sabie	16.00			Diversas
2	Aron M. Mulhovo	Gavaza	Moamba	Sabie	42.34			Diversas
3	Abilio Antonio Pilica	Gavaza	Moamba	Sabie	60.00			Diversas
4	Alson Cossa	Ligongolo	Moamba	Sabie	34.43			Diversas
5	Associação dos Agropécuaria	Ligongolo	Moamba	Sabie	20.28			Diversas
6	Johane Mufandasse Mulhovo	Chavana	Moamba	Sabie	86.00			
7	Samuel Mfokwa Zita	Chavana	Moamba	Sabie	15.08			
8	Tomas Fredericos Mandlate	Chavana	Moamba	Sabie	100.00			Diversas
9	Elias Mungone Ncavo	Chavana	Moamba	Sabie				Diversas
10	Jose Elias Ncavo	Chavana	Moamba	Sabie				Diversas
11	Abdul Rachid Samat Bemate	Chavana	Moamba	Sabie	76.30			Diversas
12	Julio Macamo	Chavana	Moamba	Sabie	22.35			Diversas
13	Alfredo Jeque Tivana	Chavana	Moamba	Sabie	31.39			Diversas
14	Isac Tivana	Chavana	Moamba	Sabie				Diversas
15	Paulo Mundlovo	Chavana	Moamba	Sabie				Diversas
16	David Mucavele	Chavana	Moamba	Sabie				Diversas
17	Juliasse Ntui	Chavana	Moamba	Sabie	6.50			Diversas
18	Jeremias Ern. Malandzele	Missão	Moamba	Sabie	14.40			Diversas
19	Alfredo Macumbule	Missão	Moamba	Sabie				Diversas
20	Julio Mandlate	Missão	Moamba	Sabie	4.00			Diversas
21	As. dos Agric. Graça Machel	Missão	Moamba	Sabie	52.00			Diversas
22	Valdim M. Ibraimo. Mula	Chiquizela	Moamba	Sabie	14.49			Diversas
23	Assoc. dos Agric. 7 de Abril	Chiquizela	Moamba	Sabie				Diversas
24	Artur Francisco Ngovene	Chiquizela	Moamba	Sabie	22.00			Diversas
25	Xarifo M. Ibraimo Mula	Chiquizela	Moamba	Sabie	18.80			Diversas
26	Agri sul Limitada	Chiquizela	Moamba	Sabie	120.00	105.00	126,540	Bananeiras
27	Filipe F. Dimande Machava	Sabie bloco 5	Moamba	Sabie				Diversas
28	Gregorio Mandlate	Sabie bloco 5	Moamba	Sabie				Diversas
29	Alberto Manuel Cossa	Sabie bloco 5	Moamba	Sabie				Diversas
30	Filipe Ant'onio Uamusse	Sabie bloco 5	Moamba	Sabie				Diversas
31	Filimone Ubisse	Sabie bloco 5	Moamba	Sabie				Diversas
32	Fenias Abel Bila	Sabie bloco 5	Moamba	Sabie				Diversas
33	Francisco J. Dimande	Sabie bloco 5	Moamba	Sabie				Diversas
34	Capitine Mpunze	Sabie bloco 5	Moamba	Sabie				Diversas
35	Roberto Jossias Cumbe	Sabie bloco 5	Moamba	Sabie				Diversas
36	Hortencia Bento Boaventura	Daimane Ponte	Moamba	Sabie	40.00			Diversas
37	Antonio Luis Muconto	Daimane	Moamba	Sabie	20.00			Diversas
38	Gabriel Pedro Manjate	Sipembane	Moamba	Sabie	240.00			Diversas
39	Assoc. dos Camp. Regantes	Daimane	Moamba	Sabie				Diversas
40	DEULCO MJ 3 Lagoa	Daimane	Moamba	Sabie	250.00	60.00		Soja
41	Alina Luis Ubisse	Sabie bloco 50	Moamba	Sabie				Diversas
42	Francisco J. M. Tivane	Sabie bloco 50	Moamba	Sabie				Diversas
43	Sergio U. João Ol. Fretas	Sabie bloco 50	Moamba	Sabie				Diversas
44	Daniel Ananias Matusse	Sabie bloco	Moamba	Sabie	100.00	5.00	4,167	Diversas

		50						
45	Geraldo Lucas Fulane	Sabie bloco 50	Moamba	Sabie	106.8	2.50	2,083	Diversas
46	Alcido Muchanga	Sabie bloco 50	Moamba	Sabie				Diversas
47	Dinis R. Zunguza	Sabie bloco 50	Moamba	Sabie				Diversas
48	Henriques S. Mahuco	Sabie bloco 50	Moamba	Sabie				Diversas
49	Henriques Augusto Bila	Valha	Moamba	Incomati				Diversas
50	Irmãos Hortas Borges Moç. Ld.	Valha	Moamba	Incomati	200.00	9.50	7,917	Diversas
51	Jose R. Lazaro Samuel	Valha	Moamba	Incomati				Diversas
52	Andre Ogenio Machava	Rainha	Magude	Incomati				
53	Jacinto Manuel Chivure	Valha	Moamba	Sabie				Diversas
54	Rachid Fazelour Bemate	Chiquizela	Moamba	Sabie				Diversas
55	Arbay Day	Malengane	Moamba	Incomati	105.00			Diversas
56	Jaime Samuel Zita	Malengane	Moamba	Incomati	30.00			
57	Elmone Tchangule	Malengane	Moamba	Incomati				
58	Fernando Nwamba	Malengane	Moamba	Incomati				
59	Carlos Jorge Machava	Malengane	Moamba	Incomati	75.00			Diversas
60	Penina Ripinga Mabuza	Malengane	Moamba	Incomati	70.00			Diversas
61	Tomas Chic. Ripinga Mabuza	Malengane	Moamba	Incomati	50.00			Diversas
62	Mussique Matsolo	Malengane	Moamba	Incomati	50.00			Diversas
63	Leonardo Orland. Chirindzane	Malengane	Moamba	Incomati				Diversas
64	Orlando Chirindzane	Malengane	Moamba	Incomati				Diversas
65	Domingos Antonio Magaia	Malengane	Moamba	Incomati	47.00			Diversas
66	Vicente Augusto Bila	Malengane	Moamba	Incomati	200.00			Diversas
67	Titos Cossa Muculo	Malengane	Moamba	Incomati	73.00			Diversas
68	Celiasse Muculo	Malengane	Moamba	Incomati	40.00			
69	Jaime Sulemane Nguenha	Malengane	Moamba	Incomati				Diversas
70	Armando Mungone Chauque	Malengane	Moamba	Incomati				Diversas
71	Assoc. Agric. De Malengane	Malengane	Moamba	Incomati	705.00	205.00	170,833	Cana/Açucar
72	As. dos Agric. Chivonanhelety	Malengane	Moamba	Incomati				Diversas
73	Rafael Siquel	Malengane	Moamba	Incomati				Diversas
74	Zeferino A. A. Cavele	Malengane	Moamba	Incomati				Diversas
75	Joaquim Bocoda	Malengane	Moamba	Incomati				Diversas
76	Pacheco Ismael Day	Malengane	Moamba	Incomati				Diversas
77	Afonso Tembissa	Malengane	Moamba	Incomati				Diversas
78	Açucareira de Xinavane	Xinavane	Manhiça	Incomati	13,064.80	13,064.80	10,887,290	Cana/Açucar
79	Assoc.Agricultores Maguiguana	Magude	Magude	Incomati		90.00		Cana/Açucar
80	As.Agricultores Macuvulane 1	Magude	Magude	Incomati		185.00		Cana/Açucar
81	As..Agricultores Macuvulane 2	Magude	Magude	Incomati		77.00		Cana/Açucar
82	As.Ag.Maria da Luz Guebuza	Magude	Magude	Incomati		263.00		Cana/Açucar
83	Assoc.Agricultores Hoyo Hoyo	Manhiça	Manhiça	Incomati		220.00		Cana/Açucar
84	Assoc.Agricultores Chianhiço	Manhiça	Manhiça	Incomati		200.00		Cana/Açucar
85	Assoc.Ag.Olhar de Esperança	Magude	Magude	Incomati		107.00		Cana/Açucar
86	Assoc. Agricultores Macamo	Magude	Magude	Incomati		62.00		Cana/Açucar
87	Assoc.Agricultores Buna	Manhiça	Manhiça	Incomati		194.00		Cana/Açucar
88	Assoc. Agricultores Gito	Magude	Magude	Incomati		266.00		Cana/Açucar
89	Açucareira de Maragra	Maragra	Manhiça	Incomati		6,440.00	4,051,855	Cana/Açucar
90	Assoc.Agric.da Moamba b.1	Moamb bloc. 1	Moamba	Incomati				Diversas
91	Assoc.Agric.da Moamba b.2	Moamb bloc. 2	Moamba	Incomati				Diversas
92	Central Hidroelectrica	Bar.Corumana	Moamba	Sabie				prod. energia
Total:					15,896	1,939	15,250,684	

Projecto de apoio social a comunidade

1. Introdução

A Açucareira de Xinavane e Açucareira de Moçambique são propriedade conjunta entre a Tongaat Hulett e o Estado Moçambicano e localizam-se na Baía do Rio Incomati, na Vila de Xinavane a aproximadamente 136 km ao norte de Maputo e no Baía do Rio Pungue, no distrito de Dondo, Província de Sofala respectivamente .

Actualmente a Açucareira de Xinavane encontra-se a implementar um programa de expansão que engloba a reabilitação da infra-estrutura existente e a expansão da capacidade de produção do açúcar de 69000 toneladas em 2007 para 204 000 toneladas por ano em 2009. Esta acção pressupõe o aumento de 6500 hectares de cana própria mais 1500 hectares através de produtores independentes ou associações de produtores moçambicanos.

O programa de expansão da Açucareira de Xinavane também enquadra-se no Plano de Acção da indústria açucareira de Moçambique aprovado pelo Governo, que contém os seguintes objectivos principais:

- A. Assegurar a viabilidade a longo prazo da indústria açucareira.
- B. Aumentar a contribuição do sector açucareiro para o desenvolvimento socio-económico de Moçambique.

Um elemento importante do plano da acção é o apoio social às comunidades, este que também é uma componente chave na filosofia de desenvolvimento das duas empresas , pois acreditam que responsabilidade social é, cada vez mais, um elemento relevante da sua cultura empresarial e uma prioridade para o desenvolvimento Empresa.

Neste sentido a Açucareira de Xinavane e Açucareira de Moçambique tem assumido um papel activo na responsabilidade social através do envolvimento em projectos de âmbito social e educacionais desenvolvidos nas zonas onde se situam a sua unidade fabril e áreas de produção da cana de açúcar, sendo ilustrativo o facto de o orçamento alocado pelas duas açucareiras para acções sociais ter incrementado.

2. Objectivo

O projecto visa contribuir para o bem-estar das comunidades nas áreas de actuação da empresa através de acções de desenvolvimento social. Especificamente o projecto visa desenvolver infra-estrutura social e melhoria da saúde comunitária.

3. Áreas de intervenção

Numa primeira fase as acções no âmbito do apoio social não centrar-se essencialmente em duas grandes áreas:

- a. Desenvolvimento de infra-estrutura sociais
 - i. Escolas
 - ii. Unidades sanitárias
 - iii. Residências para o pessoal de saúde e educação
 - iv. Furos de água
 - v. Pontos de abastecimento de água para o gado
 - vi. Estradas
- b. Acções da área de saúde.
 - i. Combate a malária
 - Pulverização domiciliária
 - Distribuição de redes mosquiteiras
 - ii. Acções contra HIV/AIDS
 - Testagem Voluntária
 - Acompanhamento domiciliário
 - Cesta básica
 - Palestras

Outras acções sociais poderão ser incluídas a medida que forem identificadas em colaboração com as comunidades podendo ser nas áreas de cultura e desporto.

Estas acções serão essencialmente levadas acabo nas zonas de expansão dos campos da cana bem como ao redor da Vila de Xinavane e de Matambisse

4. Financiamento

O financiamento das acções previstas no âmbito deste projecto será feito através de fundos próprios da empresa e donativos, contudo poderá se recorrer a outras fontes bem como o estabelecimento de parcerias que permitam o alargamento destas actividades.

5. Monitoria

Um aspecto importante no processo de implementação de projectos de natureza social é o envolvimento das própria comunidade no processo de identificação, monitoria e avaliação das acções a implementar. Assim será adoptado um processo participativo na definição das áreas de intervenção e um processo de monitoria com a participação das comunidades.

As acções a serem desenvolvidas estão também inseridas no quadro de monitoria dos indicadores do plano de acção acordado com a União Europeia, sendo portanto um contributo para o plano económico-social.

6. Actividades e orçamento

A Tabela em baixo mostra as actividades programadas para a serem desenvolvidas em 2009 no âmbito deste projecto, bem como a estimativa do orçamento.

Acucareira de Xinavane		
Infra-estruturas	Actividade	Valor
Comunidade	Posto de Saúde	1.200.000
	Construção de Escola	1.600.000
	Construção de três casas para professores	1.050.000
	Quatro furos de água	1.000.000
	Reabilitação de escola	650.000
	Reabilitação de 4 residências para professores	750.000
Migunde	Apoio na limpeza da Vila	280.000
	Dois salas de aulas	640.000
	Casa de professores	500.000
	Posto de primeiros socorros	450.000
	Cinco furos de água	1.250.000
	Dois pontos de abastecimento de gado	410.000
	Reabilitação do Infirmary	200.000
Xinavane	Expansão da Escola Secundária	4.220.000
	Três casas para professores	600.000
	Tractor e atrelado para limpeza da Vila	1.182.000,00
Sub total		15.842.000
Saúde	Combate a malária	3.800.000,00
	Acções contra HIV/AIDS	7.500.000,00
Sub total		11.300.000,00
Total		27.242.000,00
Acucareira de Mocimboque		
Infra-estruturas	Dois escolas	2.800.000,00
	Estradas (103 Km)	48.034.500,00
	Quatro Centros de saúde	720.000,00
Sub total		1.330.000,00
	52.864.500,00	
Saúde	Pulverizações contra a malária	4.600.000,00
	Aquisição de redes mosquiteiras	1.300.000,00
	Acções contra o HIV/AIDS	9.000,00
Sub total		5.929.000,00
Total		58.813.500,00
Grand Total		86.055.500,00

Annex 7 Photos as illustrative material

Photo 1. Unitrans is the company which is hired by AdX to execute the harvesting, loading and transportation of the cane to the sugarmill. The loading of the cane is completely mechanised and arranged with large machinery. Cutting, loading and transporting of cane is a considerable cost for smallholders, consuming roughly 1/5 of the gross value of the sugarcane for smallholders. Smallholders check how many trucks with cane leave the association fields.



Photo 2. Sugarcane harvesting, after it has been burned, is performed by hand. It is AdX which determines when a field is harvested and it is Unitrans who arrange the cutting, loading and haulage of the sugarcane to the mill. In the cutting process there are no smallholders involved either.

Photo 3. The pumping system (pumping water from the Incomati river) is managed by smallholders. Smallholders carry responsibility for monitoring the equipment and are instructed by the AdX technician for their association when to turn on the pump. The pump attendants receive some training from AdX and sometimes worked as pump attendend at AdX before. When something breaks it is AdX who arranges the repair, which is then paid for by smallholders via deductions on their income.



Photo 4. The expansion program is in full swing, creating 1616 ha of smallholder sugarcane area and an even larger nucleus expansion. This picture is taken in the Maholele area where AdX nucleus is expanding but also larger smallholders are located. These larger smallholders have plots ranging from roughly 40 to 100 ha. The landrights of these smallholders and their decision on providing land for sugarcane production is least disputed.



Photo 5. This ambulance illustrates that many services in Xinavane carry the AdX logo (left door) and are most likely paid for by AdX. Besides ambulances there is also a garbage tractor and police cars carrying the AdX logo, and many people in the area wear cloths from AdX or Unitrans. It is clear the whole village is dependant on the sugarmill. AdX also has a social help project for the communities in their sugarcane production area. It also states however that their contribution to poverty reduction is through the economic impuls their activities generates in the area.

Photo 6. Airplanes are used to apply herbicides, pesticides and ripening agents. These planes also spray the smallholder fields. Before the spraying takes place the smallholder management is informed by AdX that spraying will take place at the agreed moment. The management then communicates this to the smallholders, who take care that they are not in the fields during the spraying.



Photo 7. This smallholder in Macuvulane I association poses next to his plot. Some maize is seen in the foreground. Smallholders use the space between the road and sugarcane for the cultivation of other crops as maize. Although this appears an efficient use of space, it also creates difficulties sometimes as areal spraying destroys the crops of farmers, who hence demand compensation. There should be clear communication between company and smallholders about landuse and compensations.

Photo 8. Although most smallholder plots are irrigated by a dragline sprinkler system, there are also smallholders participating with a pivot system (notably Chihenisise). These pivot system operators are hired by AdX to operate the system and received AdX clothing and training to do so. Unfortunately the explanation on the operating panel is in English, whilst the operators only speak Shangana. The operators in this picture are from Chihenisise community but are not members of the smallholder sugarcane outgrower association.

