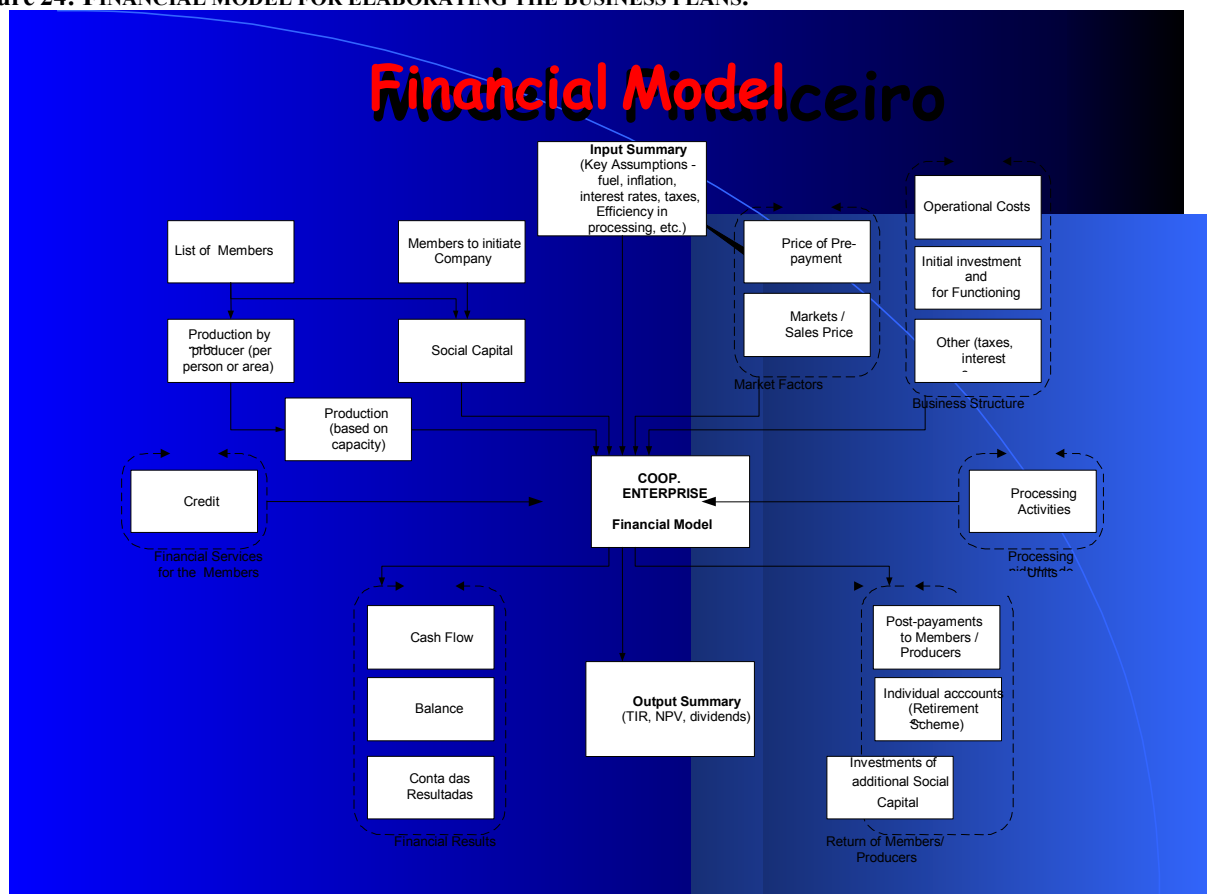


4. PRESENTATION OF THE BUSINESS PLANS

201. After reporting on the actual situations of the producers from the 15 districts of Mozambique’s centre region in the agricultural markets, and after having designed the institutional framework of the new commercialisation structures, the present chapter presents business plan proposals for four Co-operative Societies (SCRL): (i) rice in Baixa Zambézia (section 4.1); cashew in the district of Maganja da Costa (section 4.2); (iii) maize and beans in Alta Zambézia (section 4.3), and (iv) maize and beans in the central districts of Manica e Sofala (section 4.3). See also table 12.

202. In figure 25, we elaborate on the basic model for working out the business plans using a combination of calculating sheets from the program, Excel.

Figure 24: FINANCIAL MODEL FOR ELABORATING THE BUSINESS PLANS.



On the vertical axis in the middle, one finds the summary of the inputs, the model (which is the main calculating sheet) and the summary of the outputs. On the left, one finds the data on social capital at the top and immediately above these the financial data. The horizontal line in the middle represents the credit services and the processing activities. On the left, at the bottom, one encounters the financial results and on the right hand side the results for the members.

4.1. Rice in zambézia

4.1.1. Some observations on the rice market in Mozambique

202. The production, commercialisation, processing and importation of rice in Mozambique have been studied by various people and institutions (see literature 9 to 17). The following table offers a summary of the situation, and, though not very precise, it gives a global impression of the situation:

Table 18: AREA, PRODUCTION, CONSUMPTION AND IMPORTS OF RICE PER REGION IN THE YEARS 2000.

Region	Area ha	%	Production ton	%	Consumption ton	%	Imports ton	%	Port of import
Cabo Delgado	14.360	8,3	16.714	10,0					
Niassa	4.544	2,6	3.635	2,2					
Nampula	35.384	20,5	32.200	19,2					
Zambézia	80.663	46,7	78.944	47,0					
Total Northern zone	134.951	78,2	131.493	78,3	150.470	41,0	32.500	16,3	Nacala
Tete	277	0,2	200	0,1					
Manica	710	0,4	497	0,3					
Sofala	28.859	16,7	23.265	13,9					
Total Central zone	29.846	17,3	23.962	14,3	55.050	15,0	32.500	16,3	Beira
Inhambane	3.354	1,9	2.147	1,3					
Gaza	2.772	1,6	8.658	5,2					
Maputo	1.715	1,0	1.665	1,0					
Total Southern zone	7.841	4,5	12.470	7,4	161.480	44,0	135.000	67,5	Maputo
Grand Total	172.638	100,0	167.925	100,0	367.000	100,0	200.000	100,0	

In this table, the provinces were grouped together on the basis of the influence range of the port of import. Thus, Zambézia belongs to the northern zone because the imported rice consumed in Zambézia enters through the port of Nacala. The data on consumption and imports of the northern and central zones have been estimated, although the total numbers are close to reality. These estimates have as a result that the balance between production, consumption and imports is not always exact.

203. The literature broadly agrees on the following observations:

- National production is less than 50% of national consumption; this creates a need to import rice for the urban population (especially the city of Maputo; with 60% of the total of imported consumption). Thus, there are opportunities for overcoming the need for imports through the promotion of local production.²⁸
- Almost all industrial processing facilities are paralyzed. Out of 16 factories, only one is functioning. There has been no private investment in this sector because: 1. Imported rice has a low market price; 2. It is not possible to guarantee all the necessary raw material for a husking factory (Bibliography, 16)²⁹ and 3. High interest levels for capital loans.
- “... if Mozambique would succeed in producing rice in a competitive manner, there would exist a regional demand capable of absorbing any production surplus, even in the long run” (Bibliography, 9). Export opportunities are related to the rice quality, and concern the aromatic local varieties in particular.

²⁸ During colonial times (1935 -1975) the Government, through the promotion program “Fundo de Fomento Orizicola” (Rice Growing Promotion Fund), managed to convert the situation of imports into one of exports, due to a drastic increase in production and processing (see bibliography, 12). It should be stressed that in the 1940s and 50s rice growing was enforced (“cultura forçada”) in Mozambique.

²⁹

- The Government is studying ways to promote local production through increasing the current customs duties of 5% (Bibliography, 17). The idea is that this would be a temporary measure, only to be applied when local production (processed and of good quality) shows growth rates.

4.1.2. Experiences of the rice pre-co-operative in Nante

204. On the basis of the post-floods rehabilitation program in the administrative post of Nante, which started in 2001 (see paragraph 70), a commercialisation program was developed with a view to complement the investments made in access roads and hydro-agricultural infrastructure. With respect to commercialisation, the following activities were carried out:

- A 200-ton warehouse was rehabilitated.
- A threshing floor of 70 m² was rehabilitated.
- Two rice-husking machines were installed (each one with a capacity of 300Kgs/hour).
- A pre-co-operative was started from a group of producers interested in becoming members of the co-operative society.
- A manager was recruited.

205. The following table offers an analysis of the volume of rice that was purchased, processed and sold.

Table 19: BALANCE OF THE VOLUME OF RICE, COMMERCIALIZATION CAMPAIGN 2002-2003.

Nr	Product	Tons	%	OBSERVATIONS
1	Rice (humid) purchased	93,50	100,00	
2	Rice (dry) husked	78,06	83,50	2/1*100
3	Losses in drying and storage	15,44	16,50	3/1*100
4	White rice of dry rice-fields	53,20	68,10	4/2*100
5	Bran, husk and losses	24,86	31,90	5/2*100

206. The table below shows the profits and loss account and the account of the commercial operation during the 2003-2004 campaign.

Table 20: PROFITS AND LOSSES ACCOUNT, COMMERCIALISATION CAMPAIGN 2002-2003.

	KGS	MZM	USD
Sales	49.344	345.411.000,00	14.098,00
Purchase of raw material (rice)	93.314	233.285.000,00	9.522,00
Gross margin		112.126.000,00	4.577,00
Gross margin per ton of rice		1.201.599,00	49,05
Costs		183.171.000,00	7.476,00
Cost per ton of rice		1.962.953,00	80,12
Profits (Losses)		-71.045.000,00	-2.900,00

207. In a strengths and weaknesses analysis, the system of management and control of operations was identified as the fundamental weakness. Big losses occurred during operations, largely due to the purchase of too humid rice (table 18), and to applying a promotion sales price lower than the price of imported rice. This resulted in a financial loss (table 19). The most important strong point identified, was the acceptance of and demand for the rice on the part of the urban consumer.

208. During the 2003-2004 campaign (until February 2005), the following actions were developed:

- A critical evaluation of the 2002-2003 campaign.

- The organization of technical assistance: through the Netherlands Management Cooperation Program – NMCP, a specialist in rice processing was contracted, who during three missions in the course of 2004 organized a training course for the executing team, established a control system and assisted in the elaboration of a business plan for 2003-2004 campaign.
- The rehabilitation of the connection (road and dike) Nante – Mopeia, where the former rice husking factory is located.
- The evaluation of the old equipment of the rice husking factory, and the rehabilitation of the warehouse and the residence of the Mopeia complex.
- The purchase of 162 tons of unhusked rice from the producer associations in the district of Maganja da Costa.
- Opening of a retail rice shop in the city of Quelimane.
- The digitalization of the data on purchase, processing and selling of rice.
- Inventory made of future members.

209. The following table shows a financial update on the commercialisation related to the 2003-2004 campaign.

Table 21: FINANCIAL SITUATION, CO-OPERATIVE ENTERPRISE NANTE 26/02/2005.

Summary of Costs	Value (MZM)	%
Processing costs of fuel and spare parts	44.505.000,00	5,69
Purchase of raw material	409.401.200,00	52,35
Communication (phone, post office, etc.)	6.171.000,00	0,79
Travel expenses purchasing brigades	19.899.500,00	2,54
Investment	25.124.720,00	3,21
Labour	145.159.999,00	18,56
Office supplies	7.119.000,00	0,91
Packaging (large quantity of sacks)	53.018.180,00	6,78
Transport	68.239.943,00	8,73
Miscellaneous	3.375.000,00	0,43
Total Costs	782.013.542,00	100,00
Total sales of clean rice		
Projections		
Costs		
Labour	45.000.000,00	
Transport Nante - Quelimane	67.645.620,00	
Management	30.000.000,00	
Projections of costs still to be incurred	142.645.620,00	
Revenues		
Clean rice in stock	21.000.000,00	
Rice to be husked	710.279.010,00	
Projection of revenues still to be received	731.279.010,00	
Total of real and projected costs	924.659.162,00	
Total of real and projected revenues	1.020.099.010,00	
Projected profits	95.439.848,00	

4.1.3 Comparison of centralized and decentralized options of rice processing in Baixa Zambézia

210. On the basis of the statistical data of DPADR of Zambézia for the 1998-1999 campaign, we made the following table.

Table 22: PRODUCTION OF RICE IN TONS, CAMPAIGN 1998 - 1999.

Region	Districts	Production	%
Baixa Zambézia	M. Costa	8.124	6,80
	Mopeia	9.000	7,54
	Nicoadala	17.912	15,00
	Namacurra	28.575	23,93
	Chinde	9.375	7,85
	Inhassunge	4.369	3,66
	SUB TOTAL		77.355
Média and Alta Zambézia	Lugela	5.850	4,90
	Mocuba	8.771	7,34
	Ile	10.800	9,04
	A. Molocue	4.788	4,01
	Milange	6.240	5,22
	Remaining 5 districts	5.627	4,71
	SUB TOTAL		42.076
	TOTAL	119.431	100,00

The data in the table only represent one year (of good production), but it does give an idea of the distribution pattern of production over the various agro-ecological regions of the Province of Zambézia. 65% of the production is to be found in Baixa Zambézia, while 35% is produced in Média and Alta Zambézia. The rice husking factories are in Chinde (Arrozal), Morrumbala (Morire), Mopeia, Maganja da Costa (Nante), and Ile and in the city of Quelimane. Almost all are in ruins, only the one in Quelimane is operational, but even so, it requires an investment to modernize it (see section 4.1.5).

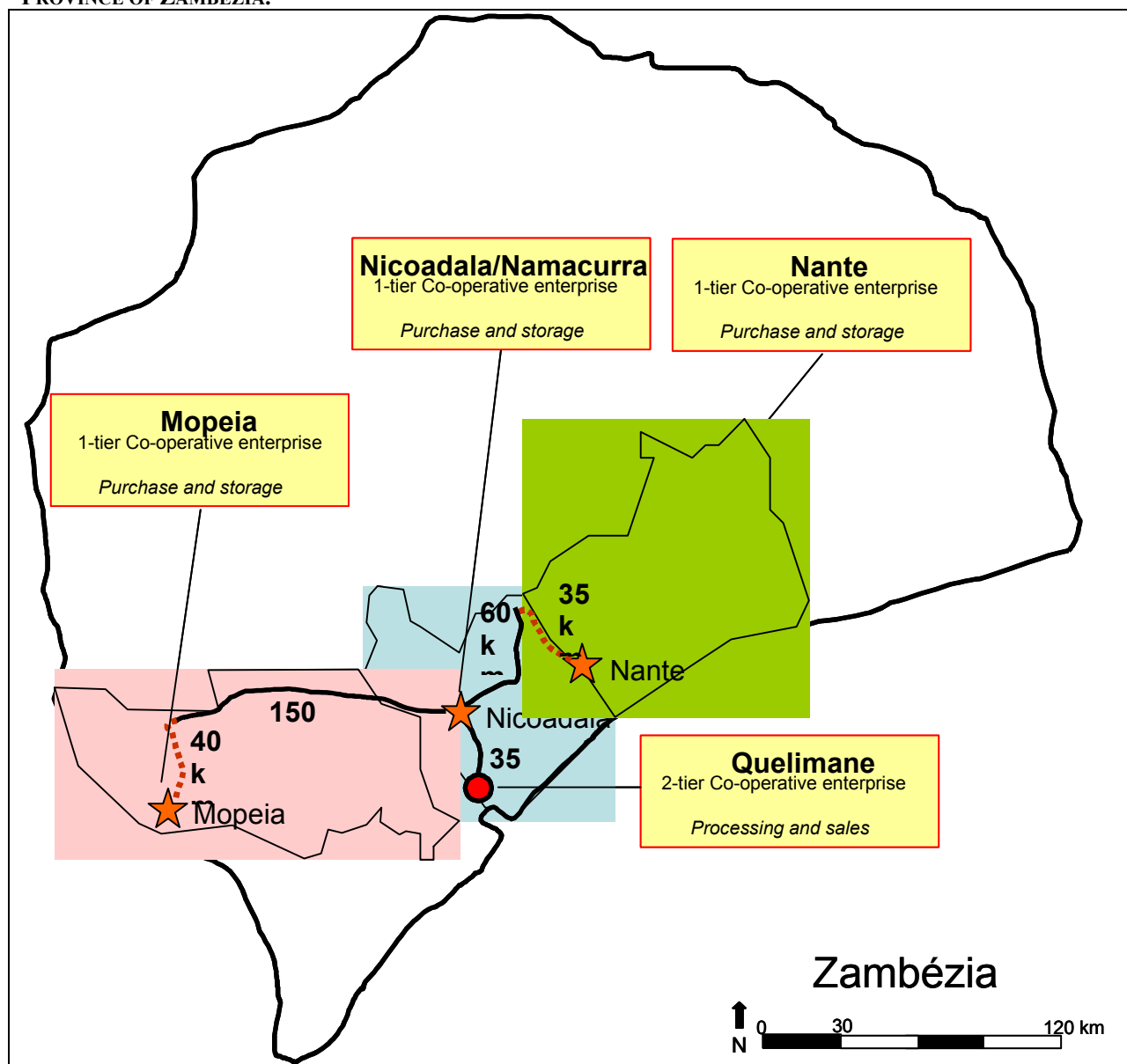
211. Figure 25 indicates three districts, namely Mopeia, Nicoadala - Namacurra and Maganja da Costa, with rice production in the area of Baixa Zambézia, together with the location options of the Co-operative Societies. An important question is the degree of (de) centralization intended with respect to processing. The following table evaluates three options.

Table 23: OPTIONS OF (DE) CENTRALIZATION OF RICE PROCESSING.

Options	1		2		3	
	Three one-tier co-operatives at district level, who do all processing and sell without second-tier cooperative		Three one-tier co-operatives at district level producing cargo rice (husked and unpolished rice), and a second-tier co-operative in charge of the rest		Three one-tier co-operatives at district level supplying unhusked rice, and a second-tier co-operative in charge of the entire processing	
Functions	District Level	Provincial Level	District Level	Provincial Level	District Level	Provincial Level
Purchases from the members	1		1		1	
Selection and drying	1		1		1	
Storage	1		1		1	
Husking	1		1			1
Polishing	1			1		1
Packaging	1			1		1
Sales and exports	1			1		1
Legal statute	Three independent legal entities		Three one-tier co-operatives with a legal statute, owning a second-tier co-operative with its own legal statute		Three one-tier co-operatives with a legal statute, owning a second-tier co-operative with its own legal statute	
Weaknesses	1. High investment: three complete processing facilities 2. Difficult to manage: three complete management teams		1. High investment: three steam and husking installations 2. Still difficult to manage 3. Arbitrary price of semi-manufactured product		1. Requires transport of husk 2. Final product is not visible for the members of the one-tier cooperative	
Strong points	1. Industrial activities (including energy) at level of district or administrative post 2. Feeling of ownership 3. Pride of producers of final product with local stamp 4. No transport of husk required		1. Industrial activities (including energy) at level of district or administrative post. 2. No transport of husk required		1. No big investments in the districts necessary 2. Managing purchase, selection and storage is relatively simple 3. Relatively low Investment in the husking factory of Quelimane 4. Processing management is centralized and less expensive	

After discussions with various specialists, one comes to the conclusion that option three is more viable in terms of financing and management. The figure on the following page offers a diagram of option three.

Figure 25: GEOGRAPHICAL AREA OF THE ONE-TIER AND TWO-TIER RICE CO-OPERATIVE ENTERPRISES IN THE PROVINCE OF ZAMBÉZIA.



4.1.4. Business plan of the one-tier fruit and rice SCRL in Nicoadala

212. On the basis of inquiries in the field, an inventory was made of the rice producers (*Oryza Sativa*) in the district of Nicoadala. The operational organization is per community and settlement. Annex 9.1 (Volume II) offers a summary of the report on the future members of the Sociedade Cooperativa de Responsabilidade Limitada (SCRL). The total of membership fees was calculated, based on an amount of 100.000 MZM per hectare. The number of representatives participating in the general assembly was determined for each settlement, in accordance with the system of proportional voting. On 26/02/2005 the first meeting for the foundation of the SCRL was held, with the participation of 65 people representing the communities and settlements.

213. The following table summarizes the most important characteristics of the SCRL.

Table 24: GENERAL CHARACTERISTICS BUSINESS PLAN FOR RICE IN NICOADALA.

Nr	Description	Key Words
1	The co-operative enterprise (ECOOP) is a single crop intervention	Single crop
2	The ECOOP buys unhusked rice from the members and sells it to the two-tier ECOOP	Final product is unhusked rice
3	The period of the business plan includes 6 campaigns, 2004-2005 to 2009-2010.	2004-2005 to 2009-2010
4	The fiscal year is based on the commercialization campaign	1 May to 30 April
5	Planning steps are "one month"	Total 72 months
6	The ECOOP has exemption from added value tax	Without IVA (VAT)
7	The ECOOP pays taxes on labour	IPRS, INSS, medical assistance

The business plan includes, at present, only rice growing. In a second phase the fruit business, mainly pineapple, will be added.

214. Annex 9.2 (Volume II) lists the basic data or inputs for the business plan, more specifically, data on finances, purchase and selling of unhusked rice, productivity, human resources, transport, efficiency of drying, and management. It should be noted that the selling price (5.000 MZM/Kg) is the price at which the SCRL of Nicoadala sells the unhusked rice to the Union of SCRL in Quelimane; this price is arbitrary and determines the division of losses or profits between the one-tier and two-tier enterprises. Interest rates for loans of investment capital were stipulated at 8%, whereas the rates for loans of floating capital are set at 18%.

215. Annex 9.3 (Volume II) analyzes, in terms of goods traffic, a network of nine commercialisation posts with their settlements. The quality of the roads was defined in order to calculate the relocations scheme with respect to the transport of production. On the basis of these definitions, and on the ones from Annex 9.1, a commercialisation plan with a six-year duration has been developed, which assumes that 30% of production is surpluses. Not all posts and settlements will be covered in the first years. Table 25 indicates the purchase plan for the plan's six-year duration.

Table 25: PRODUCTION TO BE COMMERCIALIZED IN THE DISTRICT OF NICOADALA.

Campaign		2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010
Surplus to be commercialized	tons	1.083	1.992	2.939	3.086	3.240	3.402

216. Annex 9.4 (Volume II) calculates transport costs (excluding pay off costs) of unhusked rice, using a tractor and trailer, based on the scheme of access roads and an estimate of quantities to be transported. The value used for the transport of the commercialisation post to the central warehouse in Nicoadala is 1.561 MZM/ton/Km.

217. Annex 9.5 shows the costs of financing the management team of the enterprise in Nicoadala. The permanent team consists of a supervisor, an administrator, a technician, guards and porters. During the commercialisation campaign day labourers will be hired.

218. The following table shows the investment needed during the period of the plan.

Table 26: INVESTMENTS NEEDED FOR THE FOUNDATION OF THE SCRL IN NICOADALA, IN USD.

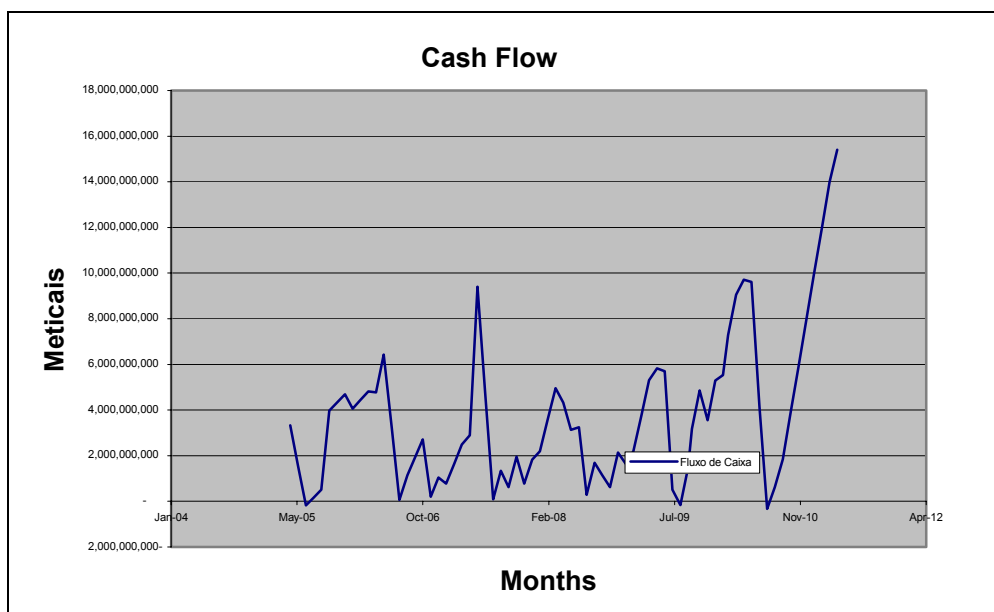
Necessary Capital investment									
	Life in Years	Existing Before	2004/2005	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	Total Investment
TOTAL INFRASTRUCTURE									
Application for plot	50	-	2.000	-	-	-	-	-	2.000
Construction of main warehouse	15	-	175.000	-	-	-	-	-	175.000
Construction of threshing-floor	15	-	7.500	-	-	-	-	-	7.500
Warehouse of commercialization post	15	-	60.000	15.000	-	-	-	-	75.000
Threshing-floor of comm. post	15	-	4.000	4.000	-	-	-	-	8.000
Construction of fence	8	-	10.000	-	-	-	-	-	10.000
	1	-	-	-	-	-	-	-	
TOTAL INFRASTRUCTURE:		-	258.500	19.000	-	-	-	-	277.500
		-	-	-	-	-	-	-	
TRANSPORT EQUIPMENT									
Tractors (60 HP)	5	-	30.000	30.000	30.000	30.000	-	-	120.000
Trailers (5-ton / 2-axle)	5	-	7.500	7.500	7.500	7.500	-	-	30.000
Motorcycle	5	-	6.000	6.000	6.000	6.000	-	-	24.000
Bicycles	5	-	1.200	1.200	1.200	1.200	-	-	4.800
TRANSPORT EQUIPMENT		-	44.700	44.700	44.700	44.700	-	-	178.800
	1	-	-	-	-	-	-	-	
OFFICE SUPPLIES									
Furniture	10	-	400	-	-	-	-	-	400
Lap top	3	-	3.000	-	-	3.000	-	-	6.000
Printer	3	-	1.000	-	-	1.000	-	-	2.000
Miscellaneous	3	-	1.000	-	-	1.000	-	-	2.000
TOTAL OFFICE SUPPLIES		-	5.400	-	-	5.000	-	-	10.400
MOVABLE / IMMOVABLE GOODS	-	-	308.600	63.700	44.700	49.700	-	-	466.700

The total investment for the one-tier SCRL in Nicoadala amounts to 466.700 USD. The main part is in infrastructure in order to create drying and storage capacity. In annex 9.6 the depreciation costs and the enterprise's balance have been calculated.

219. On the basis of inputs with respect to the acquisitions, operating costs, basic data and selling prices, cash flow has been calculated. Annex 9.7 presents 7 sheets of tables. The first is the summary

per year, while the remaining six are monthly data for the plan’s six-year duration. The following figure is a diagram showing the monthly data on cash flow during the 72 months of the plan.

Figure 26: CASH FLOW SCRL NICOADALA MAY/2005 – APRIL/2011.



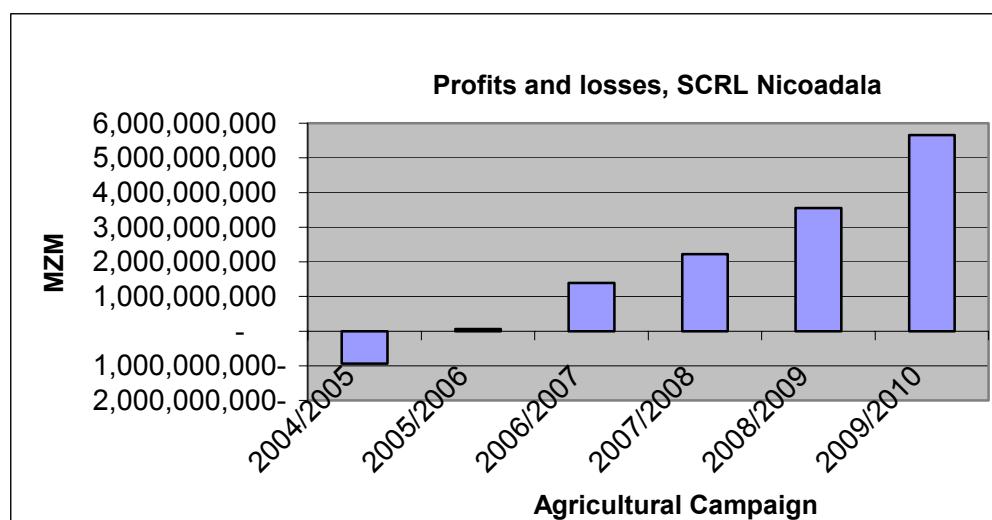
220. The following table represents the annual profits and losses account.

Table 27: PROFITS AND LOSSES ACCOUNT CAMPAIGNS 2004-2005 TO 2010-2011, SCRL NICOADALA.

PROFIT and LOSS								
Year								
Campaign	Unit	2004/2005	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	GRAND
		TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL
Rice Purchases from the Members	KGS	1.083.263	1.991.657	2.938.777	3.085.716	3.240.002	3.402.002	15.741.417
Dry rice (15-18%)	KGS	704.121	1.394.160	2.204.083	2.468.573	2.754.002	3.061.802	12.586.740
Humid rice (>18%)	KGS	379.142	597.497	734.694	617.143	486.000	340.200	3.154.677
Cleaning and drying of rice								
Dry rice (15-18%) for rice of 13%	KGS	668.915	1.324.452	2.093.879	2.345.144	2.616.302	2.908.712	11.957.403
Humid rice (>18%) for rice of 13%	KGS	341.228	537.747	661.225	555.429	437.400	306.180	2.839.209
Total of rice after drying	KGS	1.010.142	1.862.199	2.755.104	2.900.573	3.053.702	3.214.892	14.796.612
Quantities of Sales (ECOOP-2)	KGS	1.010.142	1.862.199	2.755.104	2.900.573	3.053.702	3.214.892	14.796.612
Value of Sales (ECOOP-2)	MZM	4.242.597.581	8.389.207.297	13.311.228.147	15.027.636.102	16.963.003.790	19.145.014.851	77.078.687.769
Dry rice (15-18%)	MZM	2.112.361.875	4.182.479.438	6.612.248.742	7.405.718.591	8.262.004.803	9.185.405.340	37.760.218.790
Humid rice (>18%)	MZM	947.854.688	1.493.742.656	1.836.735.762	1.542.858.040	1.215.000.706	850.500.494	7.886.692.346
Value of Rice Purchases		3.060.216.563	5.676.222.094	8.448.984.504	8.948.576.631	9.477.005.510	10.035.905.835	45.646.911.136
Quantity of 50-kg bags	saco	21.665	39.833	58.776	61.714	64.800	68.040	314.828
Value of Bags	MZM	151.656.750	278.831.963	411.428.811	432.000.251	453.600.264	476.280.277	2.203.798.315
Telephone		82.800.000	86.940.000	95.851.350	110.959.919	134.872.475	172.135.253	683.558.997
Water Electricity		13.800.000	14.490.000	15.975.225	18.493.320	22.478.746	28.689.209	113.926.500
Office supplies		27.600.000	28.980.000	31.950.450	36.986.640	44.957.492	57.378.418	227.852.999
Meetings		48.000.000	50.400.000	55.566.000	64.324.591	78.186.942	99.788.553	396.266.085
Operating Costs		172.200.000	180.810.000	199.343.025	230.764.469	280.495.655	357.991.432	1.421.604.582
Salaries – Permanent Employees		677.250.000	767.188.800	864.428.355	969.473.894	1.082.862.915	864.428.355	5.225.632.318
Salaries – Temporary Employees		36.225.000	76.072.500	119.814.188	125.804.897	132.095.142	138.699.899	628.711.625
Salaries	MZM	713.475.000	843.261.300	984.242.543	1.095.278.790	1.214.958.057	1.003.128.254	5.854.343.943
Transport Costs from Field to Central Warehouse	MZM	32.623.058	59.979.865	88.502.926	92.928.072	97.574.475	102.453.199	474.061.595
Profits (before taxes and depreciation)	MZM	112.426.210	1.350.102.076	3.178.726.339	4.228.087.888	5.439.369.830	7.169.255.854	21.477.968.199
Depreciação	MZM	530.519.000	757.452.850	979.639.238	1.258.229.944	1.321.141.441	1.387.198.513	6.234.180.986
Lucros (antes juros)	MZM	418.092.790-	592.649.226	2.199.087.102	2.969.857.944	4.118.228.388	5.782.057.341	15.243.787.212
Interest on current credit accounts	MZM	426.000.000	450.000.000	628.500.000	609.000.000	459.000.000	63.000.000	2.635.500.000
Interest on loan for initial investment	MZM	92.191.000	79.282.090	177.324.217	143.349.458	103.284.761	56.375.532	651.807.058
Taxes								
Profits	MZM	936.283.790-	63.367.136	1.393.262.885	2.217.508.486	3.555.943.628	5.662.681.809	11.956.480.155

The account shows a loss during the first two years, while the enterprise makes profits from the third year onwards. The next figure depicts the situation in diagram form.

Figure 27: DIAGRAM OF PROFITS AND LOSSES, CAMPAIGNS 2004-2005 TO 2010-2011, SCRL NICOADALA.



4.1.5. Business plan of the two-tier SCRL for rice in Quelimane

221. In accordance with the logic from table 21, a two-tier SCRL will be established in the city of Quelimane. The table below defines its main characteristics.

Table 28: GENERAL CHARACTERISTICS OF THE TWO-TIER RICE COMMERCIALISATION CO-OPERATIVE SOCIETY IN QUELIMANE.

Nr	Description	Key Words
1	The two-tier SCRL will carry out husking, polishing and packing, and will market the rice in the markets of northern Mozambique and, in a later stage, of South Africa	husking, polishing, packing and selling
2	The two-tier rice SCRL establishment is based on the existent plant and installations of ICM in the city of Quelimane	creation based on ICM Quelimane
3	The two-tier SCRL forms a single economic unit with the one-tier SCRLs from Nicoadala, Nante and Mopeia. This means that the final market price of the product of the two-tier SCRL will determinate the final product price of the SCRLs, which is unhusked rice	economic unit with the 3 SCRLs
4	The two-tier SCRL and the one-tier SCRL are separate legal entities. Each one has its own Assembly, Board of Directors, etc.	independent legal entities
5	The two-tier SCRL will form a PPP with the local government (DPADERZ or ICM) in order to raise the necessary investment for rehabilitation	public private partnership
6	The Government will be represented in the Board of Directors, in proportion to the invested capital	
7	Transport of unhusked rice from the one-tier SCRLs of Nicoadala, Nante and Mopeia will be in organized fashion. The two-tier SCRL will bear the costs, using local transporters	transport from districts centrally organized.
8	The factory will use its steam energy to produce electricity	steam energy converted into electricity
9	Selling of the final product at the factory gates in Quelimane	selling at factory gates

The Public Private Partnership (PPP) will be established according to criteria jointly defined by the entities that will be involved in the investment.

222. Annex 10.1 (Volume II) lists the basic data on the basis of which the business plan was developed. The data does not differ significantly from that of the SCRL in Nicoadala (see Annex 9.2.). In addition, the data only includes the transformation coefficients concerning husking and polishing of rice, and the price of the final product, i.e. of clean rice. The price used in this business plan is equal to or less than the price of imported rice.

223. The following table summarizes the data on purchases of unhusked rice from the SCRLs in Mopeia, Nicoadala - Namacurra and Maganja da Costa - Nante. Quantities start with 2000 tons/year and rise to 6000 - 7000 tons at the end of the plan's period, more or less equalling installed capacity during colonial times. In Annex 10.4 more details can be found.

Table 29: QUANTITIES OF UNHUSKED RICE TO BE PURCHASED BY THE TWO-TIER SCRL FROM THE SCRLS.

Year		1	2	3	4	5	6	TOTAL
		2005	2006	2007	2008	2009	2010	
Volumes of unhusked rice to purchase								
Unhusked rice variety pure aromatic	Nicoadala	353.550	707.636	1.129.592	1.276.252	1.435.240	1.607.446	6.509.716
Unhusked rice variety pure non-aromatic	Nicoadala	353.550	707.636	1.129.592	1.276.252	1.435.240	1.607.446	6.509.716
Mixed unhusked rice	Nicoadala	303.043	446.928	495.919	348.069	183.222	0	1.777.180
SUB-TOTAL	Nicoadala	1.010.142	1.862.199	2.755.104	2.900.573	3.053.702	3.214.892	14.796.612
Unhusked rice variety pure aromatic	M Da Costa	247.485	495.345	790.715	893.377	1.004.668	1.125.212	4.556.801
Unhusked rice variety pure non-aromatic	M Da Costa	247.485	495.345	790.715	893.377	1.004.668	1.125.212	4.556.801
Mixed unhusked rice	M Da Costa	212.130	312.849	347.143	243.648	128.255	0	1.244.026
SUB-TOTAL	M Da Costa	707.100	1.303.539	1.928.573	2.030.401	2.137.591	2.250.424	10.357.628
Unhusked rice variety pure aromatic	Mopeia	141.420	283.054	451.837	510.501	574.096	642.978	2.603.886
Unhusked rice variety pure non-aromatic	Mopeia	141.420	283.054	451.837	510.501	574.096	642.978	2.603.886
Mixed unhusked rice	Mopeia	121.217	178.771	198.367	139.228	73.289	0	710.872
SUB-TOTAL	Mopeia	404.057	744.880	1.102.041	1.160.229	1.221.481	1.285.957	5.918.645
Unhusked rice variety pure aromatic	TOTAL	742.455	1.486.035	2.372.144	2.680.130	3.014.004	3.375.636	13.670.403
Unhusked rice variety pure non-aromatic	TOTAL	742.455	1.486.035	2.372.144	2.680.130	3.014.004	3.375.636	13.670.403
Mixed unhusked rice	TOTAL	636.390	938.548	1.041.429	730.944	384.766	0	3.732.078
TOTAL		2.121.299	3.910.618	5.785.718	6.091.204	6.412.774	6.751.273	31.072.885

224. The following table shows the operational costs of the two-tier SCRL.

Table 30: OVERVIEW OF THE HUMAN RESOURCES FOR THE MANAGEMENT OF THE TWO-TIER SCRL IN QUELIMANE.

Nr	Function	Post	1	2	3	4	5	6	Monthly Value	2005	2006	2007	2008	2009	2010
			QT 2004/05	QT 2005/06	QT 2006/07	QT 2007/08	QT 2008/09	QT 2009/10							
1	Manager	1	1	1	1	1	1	1	2.000	2.000	2.100	2.205	2.315	2.431	2.553
2	Technician	1	1	1	1	1	1	1	500	500	525	551	579	608	638
3	Accountant	2	1	1	1	1	1	1	500	1.000	1.050	1.103	1.158	1.216	1.276
4	Treasurer	1	1	1	1	1	1	1	200	200	210	221	232	243	255
5	Mechanic	1	1	1	1	1	1	1	500	500	525	551	579	608	638
6	Non-classified workers	25	1	1	1	1	1	1	100	2.500	2.625	2.756	2.894	3.039	3.191
7	Classified workers	4	1	1	1	1	1	1	300	1.200	1.260	1.323	1.389	1.459	1.532
8	IRPS	20								1.580	1.659	1.742	1.829	1.920	2.017
9	INSS (employer)	4								316	332	348	366	384	403
10	Medical Assistance	5								395	415	435	457	480	504
	Total salaries									10.191	10.701	11.236	11.797	12.387	13.007
	Fixed costs														
11	Telephone		1	1	1	1	1	1	500	500	500	500	500	500	500
12	Water		1	1	1	1	1	1	200	200	200	200	200	200	200
13	Office Supplies		1	1	1	1	1	1	200	200	200	200	200	200	200
14	Electricity		15	12	9	6	3	0	300	4.500	3.600	2.700	1.800	900	0
	Total other fixed costs									5.400	4.500	3.600	2.700	1.800	900
	Grand total									15.591	15.201	14.836	14.497	14.187	13.907

Amounts are in USD. It includes a gradual increase of salaries and other fixed costs in the course of the six years.

225. At present, the rice husking and processing factory in Quelimane has been out of working order for nearly ten years and the equipment is increasingly degrading – see the photographs in Annex 10.6. An inventory of equipment and cost estimate has been made of the requirements for rehabilitating it, guided by technical staff from the Sena Sugar Company of Marromeu specialized in steam energy systems, and a specialist in rice processing. The following table offers a summary of the investments needed.

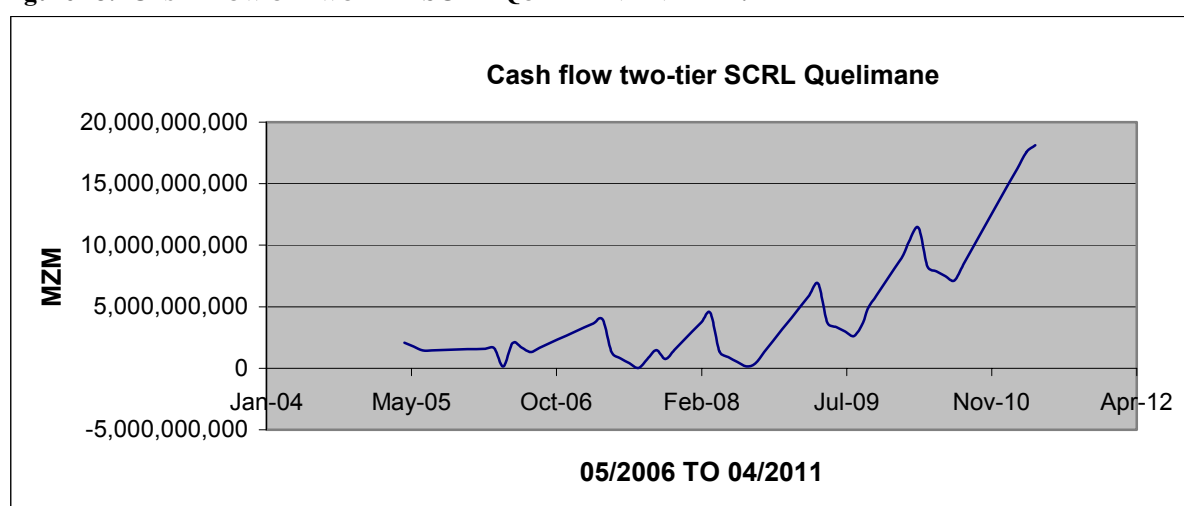
Table 31: PLANNED INVESTMENT FOR THE REHABILITATION OF THE RICE HUSKING FACTORY IN QUELIMANE.

Description	Already in existence	2005	2006	2007	2008	2009	2010	Investment to be realized
Total infrastructure	175.000	65.000	0	0	0	0	0	65.000
Transport equipment	0	122.000	107.000	6.000	0	0	0	235.000
Processing equipment	0	409.500	0	0	0	0	0	409.500
Office equipment	0	12.000	0	0	5.000	0	0	17.000
Total investment	175.000	608.500	107.000	6.000	5.000	-	-	726.500

Annex 10.2 shows the details of the planned investment. The basic idea is the rehabilitation of the steam energy system (using rice husks as energy source) and the production of electricity to drive the equipment. In addition the husking and polishing system will be replaced by more modern equipment. Part of the equipment, such as the separators, is still usable. The building meets the requirements for the installation of modern equipment.

226. Annex 10.3 (Volume II) calculates balance and depreciation values on the basis of the necessary investment, its life and the applied interest rate. Annex 10.5 shows the details of the cash flow on an annual basis. Figure 25 presents the monthly cash flow for the 72-months period of the plan in diagram form.

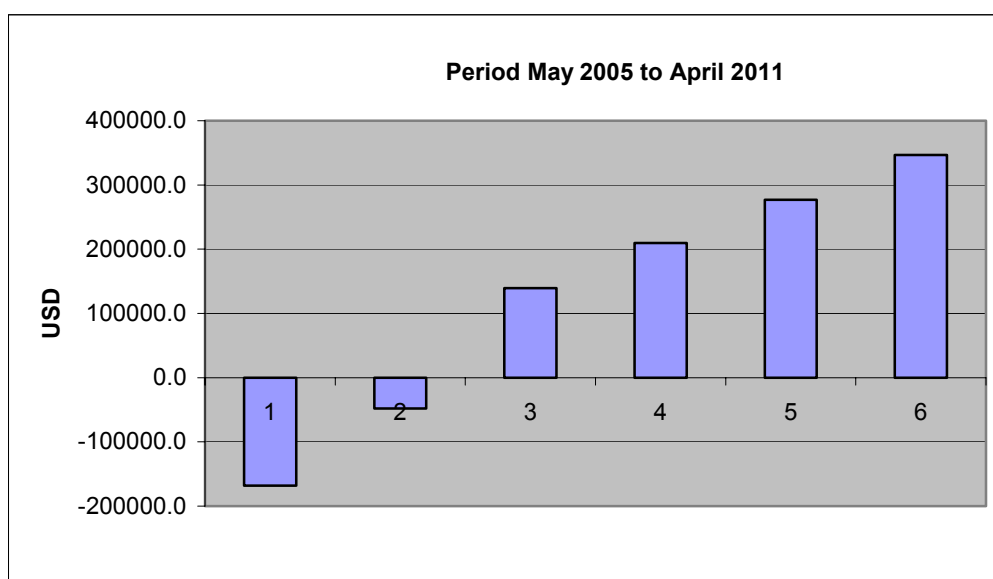
Figure 28: CASH FLOW OF TWO-TIER SCRL QUELIMANE IN MZM.



In order for the cash flow to be positive, it was necessary to inject floating capital (at a 18% interest rate). The operation is only viable when the quantity of processed rice increases to 6.000 tons.

227. This trend is also reflected in the profits and losses account, as can be seen in figure 29.

Figure 29: PROFITS AND LOSSES ACCOUNT TWO-TIER SCRL (HUSKING FACTORY) IN QUELIMANE 2005-2006 TO 2010-2011.



For more details we refer to Annex 10.7, where, on an annual basis, the results of the intervention are shown in absolute amounts, in percentages of total sales value, and per ton sold.

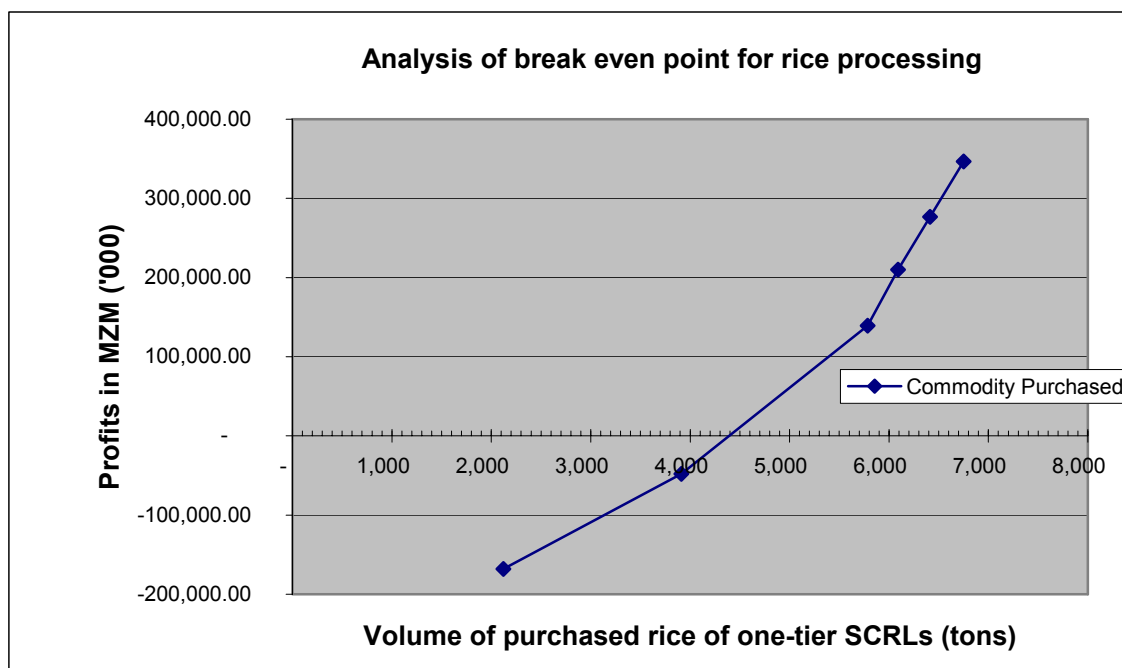
228. The following table shows annual purchases and profits from the rice husking and processing factory in Quelimane.

Table 31A: SUMMARY OF PURCHASES AND PROFITS OF TWO-TIER SCRL IN QUELIMANE.

Year		2005	2006	2007	2008	2009	2010
Purchased rice	ton	2.121,30	3.910,62	5.785,72	6.091,20	6.412,77	6.751,27
Profits	000MZM	- 168.070,56	- 48.064,13	139.381,62	209.796,84	276.791,53	346.619,92

Figure 30 presents an analysis of the investment’s break-even point.

Figure 30: ANALYSIS OF THE BREAK EVEN POINT OF THE RICE HUSKING AND PROCESSING FACTORY IN QUELIMANE, AFTER REHABILITATION.



The diagram indicates break even when the purchased volume reaches 4.500 tons per year. Compared with table 32, we may conclude that the break-even point will be reached after the second year of investments.

4.2 Cashew in Maganja da Costa

4.2.1. General information on the cashew sector in Mozambique

228. The cashew plant (*ANACARDIUM OCCIDENTALE*) was introduced in the sixteenth century on the coast of Southern Africa and in Mozambique by the Portuguese, who took it from Brazil (Bibliography, 23). In the 1950s, Mozambique exported most of its cashew as raw material to India. The decades that followed (1960s and 70s) saw the industrialization of the sector. During the 1970s, Mozambique was one of the main cashew producers in the world. After independence (1975), production levels were not sustained, due to the war. At present (2004), annual production is about 50.000 tons (in the period 1993-1998: 40.000 tons), which represents 5 to 6% of world production. Most of the production is exported as raw material to India (Bibliography, 18).

229. Prices of raw cashew on the world market reached a level of 0,50 USD/Kg in 1999, but afterwards decreased to 0,20 and 0,30 USD/Kg. The world market for cashew kernels is growing. The most important consumers are the United States (USA) and the European Union (EU). In 1990, the EU imported 15.000 tons of kernels, and 50.000 tons in 1998. 50% of the imports are destined for Germany and the Netherlands. This means that there still exists a potential for exporting to the EU. World prices were at 3,70 USD/Kg for kernel W320³⁰ in 2001, but they have risen to 4,20 USD/Kg and seem to have stabilized on this level (Bibliography, 18).

4.2.2. Cashew production in Zambézia Province

230. The following table summarizes information offered by the Provincial Directorate of Agriculture in Zambézia Province.

Table 32: COMMERCIALIZED PRODUCTION IN ZAMBÉZIA PROVINCE 1996-1997 TO 2004-2005. SOURCE: INCAJÚ DELEGATION IN ZAMBÉZIA.

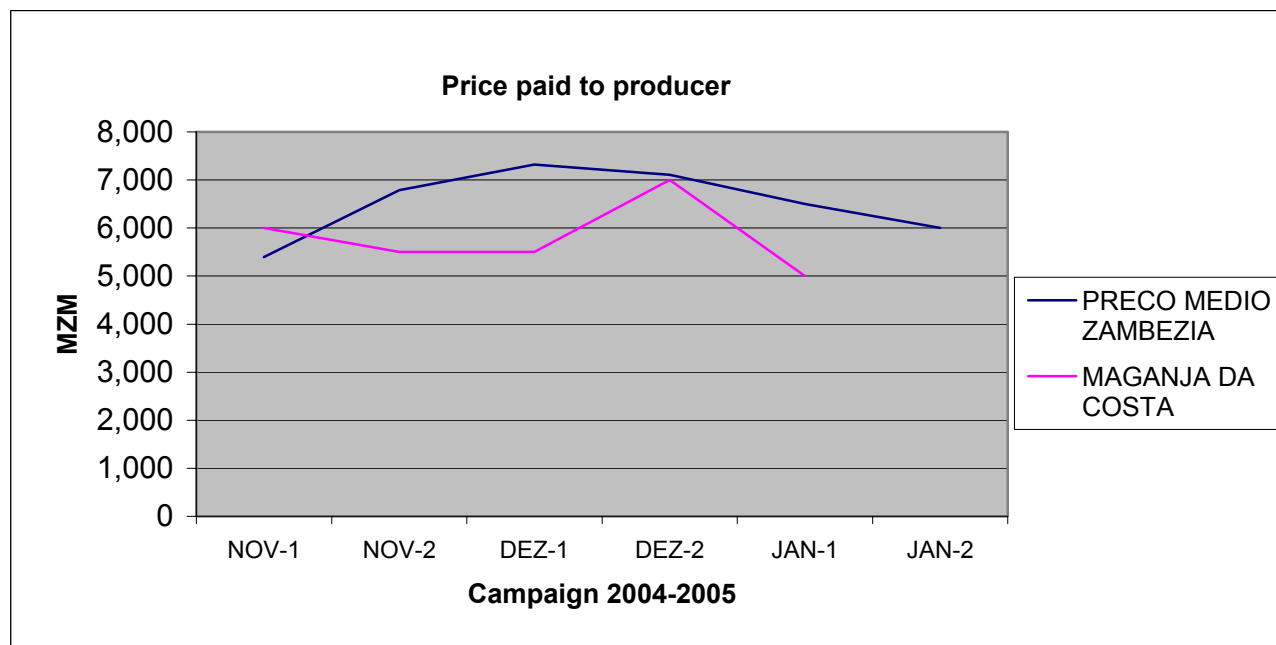
District	96/97	97/98	98/99	99/00	00/01	01/02	02/03	03/04	04/05	Average/ year	%
Pebane	695	925	1.830	1.646	2.329	1.642	2.680	2.942	2.590	1.920	28,6
Gilé	821	2.124	1.559	1.386	1.185	700	3.458	740	4.339	1.812	27,0
Ile	250	532	736	328	624	149	1.027	862	2.345	761	11,4
Mocuba	125	32	941	687	1.134	250	1.197	1.227	2.943	948	14,1
Maganja da Costa	48	60	291	375	353	20	448	585	820	333	5,0
Namacurra	103	122	320	392	583	151	1.710	1.808	3.046	915	13,6
Nicoadala	11		25	7	14	14	9	28	45	17	0,3
	2.053	3.795	5.702	4.821	6.222	2.926	10.529	8.192	16.128	6.708	100,0

Taking into consideration a national annual production of 50.000 tons, the production of Zambézia Province represents 20 to 30% of national production. Average annual production of the district of Maganja da Costa during the last 9 years was 333 tons, with a strong increase in the last few years. It should be noted that much of commercialised production probably has not been monitored.

³⁰ W320 - 320 whole groundnuts per “pound”, or 146 per Kg

231. The delegation of INCAJÚ in Zambézia also tried to monitor the level of prices paid to the producer by the traders. The following indicates the price levels, over a two-week period, during the 2004-2005 campaign.

Figure 31: CASHEW PRICES PER KG PAID TO THE PRODUCER IN ZAMBÉZIA PROVINCE DURING THE 2004-2005 CAMPAIGN. SOURCE: INCAJÚ DELEGATION IN ZAMBÉZIA.



The difference with the levels of the previous year (2003-2004 campaign), which hovered between 3.000 and 5.000 MZM/Kg, is remarkable. During 2004-2005, the price at the campaign’s start immediately increased to the level of 5.000 to 6.000 MZM/Kg, which may be indicative of an increase in negotiating power on the part of the producers. A large part of the production was bought at this price, while the quantities towards the end of the campaign were bought at a slightly higher price. At the end of the campaign prices fell because of the cashew’s diminishing quality.

4.2.3. Business plan for the cashew sector in Maganja da Costa

232. During the period of August 2004 to February 2005, an inventory was made of the cashew trees among cashew producers in the district of Maganja da Costa. Annex 11.1. lists the producers with their trees, per community and settlement. The following table provides a summary:

Table 33: NUMBER OF CASHEW PLANTS PER COMMUNITY IN MAGANJA DA COSTA.

Nr	Communities	settlements	Nr. houses	Old Cashew trees	New Cashew trees	Total	Fee	Delegates	Production in Kgs
1	Cariua	12	1.028	18.611	12.722	31.333	62.666.000	11	88.110
2	Alto Mutola	14	1.044	46.759	10.104	56.863	113.726.000	20	133.934
3	Maneia	10	831	13.668	6.868	20.536	41.072.000	7	54.808
4	Mocubela	12	729	14.046	7.687	21.733	43.466.000	8	58.840
5	Mucarua	7	258	7.978	2.560	10.538	21.076.000	4	26.196
6	Murabiua	6	237	3.603	2.416	6.019	12.038.000	2	16.870
7	Muso	8	330	1.845	2.364	4.209	8.418.000	1	13.146
8	Mualama	3	159	2.245	937	3.182	6.364.000	1	8.238
9	Madabo	6	659	26.922	6.503	33.425	66.850.000	12	79.856
10	Murrabela	8	1.208	45.053	15.239	60.292	120.584.000	21	151.062
11	Missal	11	1.284	50.908	9.041	59.949	119.898.000	21	137.980
12	Naico	7	832	39.264	11.921	51.185	102.370.000	18	126.212
13	Capitão	1	56	385	642	1.027	2.054.000	0	3.338
	TOTAL	105	8.655	271.287	89.004	360.291	720.582.000	125	898.590

The table lists the families and the their cashew trees in 13 communities in the district of Maganja da Costa. It should be noted that the inquiry did not cover the entire district; only the areas of Cariua, the administrative post of Bajone and Mocubela were covered because these are zones with a high cashew tree density. The total number of trees amounts to 360.291, owned by 8.655 families. 75% are old (> 40 years of age) cashew trees, and 25% (or 89.004) are trees recently planted within the context of the partnership between the NGO ADRA and ORAM. Based upon an entrance fee of 2.000 MZM per tree, the total value of the fees to be paid by the future members of the co-operative may amount to 720 millions meticaís. Production has been estimated as well. Utilizing an average annual production of 2 Kgs per old cashew tree and 4 Kgs per new tree, we calculate production at approximately 900 tons of cashews. When we compare this data with that from table 32, we conclude that the estimate roughly corresponds to the statistical data from the Provincial Directorate of Agriculture.

233. The following table shows the characteristics of the future Sociedade Cooperativa de Responsabilidade Limitada for the commercialisation and processing of cashew in the district of Maganja da Costa.

Table 34: CHARACTERISTICS OF THE CO-OPERATIVE SOCIETY FOR THE COMMERCIALISATION AND PROCESSING OF CASHEW IN MAGANJA DA COSTA.

Nr	Description	Key words
1	there are 4 primary processing centres: Cariua, Alto Mucabira, Missale, Mucubela.	4 primary and 1 central processing centres
2	the primary processing centres organize purchasing and the first processing steps	first 10 phases of processing
3	the final steps up to exportation will be organized in	last 5 phases of processing
4	the primary and central centres constitute one single economic and legal unit	one single economic and legal unit
5	daily transport of kernels is centrally organized	centralized transport of kernels

234. The table below indicates the processing stages of cashew needed to produce a kernel that is ready for export. Processing activities 1 to 10 are carried out in four small purchasing, storage and husking units. The localities selected for these activities are Cariua, Missale, Naico and Mocubela. Activities 11 to 15 are to be carried out by the central unit to be installed in Mocubela. Here, a vacuum packing machine will be installed for the production of 20Kg packs of kernels for export.

Table 35: PROCESSING STAGES AND RESPONSABILITIES IN THE CASHEW SECTOR IN MAGANJA DA COSTA.

Nr	Operation	Responsible entity
1	Buying from the producer	Shelling units in Cariua, Missale, Naico and Mocubela
2	Transport from buying post to locality of shelling	
3	Drying and storage	
4	Boiling the cashew	
5	Cooling (drying)	
6	Manual cutting of cashew (shelling)	
7	Separation of kernel from shell	
8	Heating of kernels	
9	Cooling of kernels	
10	Removing thin kernel skin	
11	Transport from shelling unit to central unit	Central unit in Mucubela
12	Selection of kernels in whole and broken, according to size	
13	Packing	
14	Transport from central unit to port	
15	Exporting and handling in the port	

235. The table below shows the distances between the primary centres of Cariua, Missale and Alto Mutabide, and the central unit of Mocubela.

Table 36: DISTANCES FOR TRANSPORT OF CASHEW IN MAGANJA DA COSTA.

Nr	Description	Km
10	Transport of raw cashew from producer to processing unit	20
20	Transport of kernels from units to central in Mocubela	
21	Cariua	100
22	Missale	50
23	Alto Mutabide	30
	Average distance	60
30	Transport of kernels from Mocubela to Nacala	700

The distance between Mocubela and Nacala port was estimated at 700 km.

236. Annex 11.3. (Volume II) contains detailed data on fixed costs for the cashew SCRL in Maganja da Costa. The table below offers a summary:

Table 37: SALARIES AND OPERATING COSTS OF THE SCRL FOR CASHEW IN MAGANJA DA COSTA.

Description	2005-06	2006-07	2007-08	2008-09	2009-10	20010-11	Total
Salaries Permanent Employees	144.383.250	153.938.925	164.089.209	174.869.675	186.317.964	198.473.908	1.022.072.931
Total Other Costs	22.500.000	23.625.000	24.806.250	26.046.563	27.348.891	28.716.335	153.043.038
Total Temporary Labour	7.680.000	17.472.000	21.168.000	22.226.400	23.337.720	24.504.606	116.388.726
Total	174.563.250	195.035.925	210.063.459	223.142.637	237.004.575	251.694.849	1.291.504.695

Additional labour refers to porters and transporters of raw cashew during the campaign. For shelling and removal of kernel skin specific costs have been introduced. (see cash flow).

237. Annex 11.4 of Volume II lists the investments necessary for (re) constructing and equipping four primary processing units and a central packing unit in Mocubela. The following table provides a summary.

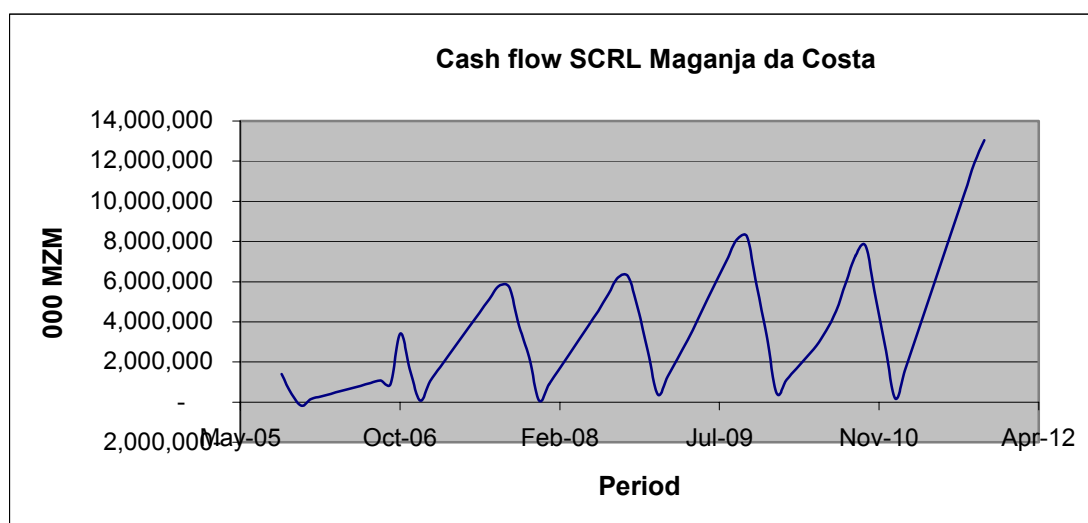
Table 38: INVESTMENTS SCRL FOR CASHEW IN MAGANJA DA COSTA.

Description	2005 2006	2006 2007	2007 2008	2008 2009	2009 2010	2010 2011	Total Investment
Infrastructure	129.000	73.000	-	-	-	-	202.000
Transportation Equipment	75.500	50.500	-	-	-	-	126.000
Office Supplies	5.400	-	-	5.000	-	-	10.400
Processing Equipment	42.500	22.500	-	-	-	-	65.000
Total	252.400	146.000	-	5.000	-	-	403.400

A large part of the investments is needed for infrastructure creation. Account balance and costs of depreciation can be found in Annex 11.5. Of the total of 403.400 USD, it is expected that 62% (or 250.000 USD) will be obtained in the form of donations.

238. The financial management of the SCRL may be shown through the cash flow, presented in the figure below.

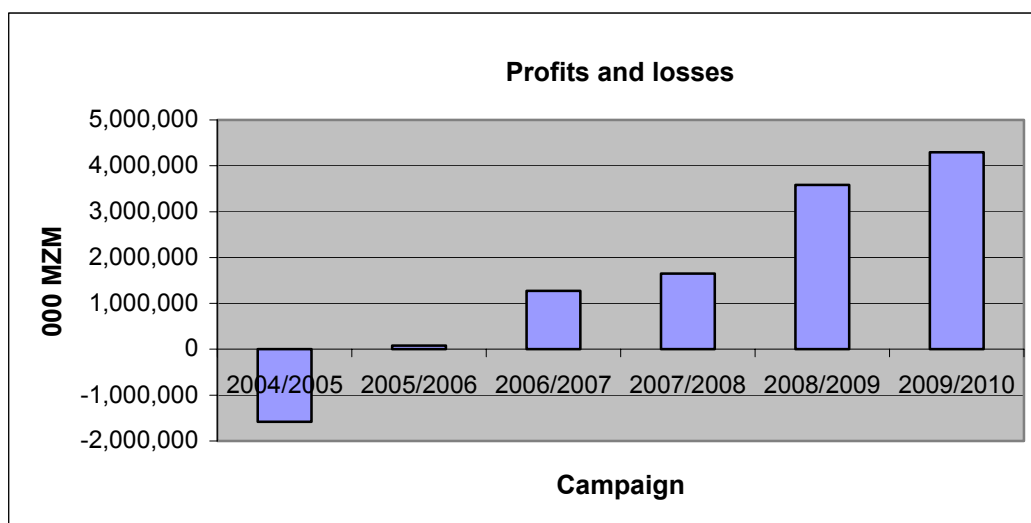
Figure 32: CASH FLOW OF THE CASHEW SCRL IN MAGANJA DA COSTA.



It was necessary to use borrowed floating capital in order to stabilize the flow. For details see Annex 11.6 (Volume II).

239. The projected annual profits and losses account results are presented in Annex 11.7. The following figure shows this account in diagram form:

Figure 33: PROFITS AND LOSSES OF THE CASHEW SCRL IN MAGANJA DA COSTA.



Here, like in the case of rice, the enterprise needs time to establish itself. We applied a buying price for the members of 10.000 MZM/Kg of raw cashew and a selling price of 5 USD/Kg of kernel. Interest rate were considered to be 8% for investment credit and 18% for operational credit (in MZM).

4.3 Maize and beans in Alta Zambézia and the Manica plateau /Gorongosa

4.3.1. Observations on the market for maize (flour)

240. The table below presents the data on the supply and demand of maize kernels per province and region. The data from columns 1 to 6 have been copied from the literature (Bibliography, 21). Column 10 is from the Ministry of Agriculture (TIA 2003). The data in columns 8 and 9 have been calculated by multiplying the columns 3 and 4 by a growth factor of 2% (column 8) and 3% (column 9). Column 11 represents the difference between columns 10 and joint columns 8 and 9.

Table 39: DEMAND AND SUPPLY OF MAIZE PER PROVINCE AND REGION IN 1998 AND 2003.

1	2	3	4	5	6	8	9	10	11
Province	Region	Demand in Tons 1998		Supply 1998	Surplus 1998	Demand in Tons 2003		Supply 2003	Surplus 2003
		Rural	Urban	Tons	Tons	Rural	Urban	Tons	Tons
Cabo Delgado	North	70.625	9.505	81.000	870	77.688	10.931	92.654	4.036
Niassa	North	47.456	9.158	163.000	106.386	52.202	10.532	159.636	96.903
Nampula	North	149.676	39.535	101.000	-88.211	164.644	45.465	89.047	-121.062
Zambézia	North	185.732	22.251	184.000	-23.983	204.305	25.589	298.821	68.927
Tete	Centre	59.065	8.291	92.000	24.644	64.972	9.535	182.891	108.385
Manica	Centre	34.183	11.893	155.000	108.924	37.601	13.677	171.196	119.918
Sofala	Centre	63.390	23.102	64.000	-22.492	69.729	26.567	103.789	7.493
Inhambane	South	73.346	8.861	65.000	-17.207	80.681	10.190	16.686	-74.185
Gaza	South	74.817	16.127	27.000	-63.944	82.299	18.546	56.450	-44.395
Maputo	South	29.260	86.489	15.000	-100.749	32.186	99.462	7.622	-124.026
Total	North	453.489	80.449	529.000	-4.938	498.838	92.516	640.158	48.804
Total	Centre	156.638	43.286	311.000	111.076	172.302	49.779	457.876	235.795
Total	South	177.423	111.477	107.000	-181.900	195.165	128.199	80.758	-242.606
Total	Nation	787.550	235.212	947.000	-75.762	866.305	270.494	1.178.792	41.993

241. The provinces are grouped together in regions, in accordance with the functioning of inter-provincial cargo transport. Although the connection between Nampula (deficit) and Niassa (surplus) is still problematic, the pattern is clear. The Southern region has a deficit. The Northern region is practically self-supporting but without surpluses, and the Central region has more production than it consumes. Strategic interventions for the commercialisation and processing of maize kernels were identified in:

- The Manica plateau, for the urban zones from the Centre and South;
- Alta Zambézia, for the urban zones from the North.

242. Jointly with a maize-processing specialist from the organization NMCP (see paragraph 5), an inventory was made of the industrial maize mills in the central provinces of Mozambique.

- In the city of Beira, the enterprise Mobeira was visited. Mobeira's major shareholder is a multinational company of American origin, active in the food-processing sector. The company's main activity consists in milling imported wheat and selling it on the national Mozambican market for the production of bread. Industrial capacity is 230 tons of wheat/24 hours. Mobeira also produces maize flour during 5 months per year. This is a secondary activity for the company.

- In Chimoio, a visit was made to the industrial mill of Grémio. The equipment, of South African origin, has an installed capacity of 32.000 tons per year. However, at present the equipment, although functioning, may not function continuously in the future due to its age and bad state of conservation. The installations of Grémio belong to the State; but there are leasing agreements (and apparently, if we were well informed, also sub-leasing agreements). For technical details see Bibliography, 20.
- In Dombe, (see also paragraph 100) the sophisticated Rongcalia brand equipment, has been abandoned and is in an obsolete state. Capacity was 2.500 tons per year. Presently the place is not in a condition for recuperation investments
- The Gorongosa mill is, since 1967, installed with MIAG brand equipment. The mill has been out of order since the 1970s. It was not possible to inspect the equipment. The possibility of using the installations as a base for the creation of a maize processing Co-operative Society has become remote because of its privatisation (see paragraph 82 and Bibliography, 22).
- Ruace – in Gurué – has conditions for commercializing, drying and storing maize (with possibilities to export maize kernels to Malawi). There are 2 silos with ventilation possibilities, 2 driers, elevators and a warehouse of 60x25x8m (without roof covering).
- The mill in Alto Molocué contains Rongcalia equipment, which allows for the production of high quality degerminated flour. However, the equipment is sophisticated and maintenance is difficult. Capacity is 11.000 tons per year. For various reasons the mill is not operational (see paragraph 34), although Alto Molocué would be a strategic place for a recuperation investment.

243. During the month November 2004, a small survey of the maize market in Mozambique's centre region was carried out. Annex 12.1 (Volume II) presents some data from this investigation. The table below offers, as an example, the resume of the business of a trader in Zambézia.

Table 40: BUSINESS OF A TRADER IN MAIZE KERNELS IN ZAMBÉZIA.

Nr	Description			
1	10-day trip; 7 days of buying in Lioma and 3 of selling in Brandão market in the city of Quelimane.			
2	Buys 30 bags of 90 to 100 Kgs per trip = 3000 Kgs			
3	Selling price	70.000,00	per 20 Litre can	
4	Purchasing price	35.000,00	per 20 Litre can	
5	Transport (hiring truck with two other traders)	2.000.000,00	3000	Kgs
6	Storage	2500	Bag per day	
7	20 Litre can	=	21	Kgs

	Calculation	MZM	MZM/Kg
8	Purchasing price	35.000,00	1.666,67
9	Selling price	70.000,00	3.333,33
10	Transport per trip	2.000.000,00	666,67
11	Storage two days per bag	90.000,00	0,06

	Analysis		
12	Costs per kg		2.333,39
13	Sales per kg		3.333,33
14	Difference per kg		999,94
15	Profits per trip		2.999.833,33
16	Profits per year		59.996.666,67

In other words, with this business the trader manages to earn 250 USD per month.

244. On the basis of the Bibliography, 20, the following table was developed:

Table 41: CALCULATION OF PRODUCTION COSTS OF FLOUR IN THE LOCAL ECONOMY.

Exchange rate		MZM	20.000,00	USD	1,00	
Measure	Can	1,00	l	20		
Characteristics	Maize	Density	Kg/l	0,85		

Collected data (Annex 12.1)	Litre	Kg	MZM	MZM/Kg	USD/Kg	
Maize	20,00	17,00	45.000	2.647	0,132	
Trader (table.)		21,00	70.000	3.333	0,167	
Bran		1,00	1.500	1.500	0,075	
Costs of husking		1,00	750	750	0,038	
Costs of grinding		1,00	1.000	1.000	0,050	

Calculation with mechanical husking	%	Kg	MZM	MZM/Kg	USD/Kg	
Maize	100,00	1,00		3.333	0,167	Plus
Bran	38,00	0,38	0	0	0,000	Plus
Costs of husking	100,00	1,00	750	750	0,038	Plus
Costs of grinding	62,00	0,62	1.000	620	0,031	Plus
Production costs of flour	67,00	0,67	4.703	7.019	0,351	

Calculation with home-husking	%	Kg	MZM	MZM/Kg	USD/Kg	
Maize	100,00	1,00		2.800	0,140	Plus
Bran	22,00	0,22	1.000	220	0,011	Minus
Costs of pounding	100,00	1,00	0	0	0,000	Plus
Costs of grinding	78,00	0,78	1.000	780	0,039	Plus
Production costs of flour	78,00	0,78	3.360	4.308	0,215	

On the basis of Annex 12.1, observations in the field/rural markets, and the tables above, one can substantiate the following:

- Much commercialised maize in the rural and urban markets is of low quality due to infestations. Almost every kernel of maize has holes. Losses were estimated at some 25% of production.
- The majority of the urban population does not buy packed maize flour, because it is very expensive. In fact, a great part of the urban population buys maize kernels, have it husked or they pound it at home, wash and dry the maize and have it ground in the local mills. The table above gives the production prices for the two options.
- Conditions in the local mills are often precarious in terms of hygiene.
- The process of preparing maize flour is very labour intensive, and traditionally the responsibility of the women, of whom it requires much labour.

245. Therefore, we conclude that there is room for the production of good quality flour for the market of the (sub) urban population. The price should be competitive with the flour price in the local markets.

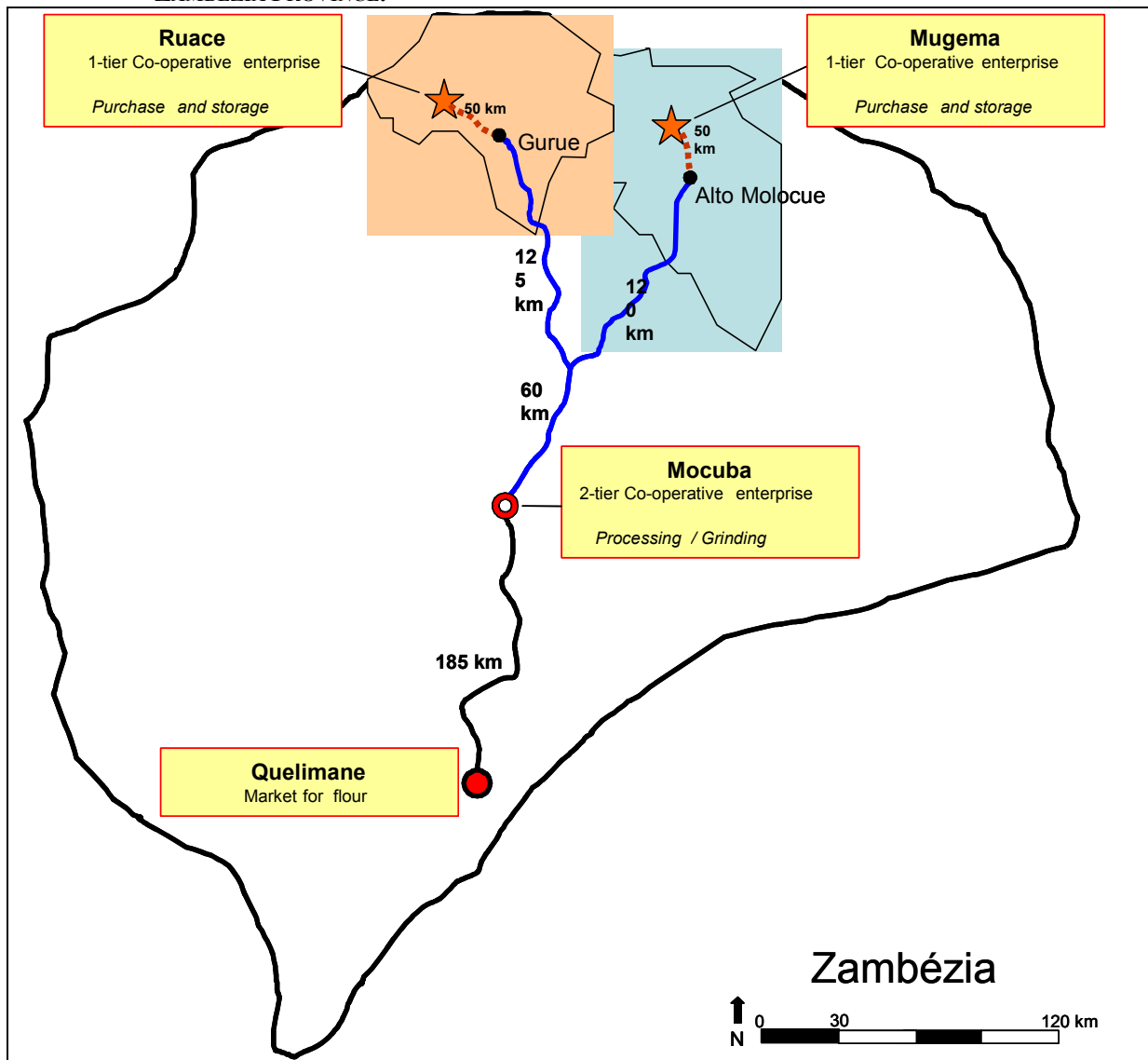
4.3.2. Business plan of the one-tier SCRL in Alta Zambézia

246. On the basis of the observations formulated above, we have developed the concept of a co-operative commercial chain, which aims at realizing two objectives:

1. Create a secure maize market for maize producers in the potential production areas, and
2. Bring good quality flour to the (sub) urban market at a competitive price.

247. A scheme of operations has been developed for Zambézia Province, visualized in the following figure (see also table 12):

Figure 34: GEOGRAPHICAL AREA OF THE ONE-TIER AND TWO-TIER MAIZE CO-OPERATIVE ENTERPRISES IN ZAMBÉZIA PROVINCE.



Apart from the urban market of Quelimane, there are possibilities to serve the markets of Mocuba and other district centres, as well as the city of Nampula.

248. The present proposal concerns two 1-tier Co-operative Societies for the supply of maize kernels to be milled: Gurué/Ruace and Alto Molocué/Mugema. In this chapter we present a Business Plan proposal for one of these societies, the characteristics of which are summarized in the following table:

Table 42: GENERAL CHARACTERISTICS OF THE BUSINESS PLAN FOR MAIZE IN RUACE AND MUGEMA.

Nr	Description	Key words
1	The one-tier SCRL intervenes in two crops: maize and beans	maize + beans
2	The SCRLs of Ruace and of Mugema buy the maize from the members and sell the maize kernels to the two-tier SCRL in Mocuba.	final product maize kernels
3	Period of business plan - 6 campaigns 2006-2007 to 2011-2012	2006-2007 to 2011-2012
4	Year based on commercialization campaign	1 April to 31 March
5	Planning step - "one month"	total 72 months
6	The SCRL has exemption from added value tax	without IVA
7	The SCRL pays taxes on labour	IPRS, INSS, Medical Assistance

249. The table below shows the purchase plan of maize and beans in Alta Zambézia, which constitutes the basis of the Business Plan.

Table 43: VOLUMES OF MAIZE AND BEANS PURCHASED FROM THE ONE-TIER SCRLS OF RUACE AND MUGEMA.

Nr	Campaign	Unit	2006/2007	2007/2008	2008/2009	2009/2010	2010/2011	2011/2012	TOTAL
1	Buying at SCRL-Lioma	Maize Ton	3.000	4.500	6.000	6.000	6.000	6.000	31.500
2	Buying at SCRL-Nauela	Maize Ton	3.000	4.500	6.000	6.000	6.000	6.000	31.500
3	Total entering SCRL-2 Mocuba	Maize Ton	5.580	8.393	11.220	11.250	11.280	11.310	59.033
4	Buying at SCRL-Lioma	Bean Ton	300	500	650	750	800	800	3.800
5	Buying at SCRL-Nauela	Bean Ton	300	500	650	750	800	800	3.800
6	Total purchases of beans	Bean Ton	600	1.000	1.300	1.500	1.600	1.600	7.600

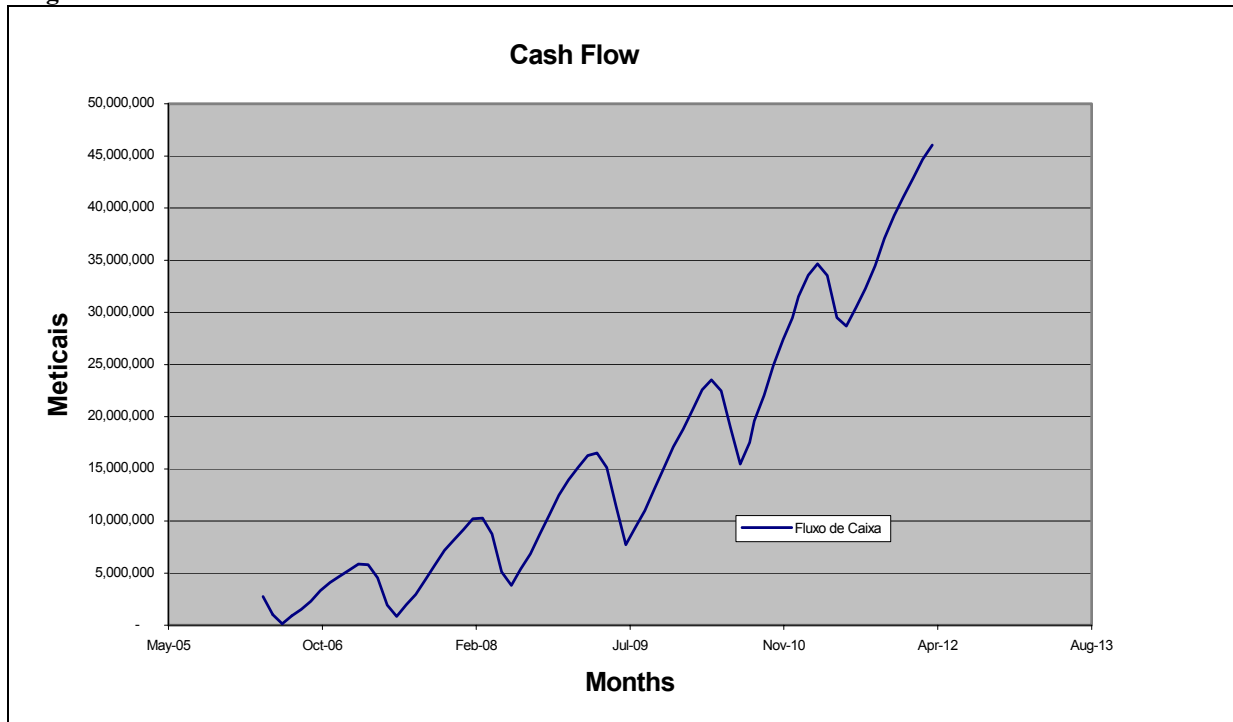
The difference between purchases from the members and sales to the mill in Mocuba is due to loss of weight because of drying.

250. Annex 12.2 (Volume II) contains the basic data that has been used in developing the Business Plan. Interest rates were considered to be 8% for capital loans in USD or Euro and 18% for loans in MZM. Annex 12.3. contains the calculations of transport costs.

251. In Annex 12.4 (Volume II) one finds the investments necessary to create the 1-tier SCRL in Ruace. 70% has been destined for investments in infrastructure, mainly for the rehabilitation of the warehouse. 28 % is invested in means of transport. Annex 12.5. shows the balance sheet of the enterprise for the period of the plan, and the annual depreciation costs.

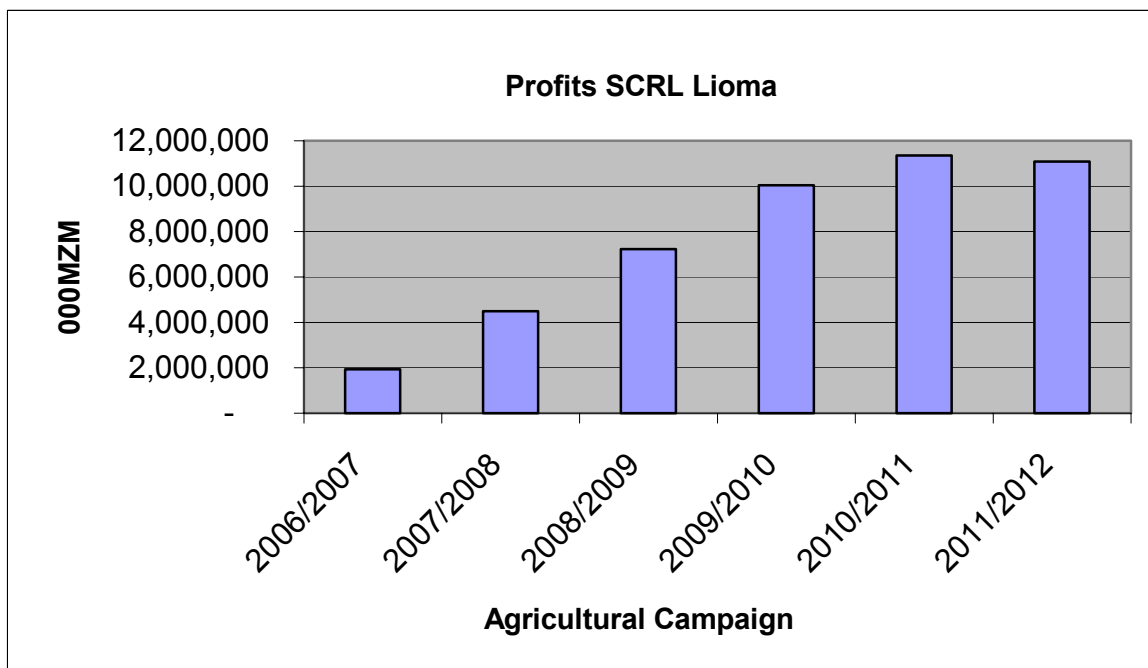
252. Cash flow of the 1-tier SCRL of Ruace-Lioma is produced in the figure below. The purchase price was set at 2000 MZM/Kg, while the selling price to the 2-tier SCRL in Mocuba is estimated at 3000 MZM/Kg. Transport from Ruace to Mocuba is the responsibility of the 2-tier SCRL in Mocuba.

Figure 35: CASH FLOW OF THE ONE-TIER SCRL IN RUACE.



253. The profits and losses account is depicted in the following figure:

Figure 36: PROFITS AND LOSSES ACCOUNT OF THE ONE-TIER SCRL RUACE-LIOMA.



According to this projection, the enterprise makes a profit from the first year onwards, due to the big volume of purchases right from the start. Statistical data from the Ministry of Agriculture confirm the availability of maize for commercialisation, both in Lioma as well as in Nauela. The inventory concerning families and their production carried out in the context of this study was not ready yet at the time of completion of this report. One foresees a strong intervention in the organization of maize purchases.

4.3.3. Business plan of the 2-tier SCRL for industrial milling in Mocuba

254. Following the analysis made in paragraphs 240 to 248, the installation of an industrial mill, owned by a 2-tier Co-operative Society RL, has been planned in the city of Mocuba. The characteristics of this 2-tier SCRL can be found in the table below:

Table 44: GENERAL CHARACTERISTICS OF THE TWO-TIER SCRL IN MOCUBA.

Nr	Description	Key words
1	The two-tier SCRL buys the maize kernels from the one-tier SCRLs in Lioma and Nauela, and is responsible for the processing of the maize and for putting it on the urban markets of Zambézia (and, in a later phase, of Nampula).	purchase from one-tier SCRLs, grinding and putting on the markets
2	The two-tier maize SCRL will be established in the city of Mocuba.	established in the city of Mocuba.
3	The two-tier SCRL forms an economic unit with the one-tier SCRLs from Lioma and Mugema. This means that the market price of the final product from the two-tier SCRL will determine the price of the one-tier SCRLs' final product, which is maize kernels.	economic unit with the two one-tier SCRLs
4	The two-tier SCRL and the one-tier SCRLs are separate legal entities. Each has its own Assembly, Board of Directors, etc.	separate legal entity
5	Transport of maize kernels from the one-tier SCRLs from Lioma and Mugema will be organized and supported by the two-tier SCRL.	centrally organized transport from the districts
6	Milling capacity is 1,5 tons/hour. The mill works 24 hours per day, 5 days per week and 48 weeks per year.	1,5 tons/hour, 24 hours/day, 5 days a week, 48 weeks per year

255. The following table shows the investments planned for this intervention.

Table 45: INVESTMENT (IN USD) IN MOVEBALE AND IMMOVABLE GOODS FOR THE TWO-TIER SCRL IN MOCUBA.

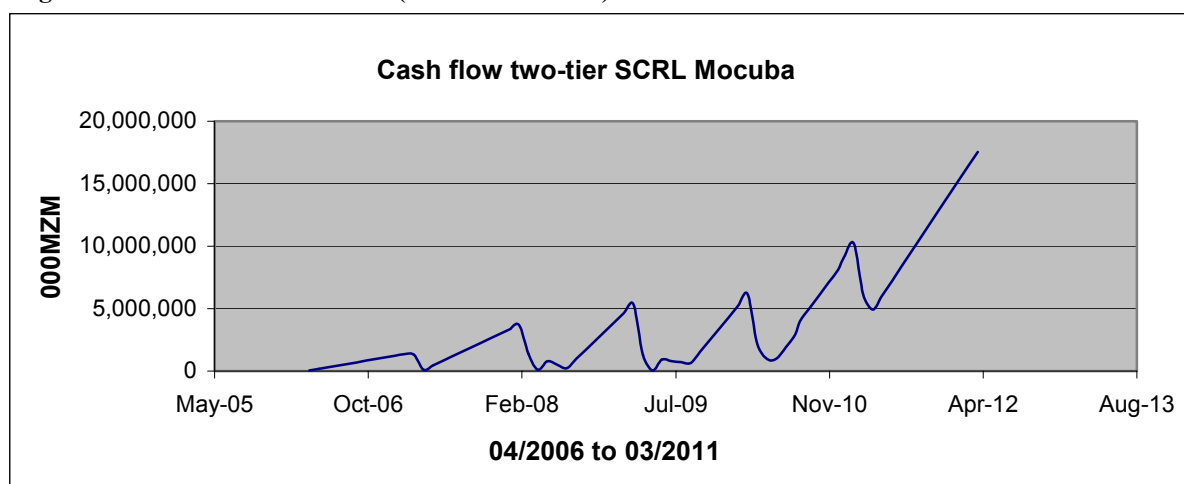
	Life Years	2006	2007	2008	2009	2010	2011	Total Investment
Active								
Infrastructure								
Application for plot	50	5.000						5.000
Construction warehouse for mill	30	180.000						180.000
Construction warehouse for flour	30	100.000						
Construction office	30	20.000						20.000
Construction residence	30	10.000						10.000
Construction fence	30	15.000						15.000
Organize paving/draining of yard	10	10.000						10.000
Total infrastructure		340.000	-	-	-	-		340.000
Transport equipment								
30 ton truck	6	200.000						200.000
4x4 pickup truck	5	35.000						35.000
Tractor for the warehouse	5	15.000						15.000
Motorcycle	5	12.000						12.000
Total transport equipment		262.000	-	-	-	-	-	262.000

Processing equipment								
Container mill	15	900.000						900.000
Automatic scales (20-50Kgs) (second hand)	15	10.000						10.000
Packing installation (1-5Kgs) (second hand)	15	15.000						15.000
Installation material	15	10.000						10.000
Electrical installation	15	10.000						10.000
Installing processing equipment (contract)	15	20.000						20.000
Transport of equipment (by sea)	15	20.000						20.000
Unforeseen charges	15	10.000						10.000
Total processing equipment		995.000	-	-	-	-	-	995.000
Office equipment								
Furniture	10	10.000		-	-	-		10.000
Lap top (2)	3	6.000		-	-	-		6.000
Printer (2)	3	2.000		-	-	-		2.000
Miscellaneous	3	5.000		-	-	-		5.000
Total office supplies	19	23.000	-	-	-	-	-	23.000
Total investment		1.620.000	-	-	-	-	-	1.620.000

A large part of the investment, 62%, will be destined for the acquisition of processing equipment. It is thought that 42% of the investment value will be donated, whereas the remaining part will be borrowed at an 8% annual interest rate. Annex 13.2 (Volume II) shows the balance and the depreciation costs of the society.

256. The figure below depicts the mill's cash flow. Details are to be found in Annex 13.3.

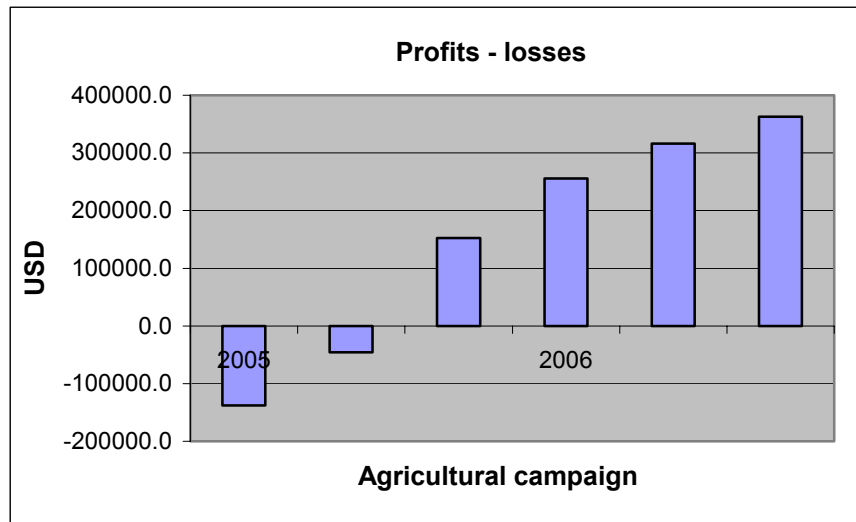
Figure 37: CASH FLOW OF SCRL (INDUSTRIAL MILL) IN MOCUBA.



During the first years, the cash flow is low due to repayments on investment capital. In the years 1 and 2, it was necessary to strengthen liquidity through borrowing operational capital (interest rate 18%).

257. Annex 13.4 (Volume II) presents the profits and losses account on an annual basis. The figure below depicts this account in diagram form.

Figure 38: DIAGRAM OF ANNUAL PROFITS AND LOSSES OF THE TWO-TIER SCRL IN MOCUBA.

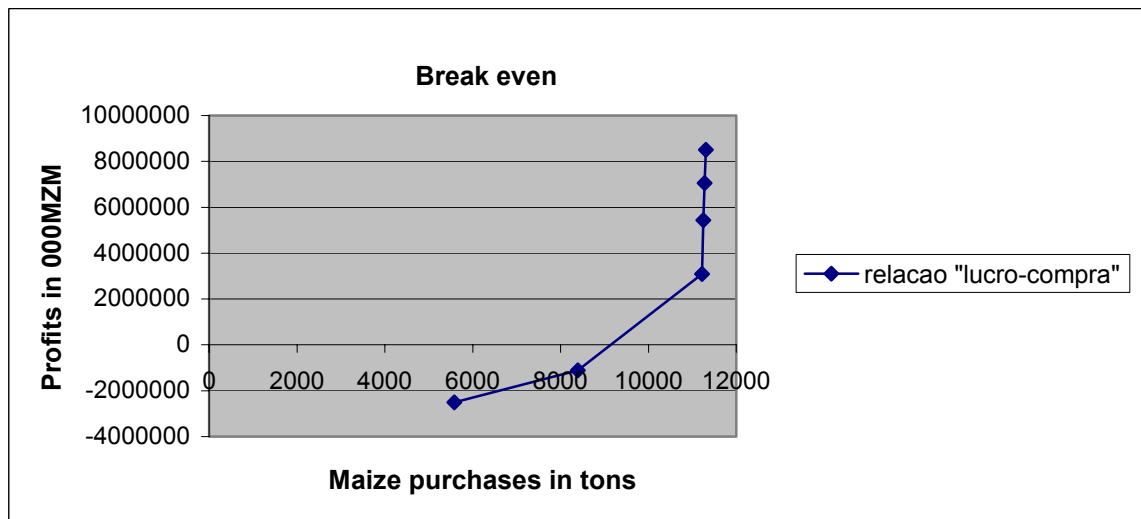


258. The table below summarizes yearly purchases of maize from the 1-tier SCRLs, plus the profits. The figure that follows offers a diagram presentation of the break-even point, in other words, it allows for establishing the relationship between raw material acquisitions and profits.

Table 46: SUMMARY OF RAW MATERIAL PURCHASES AND PROFITS OF THE TWO-TIER SCRL IN MOCUBA.

Year		2005	2006	2007	2008	2009	2010
Purchased maize	tons	5580	8392,5	11220	11250	11280	11310
Profits	000MZM	-2505279,6	-1108850,6	3097256,5	5440168,4	7053863,9	8500147,7

Figure 39: ANALYSIS OF BREAK EVEN OF THE INDUSTRIAL MILL IN MOCUBA.

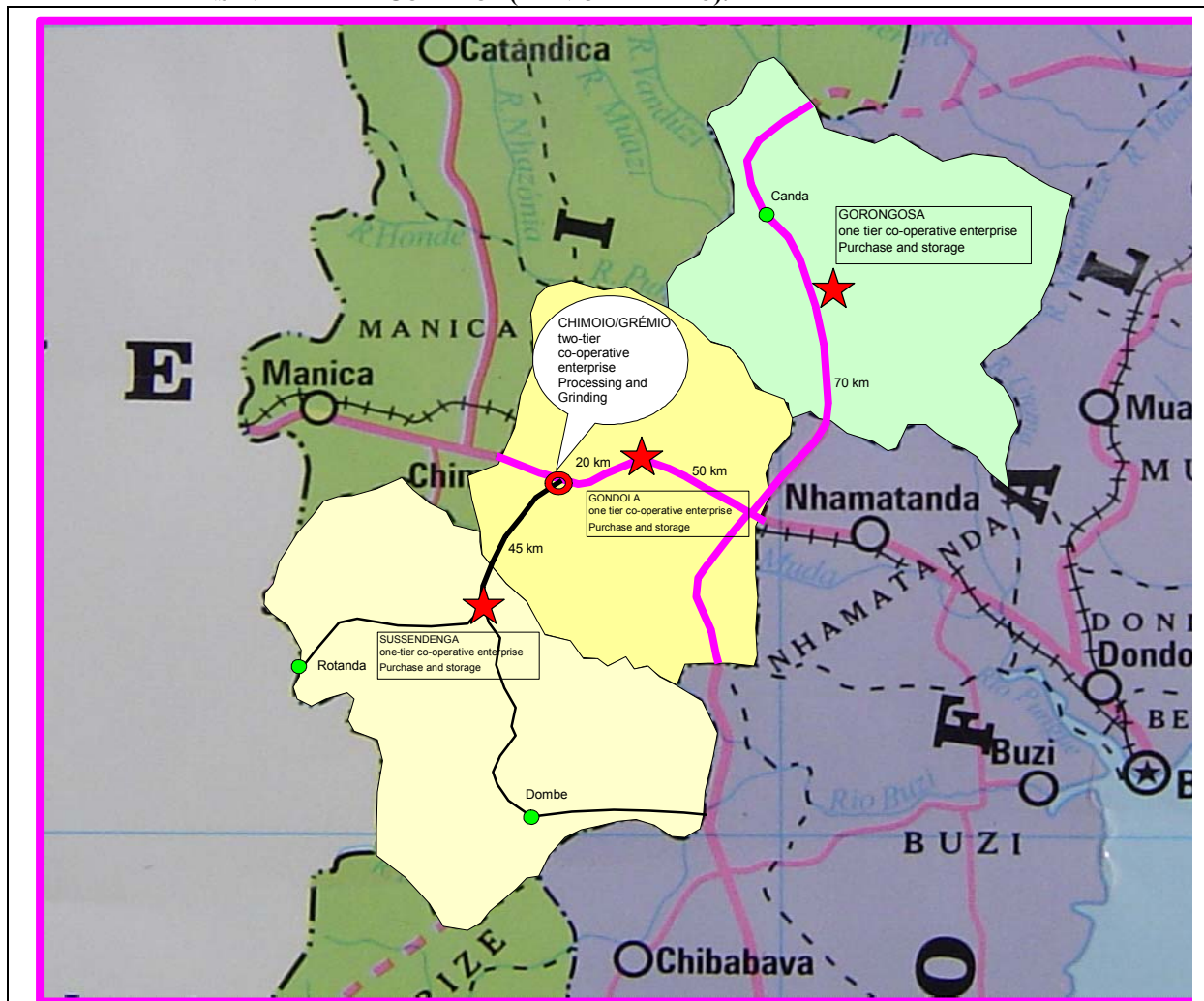


An analysis of the table and figure shows that the break even point will be reached upon the acquisition of 9.150 tons of maize, which will occur in the third year of the investment

4.4. Maize and beans in the provinces of Manica and Sofala

259. Finally, we would like to present the business plans for maize and beans in the districts of Sussundenga, Gorongosa and Gondola. These are districts with a high agricultural potential, and where in the consultation sessions the communities and the producers showed great interest in participating as shareholders in the future societies (see section 3.2). The figure that follows shows the proposed localizations of the various interventions.

Figure 40: GEOGRAPHICAL AREA OF THE ONE-TIER AND TWO-TIER CO-OPERATIVE ENTERPRISES FOR MAIZE AND BEANS IN THE BEIRA CORRIDOR (MANICA PLATEAU).



The map shows the following interventions:

1. one-tier Cooperative Society with Limited Responsibility (SCRL) for the commercialisation of maize and beans in Sussundenga.
2. one-tier SCRL for the commercialisation of maize and beans in Gondola.
3. one-tier SCRL for the commercialisation of maize and beans in Gorongosa.
4. two-tier SCRL for the commercialisation and processing of maize in the installations of the former Grémio in the City of Chimoio.

260. In the current context, we will not present business plans for the four enterprises, rather we will offer a general overview of their characteristics. In the three districts, the inventory of the

producer families and their areas of production is still ongoing. Its completion is to be expected in June 2005.

261. The characteristics of the 1-tier SCRLs of Sussundenga, Gondola and Gorongosa will be the same as those of the enterprises in Lioma and Mugema in Zambézia Province, described in table 46:

Table 47: GENERAL CHARACTERISTICS OF THE BUSINESS PLANS FOR THE COMMERCIALIZATION OF MAIZE AND BEANS FROM THE ONE-TIER SCRLS IN GONDOLA, GORONGOSA AND SUSSUNDENGA.

Nr	DESCRIPTION	Key words
1	The one-tier SCRL intervenes in two crops: maize and beans.	maize + beans
2	The one-tier SCRLs of Sussundenga, Gorongosa and Gondola buy the maize and beans from the members and sell the maize kernels to the two-tier SCRL in Chimoio/Grémio.	final product maize kernels
3	Period of business plan - 6 campaigns 2006-2007 to 2011-2012	2006-2007 to 2011-2012
4	Year based on commercialization campaign	1 April to 31 March
5	Planning step - "one month"	total 72 months
6	The SCRL has exemption from added value tax	without IVA
7	The SCRL pays taxes on labour	IPRS, INSS, Medical Assistance

262. The characteristics of the two-tier SCRL in Chimoio can be described as follows:

Table 48: GENERAL CHARACTERISTICS OF THE TWO-TIER COOPERATIVE SOCIETY FOR MAIZE IN CHIMOIO/GRÉMIO.

Nr	DESCRIPTION	Key words
1	The two-tier SCRL buys the maize kernels from the one-tier SCRLs in Gondola, Gorongosa and Sussundenga, and is responsible for the processing of the maize and for putting it on the urban markets of the Central Region of Mozambique and, in a later phase, of the Southern Region.	purchase from one-tier SCRLs, grinding and putting on the markets
2	The two-tier maize SCRL will be established in the city of Chimoio, in the installations of the former Grémio.	established in the city of Chimoio/Grémio.
3	The two-tier SCRL forms an economic unit with the one-tier SCRLs from Gorongosa and Sussundenga. This means that the market price of the final product from the two-tier SCRL will determine the price of the one-tier SCRLs' final product, which is maize kernels.	economic unit with the three one-tier SCRLs
4	The two-tier SCRL and the one-tier SCRLs are separate legal entities. Each has its own Assembly, Board of Directors, etc.	separate legal entity
5	Transport of maize kernels from the one-tier SCRLs from Gondola, Gorongosa and Sussundenga to Chimoio will be organized by the two-tier SCR, which will bear the costs.	centrally organized transport from the districts
6	Milling capacity is 2,5 tons/hour. The mill works 24 hours per day, 5 days per week and 48 weeks per year.	2,5 tons/hour, 24 hours/day, 5 days a week, 48 weeks per year

Planned processing capacity is approximately 15.000 tons of maize kernels per year; i.e., in a first phase which will correspond to about 50% of operational capacity during colonial times.

263. In the table below one finds the relation between production and commercialisation in the districts in question.

Table 49: RELATION BETWEEN PRODUCTION AND COMMERCIALIZED VOLUME IN THE DISTRICTS OF GONDOLA, SUSSUNDENGA AND GORONGOSA IN THE YEARS 1999-2003.

District	Description	Unit	1999-00	2000-01	2001-02	2002-03
Gondola	Production	ton	4,0	32,0	25,0	
	Commercialized	ton		5,5		
	Relation	%		17,2		
Sussundenga	Production	ton	41,0	25,5	36,5	
	Commercialized	ton			0,9	
	Relation	%			2,5	
Gorongosa	Production	ton				7,2
	Commercialized	ton				2,5
	Relation	%				34,7

The information concerning Manica Province was obtained from the Agência de Desenvolvimento Económico Local de Manica (ADEM) in Chimoio, while the data on Gorongosa were supplied by the District Directorate of Agriculture. Firstly, one can state (in accordance with the interviews of officials and farmers), that production strongly fluctuates with the (non) occurrence of rainfall. In dry years, production of maize may decrease to 25% of the average level. The commercialisation volume heavily depends on the availability of funds and of the purchasing power of the traders. The impression one gets is that the planned commercialisation volume is feasible.

264. The Business Plan of Sussundenga, Gondola and Gorongosa will be similar to the plan proposed for the enterprise in Lioma - Ruace (section 4.3.2.) and the Business Plan of the 2-tier processing SCRL in Chimoio will be similar to the one for the 2-tier SCRL in Mocuba (see section 4.3.3).