

**Effectiveness of Agricultural Micro-credit Projects for  
Poverty Reduction:  
A Case Study of the Marrambajane In-Kind Project in  
Chókwè District, Mozambique.**

**by**

**Alcino das Felicidades Fabião**

Submitted in partial fulfilment of the requirements for the degree of Masters of  
Development Studies, Faculty of Humanities, Development and Social Sciences,  
University of KwaZulu-Natal.

March 2008  
Durban

## **Abstract**

This study addressed a gap in knowledge about the outcomes of in-kind agricultural micro-credit projects on the welfare of the poor and ultra-poor smallholders. This research focused on an in-kind agricultural micro-credit project in Marrambajane village (Chókwè district, in southern Mozambique). Within the framework of the project, beneficiaries were given in-kind credit (seeds, fertilizer) to grow cash crops (tomatoes, onion, cabbage). To participate in the project farmers joined an Association which was part of a larger Union of Associations. The study measured the changes in material wellbeing of beneficiaries and development of social capital as a result of participation in the project. Material wellbeing was measured through income generation and acquisition of assets through participation in the project. In addition, the sustainability of the intervention was also assessed.

The study made use of a case study design adopting both quantitative and qualitative methods. Multiple data collection tools were used to collect data. Participatory methods were used to develop a wellbeing ranking of beneficiary households. A questionnaire was administered with beneficiaries (farmers) as the primary unit of analysis; this was used primarily to measure acquisition of assets and levels of trust in Association and Union. Data on amount of income generated and credit owed was compiled from the project archives. Observation was used to assess condition of infrastructure and equipment.

The microfinance triangle model was used to evaluate whether the project had achieved poverty outreach, improved the welfare of participants and was financially sustainable. Findings showed that the project led to slight increase of income and household asset value. This increase of income and growth of household asset value was exclusively observed during the period of project implementation (2001-2004), and one year after the end of sponsorship (2005). While participating in the project, households ranked as 'rich' and 'middle' received 1.2 times more credit and 1.6 times more income was generated compared with 'poor' and 'poorest' households. While there is no evidence of a difference in average median number of items bought in each of the wellbeing categories, the monetary value of the items acquired appeared to correlate with household wellbeing categories. The project was successful in building social capital through formation and legalisation of Associations integrated into one

farmers Union, the Union of Association Uamechinga. However, high levels of trust between the beneficiaries and project technicians and between the beneficiaries and the Union management team were not achieved.

The project collapsed in late 2005. Based on my analysis I argue this occurred because of multiple factors. Firstly, the emphasis on farming tomatoes, a high return but unpredictable cash crop, was problematic. A more effective project design would include production of tomatoes in combination with more reliable crops such as rice and beans. Secondly, the project enforcement of loan repayments was very weak and there was extensive subsidisation of operational and administrative costs. Analysis suggested that the project was distributing income above the real profit generated by the farmers. It is recommended that future projects implement direct or indirect methods to achieve stronger levels of repayment. Thirdly, the project's irrigation system was inadequate. In spite of the farmers recommending a furrow system an unsustainable piped system was implemented. This reflects lack of communication between project technicians and the community during the project design, and partly explains the poor level of trust between the project staff and farmers.

I argue that to ensure sustainability of in-kind micro-credit projects like the Marrambajane case, stronger capacity and infrastructure must be in place before state and donor assistance is withdrawn.

## **Acknowledgments**

The successful completion of this Master Programme was possible thanks to opportunity and sponsorship given by the Mozambique Ministry of Agriculture, through the State General Budget. In addition, I would like to thank the Ford Foundation for financial support through an African Integration Grant administered by the School of Development Studies.

I am grateful to Mr. Richard Devey and Professor Julian May for excellent supervision and guidance during the research and coursework. Profound gratitude is also extended to all my lectures and classmates (especially Charles Muikila, Claire Ichou and Nompumelelo Danisa) for their input during my time in the School of Development Studies.

Appreciation is also extended to Fundação de Desenvolvimento da Comunidade, Fundacion Cear, and the Chókwé District Directorate of Agriculture for permission to conduct the study and for assistance provided during the fieldwork. The beneficiaries of the Marrambajne Project are thanked for the time and information given to this research. Contributions from Research Assistants Mr. José Henrique Zucula and Mr. Albasino Timotio Enosse is appreciated.

Input from my wife Elisa Pedro Manhenje, my daughters Ivania Alcino and Alcélisa Alcino is honored. Moral support from my family, Church and all individuals that directly or indirectly contributed to this research is acknowledged.

### **Declaration of Originality**

This dissertation represents original work by the author and has not been submitted in any other form to another university. Where use has been made of the work of others it has been duly acknowledged and referenced in the text.

Alcino das Felicidades Fabião

Alcino das Felicidades Fabião (21/04/2008)

Signature

## **List of acronyms**

CGAP	Consultative Group to Assist the Poorest
FAO	Food and Agriculture Organisation of the United Nations
FDC	Foundation for Community Development
GDP	Gross domestic product
HSRC	Human Sciences Research Council
IFAD	International Fund for Agriculture and Development
ICM	Mozambique Cereal Institute
LFM	Logical framework matrix
LWF	Lutheran World Federation
MADER	Ministry of Agriculture & Rural Development
NGOs	Non Governmental Organisations
ORAM	Rural Organisation for Mutual Help
PAEI	Agricultural Policy and Strategy and its implementation
PARPA 1	First Action Plan to Reduce Poverty
PARPA 2	Second Action Plan to Reduce Poverty
PES	Social Economic Plan
PROAGRI 1	First National Agriculture Programme
PROAGRI 2	Second National Agriculture Programme
SACA	Smallholder Agricultural Credit Administration
UNDP	United Nation Development Programme
UNHCR	United Nations High Commissioner for Refugees
USAID	United State Agency for International Development

## Table of contents

1	Introduction .....	1
1.1	Problem Statement .....	3
1.2	Justification for research.....	3
1.3	Purpose statement .....	3
1.4	The case study .....	4
1.4.1	Justification for using Marrambajane as the case study .....	8
1.5	Research questions .....	8
1.6	Structure of dissertation.....	9
2	Literature Review and Theoretical Framework.....	11
2.1	Developments in micro-credit provision .....	11
2.1.1	State subsidized versus market driven models .....	11
2.1.2	The rise of microfinance organisations in Mozambique .....	15
2.2	Two forms of micro-credit programme.....	19
2.2.1	Direct and indirect models of provision .....	19
2.2.2	Examples of agricultural micro-credit programmes.....	22
2.3	Assessment of micro-credit programmes .....	23
2.3.1	The microfinance triangle.....	23
2.4	Social capital theory .....	28
2.5	Theoretical and analytical framework .....	32
3	Case study methodology and research methods.....	34
3.1	Research design. ....	34
3.1.1	The case study context: District and project development context. ....	34
3.2	Further Detail of Marrambajane in kind micro-credit project .....	37
3.2.1	Baseline study.....	37
3.2.2	Project aims and objectives, results, and indicators .....	38
3.3	Sampling.....	40
3.3.1	Sampling of Farmers .....	41
3.3.2	Sampling of key informants .....	41
3.3.3	Selection of beneficiaries for participatory methods.....	42
3.4	Data collection.....	42
3.4.1	Observation .....	43
3.4.2	Interviews .....	43
3.4.3	Administration of questionnaire .....	44
3.4.4	Documents-Project Archive .....	45
3.4.5	Participatory techniques .....	45
3.5	Data Analysis .....	46
3.6	Delimitation and limitation of the study.....	47
4	Findings – changes in material wellbeing, evidence of social capital, and sustainability of the project .....	49
4.1	Impact of the project on material and social wellbeing of beneficiaries .....	49
4.1.1	The beneficiaries.....	49
4.1.2	Change in wellbeing ranking (perception of beneficiaries).....	50

4.1.3	Credit allocated (input) to achieve change in wellbeing .....	53
4.1.4	Production to achieve change in wellbeing .....	56
4.1.5	Changes in household assets .....	58
4.2	Changes in social capital .....	63
4.2.1	Formation of social capital .....	63
4.2.2	Selection of the beneficiaries.....	64
4.2.3	Development of social capital .....	65
4.3	Sustainability of the project.....	74
4.3.1	Economic sustainability: repayment of credit .....	74
4.3.2	Financial sustainability.....	76
4.3.3	Infrastructure and equipment.....	77
4.3.4	Participation.....	81
5	Discussion of findings .....	83
5.1	Poverty outreach, poverty impact and financial sustainability.....	83
5.1.1	Poverty outreach .....	83
5.1.2	Poverty impact.....	84
5.1.3	Financial sustainability .....	87
5.2	Social capital development.....	88
5.3	Key constraints to sustainability and possible solutions .....	90
6	Conclusion, recommendations and directions for future research .....	93
6.1	Conclusions .....	93
6.2	Policy recommendations .....	94
6.3	Recommendations and directions for future research .....	95
7	References .....	97

## List of tables

Table 3.1	Logical framework for Marrambajane Project .....	39
Table 3.2	Profile of the key informants interviewed .....	44
Table 4.1	Summary of changes in beneficiary household wellbeing ranking (2000-2006)..	51
Table 4.2	Credit allocated from 2001 to 2005 by individuals and households beneficiaries	53
Table 4.3	Distribution of micro-credit in beneficiary households by wellbeing categories..	54
Table 4.4	Proportion of individual beneficiaries in each household category .....	55
Table 4.5	Distribution of loans per number of households and number of individuals receiving credit within the household.....	55
Table 4.6	Comparison of expected and achieved production of tomatoes, onion and cabbage.....	56
Table 4.7	Income generated from sales of tomatoes, onion and cabbage .....	57
Table 4.8	Distribution of income generated from micro-credit according to wellbeing categories .....	58
Table 4.9	Household assets: number of households holding asset and estimate of assets acquired through participation in the project.....	59
Table 4.10	Number of items bought by wellbeing category .....	61
Table 4.11	Assets (grouped by monetary value) bought by wellbeing category.....	61
Table 4.12	Credit owed from 2001 to 2005.....	75

## List of figures

Figure 1.1	Maps showing (a) Mozambique on the African continent and (b) the ten provinces of Mozambique; Gaza is the province numbered 2 .....	4
Figure 1.2	Detailed map of Gaza province showing approximate position of Marrambajane village.....	5
Figure 1.3	Project stakeholders.....	7
Figure 2.1	The Critical microfinance triangle.....	24
Figure 4.1	Rating of trust of the Union and association by beneficiaries.....	67
Figure 4.2	Union office and storage facilities.....	69
Figure 4.3	Irrigated tomatoes fields on a Chiguidela farm .....	71
Figure 4.4	Derelict building used on Chiguidela farm before construction of traditional dwelling .....	72
Figure 4.5	Construction of traditional dwelling on a Chiguidela farm. ....	72
Figure 4.6	Abandoned irrigation system in crater caused by erosion from the 2000 floods ..	77
Figure 4.7	One of the engine pumps allocated to the project .....	78
Figure 4.8	Key informants and researcher observing condition of the biggest engine Pump.....	79
Figure 4.9	Unused irrigation pipes.....	79
Figure 4.10	Examination of the site at Muianga village where a secondary irrigation channel could be extended to Marrambajane .....	80
Figure 4.11	The project's second hand tractor.....	81

## List of Appendixes

Appendix A Questionnaire in English and Portuguese (see CD attached)

Appendix B Trends in wellbeing within the participants of Marrambajane in kind agricultural micro-credit (see CD attached)

Appendix C List of assets acquired by the households as a contribution of the micro-credit (see CD attached)

# 1. INTRODUCTION

## *The importance of agriculture for the poor in Mozambique*

In spite of relatively strong economic growth during reconstruction after the civil war, a significant proportion of the population in Mozambique remains poor. A combination of factors i.e. available fertile land<sup>1</sup>, known success in agricultural production<sup>2</sup>, and slow growth in non-agricultural sectors<sup>3</sup>, suggest the agricultural sector is a natural focus for growth. The requirement for further economic growth is obvious – Mozambique’s economy is heavily reliant on external aid, about fifty percent of the general state budget is provided by external assistance. Growth in the agriculture sector is cited as one of the key criteria for successful economic expansion (Republic of Mozambique, 2006:4). Agriculture is one of the main industries of Mozambique (Latimer Clarke Corporation, 2007), more than three quarters of the population engages in small scale agriculture, but the majority of farmers are small scale subsistence farmers (Ministry of Agriculture and Rural Development (MADER), 2004:52; Human Sciences Research Council (HSRC), 2002:56).

Many households rely on agriculture to survive. The share of household income from agriculture is between 80 and 95 percent for the poorest and poor smallholder farmer households (MADER, 2004:32). Eighty five percent of the Mozambican population is self employed in agriculture as smallholders (MADER, 2004: 52, HSRC, 2002:56). And smallholders account for 99 percent of all rural households (MADER, 2004:31). Even households with a worker in a non-agricultural job rely on agriculture to supplement poor wages (Marshall, 1990:33).

Both commercial and subsistence agriculture can alleviate poverty. In South Africa cases studies have shown that when appropriate conditions are in place, in arable and irrigated areas, the returns of agriculture for poor rural households increase (Machethe, 2004 and Makhura et al. 1998 cited in Palmer and Sender, 2006:353).

---

<sup>1</sup> Of 36 million hectares of arable land only nine million are being cultivated (MADER, 2004). Some areas, for example the shores of the Limpopo river which have rich clay soils, are highly desirable for farming (Wikipedia, 2007; MADER, 2004).

<sup>2</sup> Three of Mozambique’s main exports – cashew nuts, cotton and tea – originate from the agricultural sector (Latimer Clarke Corporation, 2007).

<sup>3</sup> Although the state has privatized a number of companies these are small and are not likely to result in substantial growth in employment.

### ***Micro-credit for the poor***

Microfinance is a broad range of financial services for the poor (Wikipedia, 2007). Micro-credit is one such service. Micro-credit generally takes the form of very small loans (microloans) to the unemployed, to poor entrepreneurs and to others living in poverty who are not considered bankable (Wikipedia, 2007). While this research focuses on micro-credit selected microfinance literature is reviewed and used to develop the conceptual framework (Chapter 2).

Micro-credit organisations remain the best source of credit for the poor, since loans from formal banks are still beyond them (Harper, 1998:11). Informal alternatives of credit for the poor – moneylenders and local traders – are generally considered expensive compared to micro-credit organisations (Harper, 1998:11). Micro-credit organisations have the advantage of possessing a development agenda that access to credit by the poor is more important than its costs, although financial sustainability is also desirable (Harper, 1998:12).

### ***Micro-credit and agriculture***

Provision of agricultural micro-credit through micro-credit projects and micro-finance organisations is important because the poor in rural areas find it difficult to access loans from commercial banks to invest in agriculture due to screening<sup>4</sup> and enforcement<sup>5</sup> problems and risks associated with the agro-rural sector (Harper, 1998:26; Hulme and Mosley, 1996:1-2). This is particularly the case in many developing countries where a significant number of the poor rely on agriculture as a livelihood and where agriculture remains the largest share in the economy (Zeller, 2003:3). In such cases, public investment in pro-poor (and pro-rural) financial

---

<sup>4</sup> **Screening problem:** refers to the difficulties of deciding whether to lend to the poor given that there is high risk of default (Hulme and Mosley, 1996:1). This risk is associated with low income households that are considered to be: extremely poor and unable to save; unable to give the lender the information about their potential of paying back (there are no business plans, financial statements or any business records); unable to borrow significant and economic amounts of money from the lender (the poor usually borrow small and uneconomic sums of money). In addition, the risk of default becomes high because often the poor have no collateral and have no capability of insuring the occurrence of default caused by external factors such as drought, livestock disease, and breakdown of equipment (Hulme and Mosley, 1996:2).

<sup>5</sup> **Enforcement problem:** refers to difficulties of ensuring that the poor borrower pays back the money in order to minimize the rate of default (Hulme and Mosley, 1996:2). It is also connected to the imperfect information about the borrower, which results in a screening problem (Hulme and Mosley, 1996:2).

innovation can correct market (formal and informal financial institutions) and government failures to provide micro-credit for the poor (Zeller, 2003:2-6; Hulme and Mosley, 1996:1). Agricultural micro-credit has great potential for enhancing economic growth, poverty reduction and social productivity of agricultural labour (Zeller, 2003:2-6; Hulme and Mosley, 1996:1).

### **1.1. Problem statement**

The question of an effective strategy of delivering agricultural micro-credit to the poor small farmer remains a puzzle. Academic researchers, micro-credit providers, policymakers and governments have not yet found a consensual model to ensure financial sustainability and high rate of coverage of the poorest. In addition, the desirable result of reducing poverty through agricultural micro-credit has not yet been observed in most agricultural micro-credit projects implemented since 1950s (Zeller 2003:3; Padmanabhan, 1996:11). The failure of the old paradigm of directed agricultural credit with a subsidized interest rate had discouraged policymakers, international development organizations and governments from providing credit to the agro-rural sector (Zeller, 2003:2). However, in the late 1990s, new strategy papers on rural and agricultural finance were developed by international development organizations such as Food and Agriculture Organisation (FAO), International Fund for Agriculture and Development (IFAD), and the Inter-American Development Bank (Zeller, 2003:2; Wenner, 2001). The question is whether these new strategies have resulted, through provision of micro-credit, in sustainable growth in agricultural production and subsequent improvement in livelihoods.

### **1.2. Justification for research**

Micro-credit provision for agriculture is a relatively new phenomenon in Mozambique. Significantly, implementation of micro-credit programmes in rural areas and in agriculture has problems and research suggests both positive and negative impacts can result. Montgomery and Weiss (2005:26) and Copestake (2004:11) have called for more case study research of micro-credit projects to build on existing knowledge. Copestake (2004:11-12) and Meyer (2002:1) argue that there is little systematic data available on which to make global or regional generalisation due to the different contexts in which many micro-credit organisations operate.

### 1.3. Purpose statement

This study will address a gap in knowledge about the outcomes of in-kind agricultural micro-credit on the welfare of the poor and ultra-poor smallholder. The study will measure the material wellbeing (income and assets) of beneficiaries and development of social capital in order to assess whether their welfare has improved. This will be achieved using the case study strategy.

### 1.4. The case study

Mozambique is located on the east coast of southern Africa (Figure 1.1a). The country is divided into ten provinces; this research focuses on a project located in Gaza province (Figure 1.1b).

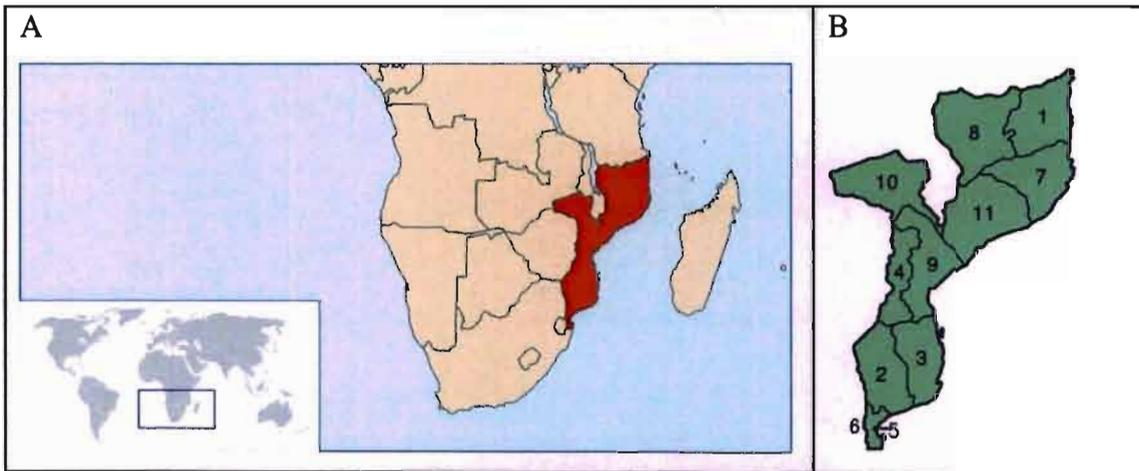


Figure 1.1. Maps showing (a) Mozambique on the African continent and (b) the ten provinces of Mozambique; Gaza is the province numbered 2 (Source: Wikipedia, 2007).

The micro-credit programme which forms the focus for this study was implemented in Marrambajane, a village located about 30km southeast of Chókwé in Gaza province (Figure 1.2).

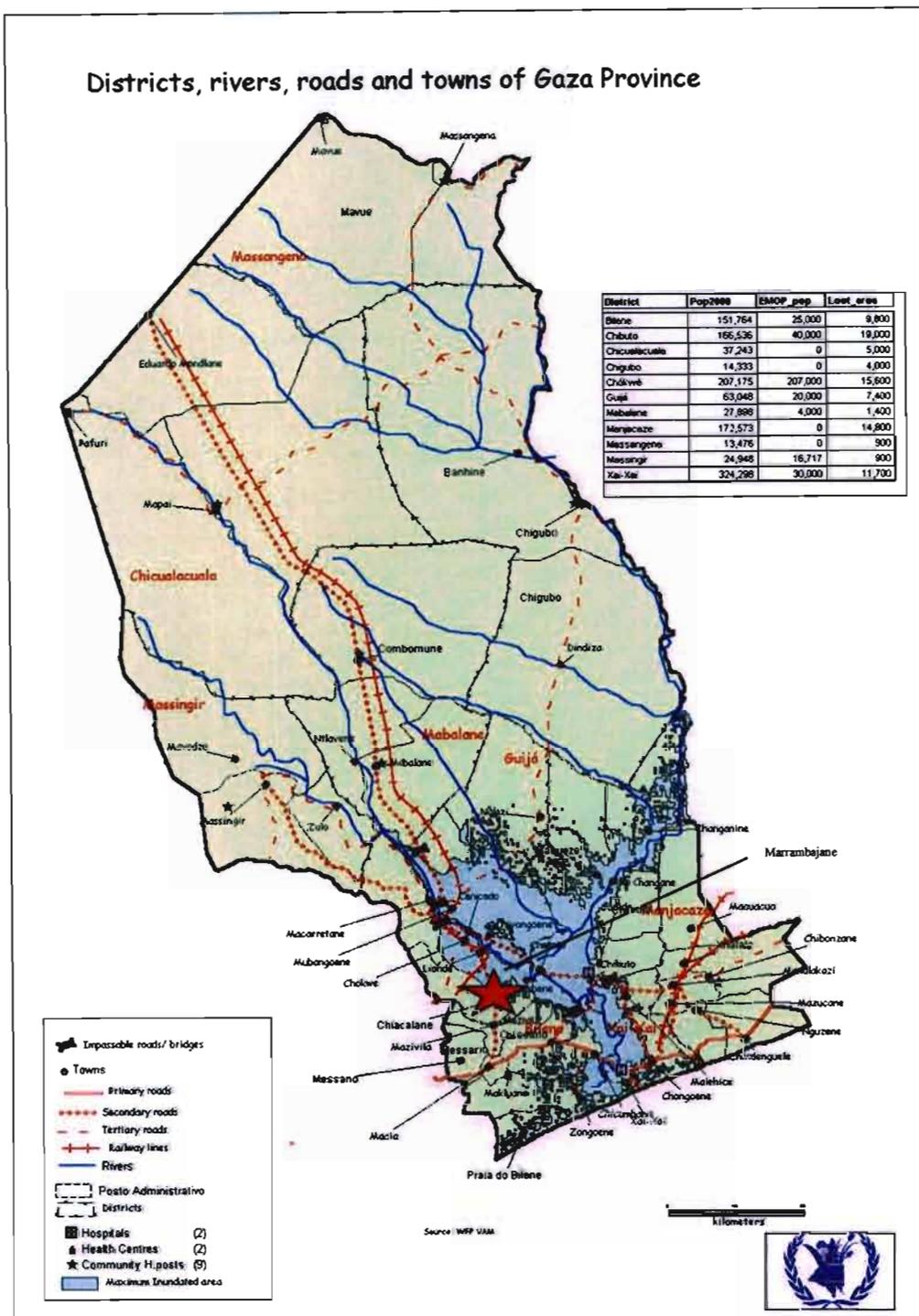


Figure 1.2. Detailed map of Gaza province showing approximate position of Marrambajane village (Source: World Food Programme, 2007).

The Marrambajane In-kind Agricultural Micro-credit Project was a component of a comprehensive agricultural project. The official name of the latter was the Project for Agricultural Rehabilitation of Chilembene (Marrambajane). The project was

sponsored by Fundacion Cear, a Spanish organization, in the context of Spanish cooperation. Implementation was carried out by Fundação para o Desenvolvimento da Comunidade (FDC). The project outcomes included: formation and legalisation of associations; mechanisation of agriculture; provision of in-kind agricultural micro-credit, extension services and a marketing component; installation of an irrigation scheme; and provision of water through the perforation of boreholes. This dissertation focuses on the in-kind agricultural micro-credit component. However, provision of micro-credit without successful implementation of the other components is likely to result in a failed project so other components are considered in this analysis.

The project was initiated in November 1999 but floods in early 2000 interrupted progress (see Figure 1.2 for areas in Gaza affected by flooding). The project was essentially active from 2001 (agricultural campaign 2001/2002), by which time the level of water from floods had diminished, through to 2004. The project provided in-kind credit to farmers to grow tomatoes, onions and cabbages. Participants became members of a Union through a smaller grouping termed an Association. The main resources allocated to the project included seeds and fertilizer, a tractor, a truck to facilitate sale of crops through markets, a vehicle for coordination of activities, cattle for ploughing, three engine pumps, and irrigation pipes. Participants had to pay a total of MZM 300.00<sup>6</sup> of which half went to the Association and half to the Union. Farmers were also charged transaction fees according to the amount of the produce sold. Loans for agricultural production were available for participants and the members could also apply for loans for non-farming purposes.

The main stakeholders involved in this project were Fundacion Cear (sponsor), FDC (implementer), District Directorate of Agriculture, Post Administrative of Chilembene and the Union of Farmers Associations Uamechinga (beneficiary). This Union comprises six farmer associations, namely: Associação Agro-Pecuária Josina Machel de Marrambajane; Associação Agro-pecuária Mbuzine de Marrambajane; Associação Agrop-Pecuária Kanimambo Graça Machel de Marrambajne; Associação Agro-pecuária Julius Nyerere de Marrambajne; Associação Agropecuária Eduardo

---

<sup>6</sup> In November 2006, 1 USD was equivalent to 25 MZM (Noticias Newspaper, 29 November 2006)

Mondlane de Marrambajne; and Associação Agro-Pecuária Samora Machel de Marrambajne. The relationships among the stakeholders is shown in Figure 1.3.

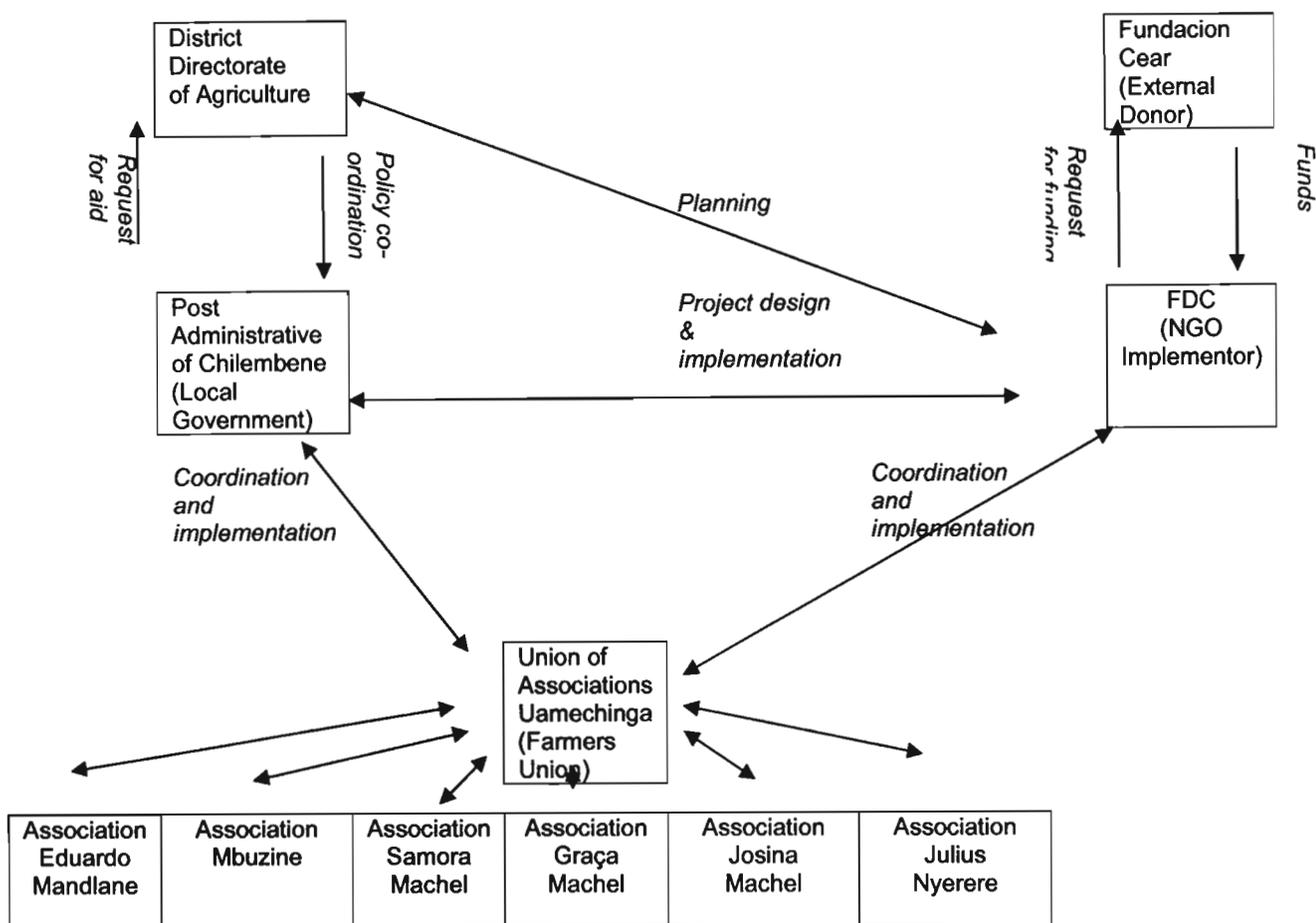


Figure 1.3. Project stakeholders

From 1999 to 2004 the management of the project was under responsibility of technicians contracted by the FDC. Technical assistance for farmers was provided by technicians and a project coordinator, contracted by the project. The contract staff were assigned the task of building capacity of the farmers Associations and the Union of Associations of Uamechinga toward self management. In 2005 the Union management committee took over the management of the project. The project had built management skills within the farmer-elected Union management team.

According to FDC monitoring reports the total money disbursed for this project was USD 300,000. It is not mentioned whether this figure includes the equipment described. More details of the project are provided in Chapter 3.

#### **1.4.1 Justification for using Marrambajane as the case study**

Marrambajane has been selected as the case study for this research project for a number of reasons. Firstly, it is a pioneer case where agricultural micro-credit is given 100 percent in-kind while the beneficiaries are first of all integrated within the associations. This project differs from other micro-credit projects in respect of form of credit, type of crops produced, population density, and transport facilities, infrastructure and roads. Secondly, the process of commercialisation is under control of a Union of Associations in Marrambajane. Thirdly, Marrambajane is a project in which the phase of disbursement of funds from the donor was completed. The disbursement of funds and allocation of material resources to the project started in 1999 and ended in 2004. Thus, it is possible to measure the impact of the project to beneficiaries. Similar projects implemented by the FDC in Gaza province are still ongoing; measuring impact would be difficult in such cases at this early stage. Lastly, Changana is spoken in the Marrambajane region and I can communicate in this language for data collection purposes.

#### **1.5 Research questions**

1.5.1. The first broad question relates to the research objective to assess the impact of the micro-credit project on the material well-being and social capacity measures of beneficiaries.

##### **1.5.1a Changes in material well-being<sup>7</sup>**

---

<sup>7</sup> Indicators to measure human capital were left out because it was understood that it takes a long time for significant changes in human capital assets to show. In addition, given that primary education and health are subsidised in rural areas of Mozambique, it would be difficult to identify specific impact from the project. Moreover, access to primary education in rural Mozambique is more constrained by lack of schools and high rate of adult illiteracy than low income within rural households (Handa,

Has participation in the project resulted in changes in material well-being? Material well-being will be measured through income, household assets (e.g. quality of shelter), access to productive resources (e.g. land, tractor, cattle, and transport facilities), and access to infrastructure (e.g. irrigation system and markets).

#### 1.5.1b Social capacity measures

Has participation in the project resulted in improved social capital? Social capital is measured through empowerment, membership in social networks, reduction of vulnerability and powerlessness of disadvantaged groups (women, the poor, the disabled, the old, the infirm), and social mobility.

1.5.2. The second broad question pertains to the objective of assessing the sustainability of the project. Is the project sustainable? What are the strengths and weaknesses of the project? This will take into consideration the level of repayment of the micro-credit and the level of reinvestment (in agriculture) of the income which the direct beneficiaries acquire from the agricultural micro-credit. Assuming it is found that farmers do not reinvest profit in agricultural activities, an important sub-question here is 'Why do farmers not reinvest in agricultural activities?'

### **1.6. Structure of dissertation**

This dissertation is presented in six chapters, namely an introduction (Chapter 1), literature review (Chapter 2), methodology and research methods (Chapter 3), findings (Chapter 4), discussion of findings (Chapter 5) and conclusions (Chapter 6). Chapter 1 highlights the importance of agriculture and micro-credit for the poor in Mozambique, and includes a problem statement, justification for research, brief introduction to the case study, and research questions. A review of the literature focusing on different economic paradigms under which micro-credit can be implemented, different processes to encourage credit repayment, and a model for evaluating micro-credit programmes is provided in Chapter 2. Chapter 3 describes the

---

2002:105). Within this context, it is expected that interventions which raise the household income may play a marginal role in increasing primary school enrolment rates compared with interventions which seek to build more schools, allocate more teachers and increase adult literacy. Nevertheless, interventions which raise the household income may play a significant role in enhancing the capabilities (Sen, 1999:87-110) of rural households to meet the costs of their childrens secondary, technical and higher education.

methodology and methods, including context and description of the case study and data collection methods. Findings for changes in wellbeing, income generation from participation, credit repayment, evidence of growing social capital, and sustainability of the project are presented in Chapter 4. Findings are discussed in Chapter 5 within the context of the microfinance triangle model. Conclusions, policy recommendations and directions for future research are presented in Chapter 6.

## **2. LITERATURE REVIEW AND THEORETICAL FRAMEWORK**

This chapter covers three broad themes: development and characteristics of rural micro-credit; two contexts for implementation of micro credit; and a framework to assess micro-credit programmes. .

### **2.1. Developments in micro-credit provision**

Rural credit provision has gone through many changes from the 1950s to the 2000s. Probably the most important change in the evolution of micro-credit provision is the shift from state provision (directed, agricultural credit with subsidized interest rates, also known as government-driven approach) to market provision (Zeller 2003:2-3; Wenner, 2001:1).

According to Padmanabhan (1996:10) since the emergence of independence of developing countries in the 1950s many rural credit programmes were implemented as a strategy to assist the poor to meet basic needs. Government and donor policies focused on rural credit as a means of increasing agricultural production of poor small farmers (Padmanabhan, 1996:10).

According to Hulme and Mosley (1996:7) innovative *micro-credit* organisations emerged in the early 1980s in developing countries in response to the screening and enforcement problems faced by financial institutions when lending money to the poor. Harper (1998:26) claims that the micro-credit organisations emerged in 1976, when the operations of the Grameen Bank started.

#### **2.1.1. State subsidized versus market driven models**

Evaluation carried out by the end of 1960s by the World Bank concluded, surprisingly, that a high percentage of the credit intended for the poor had been given to the non-poor (Padmanabhan, 1996:11). In addition, the evaluation found that rural credit programmes were not financially sustainable due to low interest rates and high administrative costs of a small loan size in conjunction with a high default rate (Padmanabhan, 1996:11).

In an attempt to identify solutions for the rural credit problem, the United States Agency for International Development (USAID) and a research consortium comprising the World Bank, Food and Agriculture Organisation (FAO) of the United Nations and the Rockefeller Foundation, undertook comprehensive reviews of the rural credit programmes in developing countries in 1972 and in 1974-1975 respectively (Padmanabhan, 1996:11).

The standout recommendation from these reviews was the idea that credit should be provided simultaneously with technology, infrastructure, inputs, rural extension and markets (Padmanabhan, 1996:12). The review recommendations were based on the belief that government, through its conventional mechanisms, could play a determinant role in the provision of credit to poor small producers (Padmanabhan, 1996:12). This approach was labelled Government Supported Institutional Credit (Padmanabhan, 1996:12). In addition, these reviews introduced new measures for financial sustainability of the credit programmes as well as methods of minimising risk of default, including supervision of disbursed and cooperative credit. With respect to cost effectiveness, the reviews recommended: decentralisation of credit delivery in order to reach more clients; allocation of farmers into groups; use of intermediaries with rural networks; and fostering local savings (Padmanabhan, 1996:14). The need for self-evaluation, currently advocated by development agencies (Copestake, 2004:11-12), was one of the recommendations of the review (Padmanabhan, 1996:15).

Macroeconomic policies which underpin implementation of credit policies are important. The credit strategy of USAID & the World Bank was centred on creation of an enabling development environment through adjustment of market prices, economic incentives and viability of institutions (Padmanabhan, 1996:11). The USAID and World Bank credit strategy was heavily influenced by the neoliberal discourse of the Washington Consensus. This required change of macroeconomic policies towards market orientation. The protagonists of this strategy believed this shift to be the solution of the problems hampering the effectiveness of credit, namely lack of access by the small producer to improved technology, research, extension and other supporting services (Padmanabhan, 1996:118). Although this adjustment of market prices and economic incentives stimulates the supply side to produce an output

to maximize the utility of the demand side (Muradzikwa et al. 2004:53) it has some disadvantages. The weakness of this approach is to rely only on efficient functioning of markets and redistribution of gross domestic product (GDP) (trickle down approach) as an effective way of addressing all problems hampering micro-credit. It is more likely the case that an effective redistribution of the gains from GDP depends on the development policies which governments adopt. Similarly, support services to complement micro-credit delivery will depend on adoption of multisectoral policies which complement each other.

The International Fund for Agriculture and Development (IFAD) credit strategy focuses on organisation of the poor, through field animators, and gives them capital, technology and other supporting services (Padmanabhan, 1996:118). Like the United Nation Development Programme (UNDP) approach, this approach is centred on people. However, it relies on the catalyst development approach where an outsider or foreign Non-Government Organisation (NGO), rather than local organisations within the community, may promote self-organisation of the poor. The effectiveness of this approach is questioned by authors such as Chambers (1983) and Korten (1990) (cited in Martinussen, 1997: 338-339) who would prefer to see local organisations working with the poor. The IFAD credit strategy also has the shortcomings of relying on external financial resources and the dubious practise of using a blueprint of grassroots organisations imported from other countries for its implementation (Padmanabhan, 1996:119).

Directed agricultural credit with subsidy provided by government was based on false assumptions that the poor are neither creditworthy nor able to save, and cannot pay for insurance against any of the risks they face (Zeller, 2003:2-6). As a result of this misconception it was assumed that there was no demand for financial services by poor households and smallholder farmers (Zeller, 2003:2-6), leading to a market based paradigm:

“The new paradigm departs not from the need, but from the demand (i.e. willingness and ability to pay market prices) for savings, credit and insurance services by farmers and other entrepreneurs. Instead it focuses on building sustainable financial institutions and systems, and introduced the operational policy objective of financial sustainability of MFIs...The new paradigm recognizes the possibility of market as well as government failure (i.e.

institutional failure in general)...[therefore,] public investment in pro-poor (and pro-rural) financial innovation is required". [However,] The required public investment in rural finance is more labor and knowledge-intensive, and far less capital-intensive than past investments following the old paradigm" (Zeller, 2003:5-6).

Within the perspective of market provision, a shift from product led demand to client driven demand for micro-credit was noted in the late 1990s (Cohen, 2002:335; Walsby, 2004:5). For the supply or product led approaches, it was believed that poor households have no access to finances through the formal commercial banks, despite their ability to carry out certain livelihoods. Therefore, demand for micro-credit by the poor was seen as unlimited (Cohen, 2002:335). In this context, poor households (particularly households headed by women) have been targeted as the direct beneficiaries of credit in order to enhance their economic and social status within the community (Walsby, 2004:5; Harper, 1998:100). However, this was done without much attention to screening out bad borrowers, and competition among micro-credit organisations was weak (Cohen, 2002:335). The client driven approach was inspired by competition and dropouts among established micro-credit organizations. It sees the pool of reliable clients as being limited and thus, to ensure long-term institutional sustainability, seeks on one hand to screen out bad borrowers and on the other to attract and keep good borrowers (Cohen, 2002:335).

### ***The role of state and other key micro-credit stakeholders***

Some factors are viewed to be crucial for the success of micro-credit provision. Padmanabhan (1996:119) argues that success of the rural credit programme depends on a partnership and effective coordination between key actors - small farmers, lending micro-credit organisation and government – who share similar goals. The World Bank (1997:18) also states that economic, social and sustainable development is impossible without an effective state acting as a partner, facilitator and coordinator; rather than director of development process.

The lessons drawn from the old paradigm and the solution presented by the new paradigm, if put into practice, can make a significant contribution for effective delivery of agricultural micro-credit project in Marrambajane. However, government

intervention to correct market and institutional failures is likely to be a determining factor for the success of agricultural micro-credit projects in Marrambajne.

### **2.1.2 The rise of microfinance organisations in Mozambique**

Microfinance is a broad range of financial services for the poor which include micro-credit (Wikipedia, 2007). Despite the fact that this research focuses on micro-credit, microfinance literature is reviewed and is used to develop the conceptual framework in this chapter.

#### ***Agricultural policy in Mozambique***

Before focusing on micro-credit programmes in Mozambique it is necessary to provide some context on agricultural policy before and after independence. The aim is to highlight the alienation of smallholder sector in favour of commercial farmers before and immediately after independence and the change of policy in the late 1990s.

Mozambique inherited a dualistic agricultural system from Portuguese colonialism consisting of entrepreneurial (commercial or private sector) agriculture and subsistence agriculture (commonly referred to as small-scale, smallholding or family sector farming). Before and immediately after independence (roughly 1975-1984) agricultural policy had focused on entrepreneurial agriculture as the cornerstone of economic development. After independence, private plantations and settler farms set up by the Portuguese were transformed into state-owned and cooperative commercial sectors (MADER, 2004:30; O'Meara, 1991:90-93). In addition, more financial resources were allocated to foster entrepreneurial agriculture and very little investment was made to support subsistence farming (O'Meara, 1991:90-93). This strategy led to shrinking of the share of subsistence farming in agricultural trade and alienation of the subsistence farmers (O'Meara, 1991:90-93).

#### ***Sources of credit for the small scale farmer***

The poor segment of the subsistence sector is characterised by non-use of improved technology (improved seed varieties, fertilisers and pesticides) and no access to commercial bank credit. Formal banks do not lend to poor small-scale farmers due to high cost of transactions and the risk of default associated with provision of loans for smallholder producers. Since the colonial era, poor small-scale farmers growing food

crops have generally accessed any available credit through informal channels such as rural commercial traders (moneylenders), friends, and family.

### ***The emergence of microfinance organisations***

Microfinance organisations became prevalent in Mozambique in the late 1990s. In 1998 the state approved Banking Decree 47/1998 which was intended as a policy incentive to promote the establishment of financial services in rural areas (African Development Bank, 2003:22; HSRC, 2002:87,151). The decree encouraged investment by reducing the investment requirement of Mozambique credit institutions in rural areas from USD 3 million to MZM (Mozambique currency) 25 billion (approximately USD 1 million). In addition, in early 2000, the government became committed to designing and implementing a comprehensive rural finance policy in order to promote economic growth and poverty reduction (African Development Bank, 2003:22). Thus, the country has begun to implement a policy of credit targeting smallholder producers below the poverty line.

These microfinance organisations are gradually entering rural areas. NGOs such as Clusa FDC have taken responsibility for organising poor small farmers into associations and connecting them to markets, a role previously managed by state market boards. Some NGOs, such as FDC, have moved beyond simply connecting smallholders to markets, and provide credit in cash or in kind. However, the definition of microfinance institutions adopted in Mozambique does not include organisations that provide in-kind micro-credit. *In Mozambique, microfinance institutions are defined as NGOs, associations, co-operatives, individuals or other institutions that provide financial services of credit and/or savings in monetary form and of values less than US\$1000* (HSRC, 2002:87). Despite the fact that there are many different definitions of microfinance most refer to loans awarded to clients who have no access to loans from conventional commercial Banks (HSRC, 2002:87).

### ***The nature of microfinance organisations***

While most micro-credit programmes offer cash or a combination of cash and in-kind credit, the FDC in Mozambique has adopted credit in-kind (e.g. agricultural inputs such as seeds or fertilizer) in order to increase the level of credit return (exploratory

meeting with FDC, 2006). This strategy has been adopted because the beneficiaries of agricultural micro-credit rarely reinvest the income generated from the credit. Instead they tend to invest this income in other areas to the detriment of sustainable agricultural production. This behaviour seems to be a threat to sustainability of revolving micro-credit in agricultural inputs (exploratory meeting with FDC, 2006). The FDC has also undertaken initiatives of organising poor small-scale farmers, targeted as the beneficiaries of micro-credit, into associations and a union of associations. All these efforts are based on the belief that improving the organisation of the poor small-scale farmers will facilitate more efficient access credit while reducing the non repayment of credit owed.

A definition for the innovative micro-credit organisation is that it ensures access to credit by the poor and seeks to avoid leakage to the rich, it offers alternatives of screening out bad borrowers, and it gives to the poor without a collateral incentive of repaying the loan (Hulme and Mosley, 1996:7).

### ***Implementing micro-credit projects***

The introduction of micro-finance in *rural* areas of Mozambique has been slow. The micro-finance industry has been cautious in engaging in agro-rural areas due to high operational costs associated with long distances, poor infrastructure, low population densities, lack of skilled personnel, limited level of monetization in rural areas, and lack of experience in provision of micro-credit in agro-rural areas (African Development Bank, 2003:8). As a result of these problems, many micro-credit organizations are investing in off farm enterprises and usually in urban or peri-urban areas.

### ***Shift from centralized to free market policy in Mozambique***

Economic policy has changed in Mozambique from a centrally planned economy to a free market model. According to O'Meara (1991:82-103) and Saul (1991:104-110) the key factors for this shift were development challenges and constraints brought by the Cold and Destabilisation Wars, as well as pressure to follow policies of organisations such as the International Monetary Fund (IMF) and the World Bank (WB). This change in economic policy has had an impact on the agricultural sector.

Firstly, the state grain marketing board, the Mozambique Cereal Institute (ICM),<sup>8</sup> which played the role of buyer as last market resort was considered inefficient and the state could not continue playing that role within the context of market system. The problems experienced by the board were a result of state intervention in marketing, a typical feature of centralised economies. The distortion of prices led the ICM to bankruptcy and its closure. As a result, poor smallholders had no market for commercialisation of their surplus. The effects of collapse of the ICM were aggravated by absence of the rural commercial traders who had disappeared as a result of the civil war. Further, state-driven initiatives, such as the State Agrarian Fund (FFA), were perceived to be of benefit for better off smallholders only.

Secondly, agricultural policy in Mozambique was redesigned to foster greater integration of small scale farmers in agricultural trade. Two important national agriculture programmes were implemented after the peace agreement was signed in 1992. The first was labelled PROAGRI 1 and was a capacity building programme implemented between 1998 and 2002 to allow the Ministry of Agriculture to respond effectively to its new mission. This programme was severely criticised as it had not undertaken many direct interventions to farmers themselves other than institutional capacity building. The second national programme PROAGRI 2 departed from institutional capacity building to promote direct interventions that foster production of both smallholders and commercial farmers. The PROAGRI 2 strategy document states that *[The programme] should aim at supporting the whole rural transformation by moving progressively the subsistence nature of the smallholder agriculture into a market oriented setting* (MADER, 2004:33). This is in line with Agricultural Policy and Strategy and its implementation (PAEI) approved in 1997. However, in a market economic system, the state acts as facilitator not implementer. Therefore, PROAGRI 2, cannot allocate credit for farmers, unless to develop policies and plans that stimulate emergence of financial institutions (or microfinance organisations) and provision of credit to poor small farmers. This is one of the strategic priorities for small and commercial agriculture development within the PROAGRI 2 (MADER, 2004:66-67). This plan seeks solutions to the high rate of interest and lack of collateral through negotiations of a rural finance policy that suit the needs of the poor

---

<sup>8</sup> The first market board institutionalised by the state after independence was Agricom which later was replaced by the ICM.

in rural areas with relevant stakeholders, most importantly the Central Bank (MADER, 2004:66-67).

Thirdly, the change of economic system associated with a geopolitical shift in paradigms of credit provision (from government provision and supported agricultural credit to a free market paradigm) opened a window for agricultural micro-credit organisations and the microfinance industry in general (African Development Bank, 2003:5).

The outcomes of the market economic system for the poorest of the poor within the subsistence farming segment may be harmful. As the former Minister of Transport, President Guebuza, stated: “The market solution does in fact make the rich richer and the poor poorer, bringing with it more social injustices as the price of progress” (Saul, 1991:105). This outcome clashes with the initial development project of Mozambique for which the “...Development Strategy should benefit first the poorest of the poor” (Saul, 1991:110).

## **2.2 Two forms of micro-credit programme**

Due to patchy outcomes from micro-credit projects, provision of micro-credit to rural farmers is labelled as being high risk by providers and a key goal during implementation is to reduce this risk. There are two broad models for implementation of micro-credit programmes which adopt different processes to reduce the risk of financial returns to the micro-credit organisation, i.e. direct and indirect methods (Hulme and Mosley, 1996:23).

### **2.2.1 Direct and indirect models of provision**

#### ***Direct methods***

Direct methods are those which reduce the risk based on adequate measures of screening, enforcement of repayments, and insurance against non-repayment due to external factors (Hulme and Mosley, 1996:23). Direct methods include: intensive scheduled loan collection/supervision for a certain period of time which puts the borrower under pressure to repay; creation of incentives to repay; and conception of saving schemes and loan insurance (Hulme and Mosley, 1996:23). The incentive to

repay takes the form of a reduction of interest for the borrower who pays back on time (Hulme and Mosley, 1996:23). While the intensive collection and repayment incentives increase the administrative costs of the lending institution, cash flow on the side of the lender is increased because of the decrease in default rate (Hulme and Mosley, 1996:23). The saving schemes take the form of a savings account to be used as insurance against external factors which can lead the borrower to default (Hulme and Mosley, 1996:23). Compulsory saving is a good policy since it reduces administrative costs needed to encourage the borrower to make repayments. However, this policy may discourage some poor individuals to apply for the credit given that the poor are often risk averse. Authors such as Pischke (1991) and Yaron (1991) suggest institutionalisation of voluntary savings, as well as compulsory savings, in order to increase the insurance of the saver against insolvency and the resulting default; voluntary savings also increase the pool of borrowers with a potential of repaying the loans (cited in Hulme and Mosley, 1996:26-27).

### ***Indirect methods***

Indirect methods seek to prevent the risk of default by promoting the participation of the borrowers (Hulme and Mosley, 1996:23). Indirect methods include techniques of group lending, participation of a member of local administration in the screening process, and public exposure of defaulters (Hulme and Mosley, 1996:26-27). Group lending is considered to be more effective in repayment than individual loans because group members help the lender apply pressure on the borrowers to repay. It also helps reduce administrative costs on the side of the lender (Hulme and Mosley, 1996:26-27). Theoretically, additional loans to each group member may be issued under the condition of paying the previous loans owed by each member within the group (Hulme and Mosley, 1996:26-27). However, cases of group members refusing to repay shortfalls of other members have been reported, for example as reported by the Small Enterprise Foundation in South Africa (Baumann, 2004:32).

The effectiveness of group lending depends on the size of the group, homogeneity of income within the group, and the willingness of group members to pay on behalf of somebody who has defaulted within the group (Hulme and Mosley, 1996:27-30). Although, small groups are more expensive to administer than large groups monitoring pressure on each member of the group may be more effective.

Homogeneity of income and wealth within a group tends to reduce exploitation behaviour (free rider behaviour) within the group (Hulme and Mosley, 1996:27-30).

Findings from a poverty assessment of Small Enterprise Foundations undertaken in Limpopo province, South Africa between 1997 and 2002 suggest small loan size and high transaction costs of group lending undermine the effectiveness of programmes that target the poor (Baumann, 2004:28-29; Van de Ruit et al. 2001:28). These researchers found that the non-poor prefer to endure the costs of the credit with expectation that they will later access big loans (Baumann, 2004:28-29; Van de Ruit et al. 2001:28). Thus, Van de Ruit et al. (2001:39) recommend that poverty alleviation programmes must have a target strategy as well as a programme structure which suit the needs of the poorest. The same study highlighted that poor clients, after they had completed successful repayment of the first cycle loan, tended to reject the offer of an additional loan, leaving them better off. This behaviour is associated with the risk averseness behaviour of the poor. According to Van de Ruit et al.(2001:1) this reluctance by the poor to participate in micro-credit provision is being addressed within the agenda of multilateral donors such as Consultative Group to Assist the Poorest (CGAP). Harper (1998:16-17) asserts that some micro-credit organisations use high interest rates to discourage participation of the better off, while the poor are attracted by the facilities of credit access given to them in micro-credit organisations but which are not offered by formal banks.

Participation of local administration members in screening may result in political interference in the operation of micro-credit organisations, as well as encouragement of bribes and corruption on the side of the local administration.

A further problem with indirect methods is that the poor are not always willing to give information on the risks they might face in repaying the loan. In cases where they are in extreme need they would prefer to hide the information which may put them in risk of failing to get the loan. This is not to say that all poor people are dishonest. Some might reveal all the risks which may contribute to their default. The outcome will also depend on the expertise of the lender in establishing potential risks.

### **2.2.2 Examples of agricultural micro-credit programmes**

Some best-practice experiences of micro-credit organizations may apply to the agricultural field (Klein et al., 1999 cited in Zeller, 2003:26). However, the nature of agricultural activities is such that blueprints cannot simply be transferred from other sectors. For example, rigid repayment schedules, short-term structures (short loans to be paid weekly or monthly), and joint liability are not compatible with the annual and unpredictable cycles in agricultural practice (Winter-Nelson and Temu, 2005: 867-868; Zeller, 2003:26). Furthermore, agricultural micro-credit projects are undermined by exogenous shocks – such as droughts, floods and market crisis – as well as by poor rural infrastructure to access improved agricultural technology and markets at reasonable transaction costs (Zeller, 2003:18). These factors, associated with lack of insurance for shocks, weaken the potential of agricultural micro-credit to reduce poverty. Despite the fact that micro-credit organizations have been trying to adapt the Grameen Bank model to agricultural micro-credit world wide (Zeller, 2003:26), there is scarcity of projects, and academic studies on such projects, to establish how these adaptations work to reduce poverty in different contexts.

Nevertheless, some successful cases of micro-credit programmes have been observed, for example in Bangladesh and Pakistan. Harper (1998:34-35) describes the successful impact on income of participation in the Bhawal Rajbari branch of Grameen Bank in Bangladesh. Participants produce rice and bananas. Montgomery (2005:13) found strong positive impacts for sales of agricultural products, especially for the poorest clients, for the Khushhali Bank's micro-credit programme in Pakistan.

Other examples have shown mixed results. Kaboski & Townsend (2005: Abstract) concluded that rice banks and buffalo banks in Thailand failed to promote asset growth, consumption smoothing and occupational mobility and reduce moneylender reliance, in spite of rice banks being successful in providing cash lending and in kind micro-credit to members.

An African example is the Smallholder Agricultural Credit Administration (SACA) project in Malawi (Buckley, 1996:333-407). It is important to note that this project is a mixed form of in-kind (fertilizer) and cash credit and that SACA is a department within the Agriculture Ministry in Malawi (Buckley, 1996: 352-353). The operation is

regarded as inefficient due to excessive bureaucracy, distortions of market repayment rates, low level of repayments, high administrative costs, non-sustainable subsidization, and political interference (Buckley, 1996: 397). Furthermore, the large majority of the target group is made up of non-poor smallholders (Buckley, 1996: 362). Only seven percent of the SACA smallholders were poor (Buckley, 1996: 362). This group is not representative of the rural poor or the core poor (Buckley, 1996: 401). Nevertheless, analysis of the project revealed that the credit-receiving farmers had larger yields and incomes – up to three times higher – than those not receiving credit; this is attributed to ownership of a larger quantity of land and the type of crop, in this case hybrid maize and tobacco (Buckley, 1996: 368).

### **2.3. Assessment of micro-credit programmes**

The research questions presented in Chapter 1 seek to assess the impact of the project on material wellbeing, social capital and sustainability of the project. The triangle of microfinance model provides an appropriate conceptual framework for measurement of poverty impact and financial sustainability of the project.

#### **2.3.1. The microfinance triangle**

Inspired by the millennium development goals, Zeller and Meyer (2002) cited in Zeller (2003:9-13) and Meyer (2002:2-30) developed a triangle of microfinance (Figure 2.1) as an approach for performance assessment of a microfinance organisation. According to these authors the performance of a microfinance organisation should be assessed based on three main objectives, namely breadth and depth of outreach, financial sustainability, and poverty impact (welfare impact).

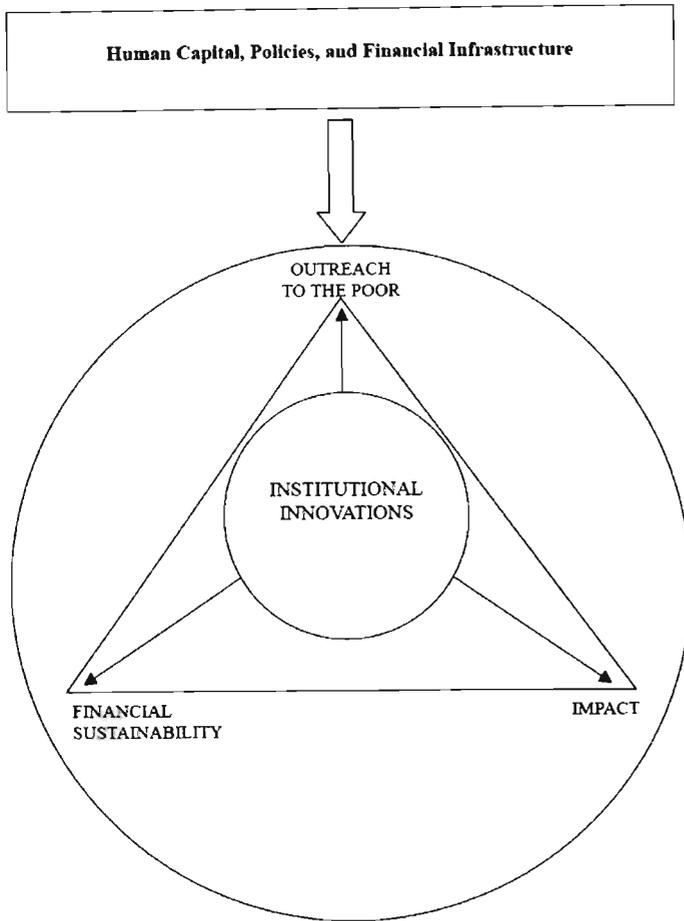


Figure 2.1. The Critical Microfinance Triangle (Source: Zeller & Meyer, 2002)

***Poverty outreach***

Poverty outreach (breadth of outreach) is defined as the total number of poor beneficiaries (clients), measured in two main categories, number of beneficiaries who had no access to micro-credit from formal financial services and number of women beneficiaries (Zeller 2003: 10; Meyer, 2002:4). Depth of outreach is measured by depth of poverty which tells us how far a poor person is from a poverty line. In other words, how poor is an individual who has been allocated micro-credit? In terms of the depth of outreach, an effective micro-credit organization must target many people within the category of the poorest of the poor (Zeller 2003: 10; Meyer, 2002:4). A shortcoming of ‘depth of poverty’ is the difficulty associated with its measurement

(Meyer, 2002:4), while proxy indicators of breadth outreach may lead to an overestimation of the actual number of people below the targeted poverty line.

### ***Financial sustainability***

Harper (1998:28-29) states that a micro-credit organisation is financially sustainable if it is able to meet its administrative costs and generate profit, which will allow the organisation to pay its debts, to invest in its own growth, and compensate for inflation. Within this perspective, Meyer (2002:4) distinguishes between three levels of financial sustainability: operational self-sustainability, in which low level of financial sustainability is achieved; financial self-sustainability, in which achievement of break even point is attained (microfinance organisation is able to cover the costs of funds and other forms of subsidies received); and long-term institutional sustainability, where a micro-credit organization has exceeded a break even point and has built capital reserves required for growth as protection against future shocks.

According to the Ohio School, financial sustainability is achieved by setting up lending micro-credit organisations which are profitable and not subsidized and have achieved savings mobilisation, which provides more information for screening in good borrowers and screening out the bad ones (Hulme and Mosley, 1996:3). Additionally, government interference must not be allowed either within the operation of lending micro-credit organisations set up by government, or through targeting loans for specific groups (Harper 1998:24; Hulme and Mosley, 1996:3).

The key factor for the sustainability of a micro-credit programme is sustainable management of the micro-credit organisation, which leads to the sustainability of the organisation (Harper, 1998:23). The ability to recover costs of the programme and generate profit is an outcome of sustainable management of micro-credit organisations (Harper, 1998:23). Harper (1998:18-19) and Padmanabhan (1996:119) also make reference for the need of saving mobilisation, reduction of transaction costs, revision of interest rates, and containment of loan defaults as critical factors for financial sustainability of micro-credit.

Although the Ohio School approach includes some crucial elements for the sustainability of micro-credit organisations, such as mobilisation of savings and the

need to keep micro-credit organisations free of government interference, it has some weaknesses (Hulme and Mosley, 1996:3). The Ohio School approach has been criticised for its ambivalence regarding the role of the state in rural financial markets and for its assumption that informal financial markets exist and compete on an even level with other markets giving producers an advantage (Hulme and Mosley, 1996:3). According to Hulme and Mosley such financial markets are unrealistic. For example, screening and enforcement processes result in biased and uneven participation; a market of sorts but not all can access it. Then, assuming the market is available, it is questionable as to whether it can be described as providing perfect competition given that each participant is reliant on a set loan. The cost of the loan could be either higher or lower than the costs of loans from commercial banks (Harper, 1998:37). Government intervention to correct market failure is unavoidable (Hulme and Mosley, 1996:3). For example, the government must subsidise infant micro-credit organisations to allow them to implement a low interest rate, while they build information necessary for screening out bad borrowers and grow the market (Hulme and Mosley, 1996:3). As Stiglitz and Weiss (1981) noted, a high interest rate results in difficulties of paying back and increases the rate of default (cited in Hulme and Mosley, 1996:3). Nevertheless, Harper (1998:13-17) claims that the poor can afford to pay high interest rates because if they could not afford to then moneylender business could have collapsed, but it persists.

From the 1970s there was significant opposition against the closure of micro-credit organisations advocated by the Ohio school to be unsustainable (Hulme and Mosley, 1996:2-4). Currently many micro-credit organisations and donors, such as the CGAP, seek to achieve both provision of credit to the poor and financial profitability in order to ensure the sustainability of micro-credit (Copestake, 2004:11-12; Marconi and Mosley, 2004:19; Van de Ruit et al. 2001:1). This is not to say that the pro subsidisation view has been abandoned. It is still argued that if the social rates of returns of the credit are high, as in other public investment, it is acceptable to finance micro-credit organisations that may not be sustainable (Copestake, 2004:11). Harper (1998:21) recognises that subsidisation is vital for a micro-credit organisation which has a social mission, but he also argues that subsidies may give an incentive of neglecting measures that will foster sustainability of the micro-credit organisation.

Concerning the social productivity<sup>9</sup> of credit programmes, data from the World Bank annual *Reviews of Project Performance Audit Results* shows that the social rates of return of the micro-credit projects evaluated from 1960 to 1980 is 28 percent. This is higher than the social rate of returns of private commercial banks. The social return of credit is ignored in the Ohio School approach (Hulme and Mosley, 1996:3).

If one takes into consideration that some micro-credit organisations also offer micro-credit to finance basic needs of the borrower, such as acquisition of food, health care and education of children (fees, uniform and books), the social productivity of the credit becomes much higher (Harper, 1998:13). Although the Mozambican government adopted a policy of free primary education in the early 2000s, parents are responsible for costs of uniforms and stationery and for fees for secondary and technical education. Thus, the agricultural micro-credit project can contribute to social benefit.

With respect to the sustainability of micro-credit project implemented by NGOs (such as in the case of Marrambajane) and state development agencies, Zeller (2003:20) argues that these micro-credit projects lack vision for sustainability, given that they have short time frames for implementation, interest rates are often subsidized, repayment is low, and overheads are high.

### ***Poverty impact (welfare impact).***

There are many different approaches in the definition of poverty due to its multidimensional nature. As Lok-Dessalien (2001:14-15) states:

“Poverty can be conceived as absolute or relative, as lack of income or failure to attain capabilities. It can be chronic or temporary, is sometimes closely associated with inequity, and is often associated with vulnerability and social exclusion”.

Given that poverty is multidimensional, poverty impact is measured according to the definition of poverty adopted and the benefits of microfinance offered in particular situations (Meyer, 2002:6). This study is more concerned about changes in material

---

<sup>9</sup> Social productivity refers to the social benefits expected from credit. For example, credit (or gains from access to credit) could be used to improve health and education of beneficiaries and their families.

well-being which pertain to income, household assets, access to productive resources (land, tractor, cattle and transport facilities to connect markets), and access to infrastructure (irrigation schemes). Thus, poverty here is defined as lack of income, assets and access to productive assets to attain a socially acceptable standard of living (Meyer, 2002:6). This choice is based on the fact that changes can occur in the short term as opposed to human development indicators which take longer to show change.

Montgomery and Weiss (2005:6-10) and Meyer (2002:7-11) call attention to different constraints usually faced in quantitative methods to assess poverty impact. Among others, these include: high costs to insure that the sample is representative of a large population size; difficulty in estimating the counterfactual, because it is not always easy to find a control group which has similar futures as the treatment group; attrition when persons or households disappear through migration and death; the fungibility of money, making it difficult to track usage; and selection bias. These constraints will be considered in the design and analysis of this study.

### ***Relevance of the model for Mozambique***

Mozambique is one of the poorest and most aid dependent countries in the world (Kulipossa, 2006:40). In the late 1990s the government of Mozambique approved a poverty reduction strategy, the Action Plan to Reduce Poverty (PARPA1). This plan was implemented from (1997-2004) and was effective in reducing absolute poverty; according to national statistics poverty dropped from 69 percent in 1996-97 to 54 percent in 2002-03 (Simler et al. 2004a:iv). It is projected that the Second National Plan for Poverty Reduction (PARPA2) will result in further reduction of absolute poverty (Social Economic Plan (PES), 2005:5). Nevertheless, a significant proportion of the population remains poor in Mozambique<sup>10</sup>. Many of these poor live in rural areas and rely on agriculture as a livelihood for their survival.

## **2.4. Social capital theory**

What is social capital and how can it be used in assessment of well-being changes in a microfinance project? There are many ways of defining social capital. However,

---

<sup>10</sup> According to the Mozambique Country Profile provided by the BBC (2007), a large amount of investment is channelled to Mega Projects (intensive capital investment). However, observers fear that significant social benefits for the poor will not be generated from these Mega Projects.

many theorists hold in common that social capital is related to membership in social organisations/networks, governed by norms, values, attitudes, beliefs, and social trust, which are believed to facilitate coordination and cooperation for desirable positive goals (cf Narayan, 1999:1,6; The World Bank, 1997:2; Portes and Landolt, 1996:18; Putnam, 1995: 35-36; Putnam, 1993:67). This definition is adopted for measurement of social capital in this research. Contemporary literature argues that social capital is common property related to resources (for instance information, ideas, support) accessed through relationships, and is not individual property like financial, physical and human capital (Grootaert et al., 2004:3).

Theorists agree that social capital does not always have positive attributes. Social capital may be harmful when it is built from dishonourable intentions (for instance, crime and corruption) or any conflicting outcome and when it fosters emergence or perpetuation of social inequalities or social exclusion due to discriminatory norms and social segregation (Narayana, 1999:3-5,8; Portes and Landolt, 1996:19-20 and Putnam, 1993:42). Norms governing social networks may restrict individual freedom and business initiative due to a demand of compliance with the norms (Portes and Landolt, 1996:21). Additionally, social networks may promote unfair competition where social capital is the criteria of accessing the market rather than the quality of product and services supplied (Portes and Landolt, 1996:21).

Critics of social capital theory, such as Fine (2003:586-603), noted that the meaning and application of the theory have been extended beyond its boundaries to serve the agenda of development agencies and governments. For example, within the context of privatisation of water supply (community based water projects), advocates of these projects expect to take advantage of pre-established community associations in design and monitoring of community based water. However, they neglect that pre-established community associations have their own objectives and were created within a particular context which may not always match with their agenda (Fine, 2003:592).

### ***Types of social networks***

Putnam (1995:77) classifies social networks in horizontal and vertical ties, while Development Research (2000) considers both these and linking social capital.

*Horizontal ties or bonding social capital* refers to “strong ties between immediate family members, neighbours, close friends and business associates sharing similar demographic characteristics” (Development Research, 2000). Streeten (2002:7) and Putnam (1995:66) give more examples of associations in the category of horizontal ties namely: commercial, industrial, religious, moral, intellectual associations, sport groups such as football clubs, choral societies, parent-teacher associations, professional associations, literary associations and labour unions.

*Vertical ties or bridging social capital* refers to cross-cutting relations among different social networks which enable people to access resources, information and opportunity; therefore economical, social and political power out of their previous social network (Narayana, 1999:3-5,8). Vertical ties contribute to societal well-being (the collective good), while horizontal ties benefit mainly specific social groups involved, and are more likely to have conflicting outcomes compared to vertical ties (Narayana, 1999:12-13).

*Linking social capital* refers to ties between poor people and executives from formal organisations (for example banks, agricultural extension offices, schools and the police) who may assist them in accessing resources necessary to address production and commercial constraints (Development Research, 2000).

### ***Social networks and well-being and economic development***

Putnam (1995:66,71) noted that norms and social networks influence peoples' well-being, personal economic achievements such as, job position as well as economic development in remote districts. Similarly (Streeten, 2002:7) asserts that growth and productivity is positively correlated to the presence of strong social relations from social organisations. This is the case for East Asia, China and Western economies, where research suggests that social networks within the extended family, close-knit ethnic communities and small entrepreneurs played a significant role in extraordinary economic growth (Portes and Landolt, 1996:18; Putnam, 1993:38). A study on the effects of personal relationship in economic exchange involving agricultural traders, undertaken in Madagascar in 1997, concluded that businesses prosperity is correlated to the quantity and quality of personal relations the trader has (Fafchamps and Minten, 1998:Abstract). Personal relationships are important in business training and start up

support, information sharing, accessing credit, prevention of contractual breaches, and risk sharing (Fafchamps and Minten, 1998:24).

Social networks generate powerful norms mutually accepted and exercised by the people involved in such associations, therefore resulting in mutual trust among them (Narayan 1999:8; Putnam, 1995: 66, 73; Putnam, 1993:37). This trust enables them to undertake joint activities and transactions of mutual interest at low costs and over a short time (Streeten, 2002:7). Trust saves time and money because transactions may be made informally without observing bureaucratic procedures, like contractual procedures which also involves costs of consultancies (Portes and Landolt, 1996:18). In addition, trust facilitates coordination and communication, reduces opportunist behaviour, and improves reputation; this consequently allows for common problems to be resolved collectively (Putnam, 1995:67; Putnam, 1993:37). In Madagascar, Fafchamps and Minten (1998:24) found that trust among supplier and buyer of grain lead to simplification of quality inspection as well as supply of the product on credit, therefore bringing mutual benefits for both supplier and buyer.

Narayan (1999:15) and Putnam (1995:73; 1993:36) claim a correlation between social trust, civic engagement and effective governance which led, for example, to remarkable economic development of some regional governments in north-central Italy (e.g. Emilia-Romagna and Tuscany) while others (e.g. Calabria and Sicily) with less social organisation have been left behind. Therefore, “If poor people want to advance their economic and political interests, they need to get organised” (Streeten, 2002:7). Putnam (1993:37) concluded that the “social capital embodied in norms and networks of civic engagement seems to be a pre-condition for economic development and effective governance”.

### ***Social capital and rural development***

Networks of indigenous grassroots associations are important to growth in physical investment and appropriate technology as well as stable markets (Putnam, 1995:38). This demands their promotion at grassroots together with enactment of necessary legislation at macro levels, complemented by investment in cross-cutting networks - bridging social capital among associations (Narayan, 1999:2, 11, 38). The success of these indigenous grassroots associations is determined by transparency of the norms

within the associations, and provision of technical, financial and organisational assistance by government agencies, civil society or the private sector (Narayan, 1999:34). Social networks among poor entrepreneurs may protect them against risks such as debt default, and opportunistic behaviour from powerful clients (Development Research, 2000).

## **2.5 Theoretical and analytical framework**

This study uses the triangle model and forms of social capital for analysis of the Marrambajane case study. Poverty here is defined as lack of income, assets and access to productive assets to attain a socially acceptable standard of living (Meyer, 2002:5-6). Based on this definition, the study chooses three local cash crops which are more produced and more profitable (tomatoes, onion and cabbage) as proxy indicators of changes in income. The level of production of these crops was zero before the project. The study analysis the flow of income brought through production of these crops.

The theory of social capital is used here to assess whether accumulation of social capital, which is assumed to have occurred as a result of formation of Associations and the Union of Association Uamechinga, has resulted in increase of material wellbeing (household income, household assets, and community productive assets).

The Ohio School theory is used to assess whether the Marrambajane Project is financially sustainable. According to the Ohio School, financial sustainability is achieved by (a) setting up lending micro-credit organisations which are profitable and not subsidized and (b) accessing relevant information for ‘screening in’ good borrowers and screening out the bad ones and (c) promoting savings (Hulme and Mosley, 1996:3).

Previous research suggests mixed results for micro-credit programmes and there is little research available on in-kind programmes so it is difficult to develop hypotheses for this research. Nevertheless, previous research suggests micro-credit projects favour the better off farmer, so an hypothesis for this project is that those farmers showing the greatest output from the project will be those who had greater assets to begin with. A second hypothesis here is that accumulation of social capital by means of membership within the Association and personal and organisational relationship

developed among farmers has a positive effect on their material well-being. This could be achieved through formation of horizontal ties, vertical ties and linking social capital. In addition membership within Associations and the Union of Associations will allow farmers to access resources – micro-credit, agricultural equipment, irrigation scheme, draft power, commercialization facilities, transport, inputs and technical assistance – that they could not access individually. A third hypothesis, based on previous research which suggests that most agricultural micro-credit projects implemented since 1950s up to 2000s were not sustainable, is that unless key elements are in place the study will reveal low odds for long term financial sustainability of the project.

### ***Summary***

The first key theme developed in this chapter was an overview of competing economic models in which credit provision can occur, namely state subsidized versus market driven models. The second key theme was a comparison of direct and indirect micro-credit models representing different procedures aimed at reducing the risk of default. The last themes were the triangle model for assessment of microfinance organisations (including concepts of poverty outreach, financial sustainability, and poverty impact) and social capital, which constitute the theoretical framework for this study.

### **3. CASE STUDY METHODOLOGY AND RESEARCH METHODS**

This study uses a case study strategy to evaluate how effective an agricultural micro-credit project is in poverty reduction. The research adopted both quantitative and qualitative methods to analyze changes in wellbeing of beneficiaries and sustainability of the Marrambajane in-kind micro-credit project.

#### **3.1. Research design**

The research design used for this study is derived from that described by Marconi and Mosley (2004:20). Those authors evaluated the impact of participation in a microfinance project (FINRURAL project in Bolivia) on clients using both quantitative and qualitative methods. They assessed changes in material wellbeing (income and assets), and social capacity measures (i.e. empowerment and enhancement of social capital). Some adaptations were implemented for the present study, for example questions on social capital from a World Bank working paper (Grootaert et al. 2004) were included. This was done in acknowledgement of the World Bank questionnaire as an important reference tool for measurement of social capital. Further adjustments were made to variables measuring social capital as a result of insights from an exploratory field trip. The trip clarified that promotion of social capital by means of formation of Associations of small scale farmers was the main strategy of the project. As a result social capital theory was included as part of the theoretical framework for this study.

The original intention was to compare beneficiary and non-beneficiary farmers in the Marrambajane area. However, during the preliminary field visit I was told that all 120 members of the Union were beneficiaries. This led me to abandon the comparative design to focus on beneficiaries only. During field work I discovered that just over half the Union members were beneficiaries. Because of concerns that the two groups were not similar (non-beneficiaries were not farming cash crops) and time constraints I decided to persist with the new focus on beneficiaries only.

##### **3.1.1. The case study context: District and project development context**

This section gives some background on the development context in which the micro-credit project was implemented within the Chókwè district. The section is based on

the Chókwè District Development Profile developed by the Mozambique Ministry of State Administration (MAE) (2005) and the United Nations High Commissioner for Refugees (UNHCR) (1997). In addition observations, as well as insights from time line exercise carried out with one focus group are also utilized. This information will allow understanding of factors which may have contributed for success or failure of the intervention, including agricultural potential of the district, previous development projects implemented in Marrambajane, and weakness observed within the cycle of the Marrambajane micro-credit project.

### *Agricultural potential*

Marrambajane village is part of the Chókwé district in Gaza province. This district inherited a large furrow irrigation system from the Portuguese colonial power (UNHCR et al. 1997:6). Unfortunately, the furrow irrigation system does not reach Marrambajane. The main furrow passes through Muianga village which is about 5-6 km from the Marrambajane farms.

The soils are typical alluvial with clay which increases the district potential of rice production (MAE, 2005:2-3). Key informants pointed out that the district ranked first in rice production from late 1970s up to early 1980s and was labelled the *Granary of the Country*. Many state owned agricultural companies and a few private agricultural companies which were set up after independence (1975) collapsed in the late 1980s<sup>11</sup>. The district also has large potential for the production of tomatoes, onion, cabbage and other vegetables in villages where there are irrigation facilities in place (MAE, 2005:2-3). Before independence, factories for processing tomatoes and rice were located in villages of Chilembene and Conhane respectively but these factories are no longer operating. The factories used to be part of the market for local farmers to sell their crops. Their closure has reduced both opportunities of employment and sale of crops produced within the district.

---

<sup>11</sup> Many large private farms collapsed as a result of exodus of the previous owners after independence and later as a consequence of the Civil War (MADER, 2004:8; O'Meara, 1991:96). In these last decades agricultural companies such as João Ferreira dos Santos Group (in 2005), Lomaco, and Entrepосто Group have withdrawn from agriculture due to deficient rural infrastructure which makes the transactions less profitable and led to bankruptcy (Africa Economic Out Look (AEO), 2006:395; Carmona, 2005:2-3).

Farmers experienced deterioration of their perishable produce, especially tomatoes, due to a small local market. In the period when the harvest is high, most tomatoes rot. This problem was experienced by farmers participating in the Marrambajane project because the project transport capacity was not sufficient to transport all produce. Opportunities to hire transport to alleviate the problem are limited.

### ***Previous development projects implemented in Marrambajane***

The time line exercise undertaken during the research highlighted that that projects relevant to poverty reduction that were implemented in Marrambajane village after independence (1975) include agricultural cooperatives implemented by the state, an agricultural project implemented by the Lutheran World Federation (LWF), and the *Swikarato* project sponsored by a South African organisation.

The agricultural cooperatives were set up in the late 1970s and worked until the late 1980s. The agricultural project implemented by the LWF was active between 1988 and 1995. These are the biggest development projects implemented after independence. *Swikarato* was a relatively small intervention and was implemented in the late 1990s. All these projects tried to organise farmers either in associations or cooperatives. Only the FDC project achieved legalisation of associations; *Swikarato* and LWF projects failed in this respect.

All projects brought vehicles (trucks and tractors) and engine pumps into the area. The equipment allocated to the project implemented by the LWF was donated (as was the case for the FDC project). In contrast, within the cooperative farmers acquired equipment through a loan and then paid for the equipment in three instalments predetermined by the lending institution.

The weaknesses of the cooperatives were that farmers could not access the money they generated. The management of finances and other resources was centralized and there was no division of the income generated to each individual farmer. There was also collective instead of individual responsibility, which led to weak management and consequently the cooperative became bankrupt. Membership was not fully voluntary, but was in line with development policies under the centralized economic

system that was in force at the time. The LWF and *Swikarato* projects were implemented after the country had shifted from a centralized economy to a market-based economy, as was the FDC project. The development organisations have encouraged voluntary membership within the associations and individual management of the earnings generated from commercialisation of crops.

According to the local traditional leader and the president of the Union of Associations Uamechinga a common weakness among all these projects has been to neglect the furrow irrigation scheme project initiated by the Portuguese. The Portuguese government had intended to extend the furrow irrigation<sup>12</sup> system through to Marrambajane. Furthermore, these interventions did not include processes to ensure sustainability.

One major lesson learned from the cooperative project is that farmers, if well organised under fair terms of transactions, can afford to repay costs for vehicles and equipment such as trucks, pumps and tractors. Another important lesson is that agricultural projects have not met the expectations of farmers to use a sustainable system of irrigation rather than unsustainable engine pump irrigation systems.

### **3.2. Further detail of Marrambajane in-kind micro-credit project**

A brief introduction to the Marrambajane project was provided in Chapter 1 (section 1.4). This section provides more detail of the Marrambajane project.

#### **3.2.1. Baseline study**

The project baseline study is not well documented. The Project Document, “Rehabilitation of Agriculture in Chilembene”, argues that the need for the project was motivated by the peasantry communities themselves. Several meetings took place between the FDC and community, but few written documents are available.

According to the project document the problems identified on the ground were: rural households in Gaza province had serious difficulties in reviving their livelihoods after

---

<sup>12</sup> It is important to emphasise that the Marrambajane project irrigation system was based on engine pumps & pipes because the furrow irrigation system developed by the Portuguese does not reach Marrambajane farms.

the Civil War; and mass unemployment, misery and malnutrition were widespread in rural households. In addition, individual household farming which is dominant in the province was not profitable since there was no economy of scale. The solution for these inefficiencies was to foster more profitable and diversified agricultural farming through institutionalization of associations of small scale farmers.

Another problem identified was that, despite the existence of Limpopo River nearby, the agriculture system was dependent on rainfall due to lack of irrigation facilities. It was assumed that a shift from an agriculture system that relies on rainfall to a system of irrigated crops would enable households to move from subsistence farming to commercial farming (Fundacion CEAR, 2001:2). It was also noted that the use of manual technology in cropping (such as hoeing) was a constraint for profitability of agriculture in Marrambajne. To address this problem the project introduced mechanized agriculture (Fundacion CEAR, 2001:2).

### **3.2.2 Project aims and objectives, results, and indicators**

The aim of the project was to assist resettlement of 60 households who, as the team of Fundacion CEAR noted during their field work in Marrambajane, were failing to meet their basic needs since the end of civil war in 1992. The target groups, according to the project document, were mostly returned refugees, former soldiers, and women. These target groups seem to be outdated for 1999 because the war ended in 1992 and the period of emergence and resettlement took about five years. It is presumed that in 1999 the country had already embarked in development projects and not resettlement. However, a delay in the approval of the project may have occurred.

The project strategy was to foster diversification of farm activities and promote community farming systems (associations) rather than isolated individual household farming, in order to achieve self-sufficiency and generation of income (Fundacion CEAR, 1999:11). This strategy was thought to be the best alternative of improving food production, food security and nutrition, and commercialization. Associations were expected to allow the households to access services and resources which could not be accessible by individual households working in isolation. This included *credit*, commercialization facilities, transport, acquisition of inputs and technical assistance

(Fundacion CEAR, 1999:11). The project objectives, results, indicators are briefly summarized on the logical framework below.

**Table 3.1. Logical framework for the Marrambajane Project**

Logic of intervention	Description summary	objectively verifiable Indicator	Means of verification	Hypothesis
Overall objective	To promote agricultural farming more profitable and diversified in Gaza province, through institutionalization of association.	-Increase of agricultural production in Chókwé district  - Decrease of malnutrition rates	-UNDP report related to Mozambique - Reports from District Agriculture Director, District Rural Development, Coordinator and District Health Director	It was assumed that the resettlement of households was priority of the Government of Mozambique
Purpose	To promote agriculture for both self-sufficiency and income generating in Marrambajane	-Increase of agricultural production in Marrambajane  -Increase of household income (profit/revenue)  - decrease of malnutrition rate in Marrambajane	- Reports from District Agriculture Director, District Rural Development Coordinator - Reports from Project coordinator -Reports from Fundacion Cear - Reports from External project auditing -Self-evaluation of beneficiaries to be organised by Fundacion Cear and FDC	-It was assumed that there will be support from local authorities in terms of advisory and legalisation of the project.  - It was assumed that there will be no opportunity costs for the beneficiaries
Results	1. Institutionalization of 6 Associations of farmers self-managed and integrated within an Union of Associations	-60 households integrated in 6 Associations; trained on management and functioning of farmers associations  - 6 Associations and 1 Union of such Associations legalized	- Reports from District Rural Development Coordinator -Self-evaluation of beneficiaries of the Union of Associations -Financial records and reports on management of the Associations/Union - Reports from Project coordinator -Reports from Fundacion Cear - Public records	- Its was assumed that the partner (government) has expertise in promoting cooperatives  - It was assumed that households are motivated to join the project
	2. Profitable farming in area of 150 hectares for self-sufficiency in food	Annual production of: -16 tonnes of cotton -17 tonnes of maize	- Reports from District Director of Agriculture -Financial recording books	-It was assumed that households will accept to be actively

and household income generating.	-0.5 tonnes of cowpea -62.5 tonnes of tomatoes -45 tonnes of onions -0.8 tonnes of sugar bean	from the Union -Information from Project Coordinator -Self-evaluation of the Union of Associations - Reports from District Rural Development Coordinator -Follow up reports from Fundacion Cear and FDC -Reports from Programa Nacional de água Rural (Rural National Water Programme)	involved in community work  - It was assumed that agro-climatic conditions would be favourable. There will be no floods
----------------------------------	--	---	---

Source: Fundacion CEAR (1999:16) Convocatorias de Ayudas y Subvenciones de la Aecia las ONG's.  
(The logical framework was translated from Spanish to English)

The weaknesses of the indicators for overall and specific objectives is that they fail to provide the level of production and malnutrition at which Marrambajane subsistence farmers were at before the project started. However, six key informants from the Associations and the Union of Associations Uamechinga declared during the interviews that tomatoes, onion and cabbage were not produced before the micro-credit because they did not have water for irrigation. Therefore, it is assumed that the level of production for these crops was zero before the project. The project did not include cabbage as an indicator of profitable farming; consequently there is no information of how many tonnes were expected from the project. Tomatoes, onion, cabbage and beans are local cash crops, while maize and cowpea are staple food crops. In this research tomatoes, cabbage and onion are used as proxy indicators for changes in household income because these are the main local cash crops.

The indicators used also do not capture the profitability that the project aims to achieve. The indicators are also gender blind in the sense that they do not show how the project benefits will be shared between men and women. In addition the project does not take into consideration the existing different stratus of disadvantaged groups. A more extensive discussion of the indicators will be presented in Chapter 4

**3.3 Sampling**

Three levels of sampling were required for farmers, key informants, and beneficiaries.

### **3.3.1 Sampling of farmers**

The research focuses on 73 participant households, 6 of which were inaccessible for the research due to deaths and migration. Therefore the questionnaire and wellbeing ranking was administered for 67 households. According to the president of the Union Uamechinga, the Union comprises 120 households. However, not all households benefited from micro-credit because the pipes acquired by the project were not enough to pipe irrigation water to all the farms, hence some of the 120 households did not get to grow the relevant crops, despite their membership to the Union of Association Uamechinga. A requirement to access credit was to be a member of the Union of Associations.

Certain households had more than one beneficiary of the micro-credit. Thus, the number of individual beneficiaries of micro-credit exceeds the total of households receiving micro-credit. In addition, the definition of the household by the Union differs from the definition in this study. In this study, household is defined as *people living in the same roof, or within the same compound for 15 days or more out of the past year (2005), sharing food from a common source when he (she) is present, and share in or contribute to a common resource pool*". Within the Union perception in one compound may be several households even if they *share food from a common source pool*. Using the definition of household adopted for this research the researcher found that the number of valid household beneficiaries of the credit was 73. It was decided to add the micro-credit of different beneficiaries in each household to come out with the total micro-credit and the impact generated from the aggregated micro-credit of the household. The adjustment of the number of household beneficiaries to match the household definition adopted for this research resulted in 73 valid households beneficiaries from the micro-credit. However, only 67 respondents were accessible.

### **3.3.2 Sampling of key informants**

Purposive sampling was used to identify key informants who qualified to comment on the sustainability of the project as well as to give general information about the project. According to Hart (2005:347) in purposive sampling units are hand-picked on the basis of how they represent a population or category to which they belong. These

key informants consisted of the president and deputy president of the Union, five leaders of Associations and the local traditional leader. It was not possible to interview the former project coordinator within the FDC nor the representative of the sponsor *Fundacion Cear* (linked to Spanish cooperation) because they are no longer working for these organisations. Efforts to contact these respondents by means of email were not successful.

Out of the 8 key informants selected for the interviews only one is a woman. This was due to the criteria for selecting participants which assumed that the leaders of the associations of farmers and the leaders of the Union of Association Uamechinga are the ones who best represent the farmers. However, this assumption did not take into consideration that women are under represented within the leadership of associations and Union. This is not a major limitation for the research as the questionnaire administered for the 67 households was combined with open-ended questions which have provided important information for the study.

### **3.3.3 Selection of beneficiaries for participatory methods**

For the wellbeing analysis ten farmers were selected from the 67 beneficiary households using the criterion that they knew the households well. This prerequisite was fundamental for the success of the assignment, given that the households are spaced extremely far apart geographically. For the time line, 20 adult volunteers from both sexes were selected. It is recommended that a time line should be done by older people because they are more likely to know about the most important events and changes that the community had gone through. However, for this research any person who was above 18 years in 1999 and had participated in the project was eligible to this focus group because this analysis was concerned with recent events and the period of analysis is very short (seven years).

### **3.4 Data collection**

Multiple sources of data were used. The data were collected by administering a questionnaire to the household beneficiaries, compiling data from project archive, participatory techniques within the focus groups, interviewing key informants, and site observation.

### **3.4.1. Observation**

Site observation was conducted during the field visits, including an exploratory trip undertaken in late August 2006 and during the fieldwork proper from October to December 2006. Observation was useful to capture information on infrastructure and equipment and asset possession by individual households.

### **3.4.2. Interviews**

Eight interviews were conducted with the key informants, namely the leader and deputy leader of the Union, leaders of five Associations<sup>13</sup> and the Marrambajane traditional leader. The following themes were covered: profile of target group; baseline indicators; achievement of project objectives (the purpose and overall objective); impact of the project on material well-being; food security and nutrition; social capital development; and empowerment.

These interviews were conducted before the administration of the questionnaire and were important not only by providing information in relation to the sustainability of the project, but also by clarifying the profile of the target group, baseline indicators and providing general information about the changes the project had brought about within the households. One problem observed during the interview was that the interview schedule was very long (two hours). Therefore in some cases it was necessary to prioritise the questions to be asked. This is not viewed to be a major limitation of the research because questions not addressed to one key informant were posed to another. These interviews were conducted in Chilembene, about 10-20 km from Marrambajne. Respondents travelled by bicycle because at that time I did not have transport to travel to them. Table 3.2 below shows the profile of the key informant interviewed.

---

<sup>13</sup> It was not possible to interview the leader of Eduardo Mondlane Association because he had passed away and no replacement had been made.

**Table 3.2 profile of the key informants interviewed**

Respondent	Gender	Position	Education
Farmer 39	Female	Member of the Union management committee	Literate (Primary education)
Farmer 37	Male	Member of the Union management committee	Literate (Primary education)
Farmer 34	Male	Leader of one of the six Associations	Literate (Primary education)
Farmer 26	Male	Leader of one of the six Associations	Literate (Primary education)
Farmer 45	Male	Leader of one of the six Associations and member of the Union management committee	Literate (Primary education)
Farmer 21	Male	Leader of one of the six Associations	Literate (Primary education)
Farmer 42	Male	Leader of one of the six Associations	Illiterate
Farmer 27	Male	Traditional leader of Marrambajane	Literate (Primary education)

### 3.4.3. Administration of questionnaire

A questionnaire consisting of closed and open-ended questions was administered (Appendix A) to the 67 households with at least one beneficiary receiving credit. Themes measured by the questionnaire include: material well-being, quality of life and social capital. As noted earlier the questionnaire did not include indicators to measure human capital.

Two fieldworkers were hired to assist the researcher in administration of the questionnaire. The fieldworkers were trained over three days. The fieldworkers assisted by explaining how to convert local harvest units into a standard measurement. The questionnaire was piloted in order to improve consistency and reliability of responses. Minor changes were made on indicators such as type of dwelling, social capital and project inputs. In general the final version of the questionnaire is deemed to be reliable. The Union of Associations Uamechinga kindly appointed a site guide; a male farmer who was available to introduce me to beneficiary households.

Out of 67 respondents 65 were the people who both received the micro-credit within the household and grew crops themselves. Two beneficiaries were too old to grow crops themselves and the individuals appointed to tend their crops were interviewed

instead. When a respondent had difficulty responding to a given question s/he was allowed to consult other members of the household for an answer.

Field observation was used to confirm possession of productive assets (e.g. land, tractor, and cattle), existence of infrastructure (e.g. irrigation system) within the community, existence of sources of safe water, and type of shelter for the household. Use of observation was necessary as some households did not mention all assets they owned. Where I observed an item in a household which was not reported by the respondent I queried ownership status with the respondent and included it on the asset register if s/he indicated it was owned by the household.

#### **3.4.4 Documents – Project Archive**

During the administration of questionnaire, it was observed that the interviewees had many difficulties in answering questions related to the amount of inputs used and their monetary value, crops produced and sold, cash generated, the amount of money delivered by the micro-credit project, and the amount of cash they owed to the project. To compensate for this limitation, the Union of Association Uamechinga made accessible the archive of the Union so that the required data could be compiled.

#### **3.4.5. Participatory techniques**

Participatory techniques used included the well-being ranking method and time line, administered through means of a focus group.

##### ***Wellbeing ranking method***

A limitation of the questionnaire was that it was designed by the researcher and as such could have omitted issues that could be considered important by the farmers. To counter this possible limitation and to obtain the farmers perspective of the quality of life, wealth and socio-economic disparities between households, ten farmers were selected and invited to complete a wealth ranking and well-being analysis as described by Kumar (2002:218). Raw findings from these activities are presented in Appendix B. The set of ten was subdivided into three groups. The first group comprised five farmers, all of whom were men (head of Associations). The second

group comprised three members, two of whom were women, all were general members. The third group consisted of two farmers, one woman and one man who were president and deputy president of the Union of Associations Uamechinga respectively. There was an imbalance in terms of number of participants in each group because it was seen wise not to mix the leaders of Association (the first group) with the general member farmers (the second group). The leadership of the Union was also put in a different group (the third group). The division of key informants according to the level of leadership or general was made in order to ensure active participation within groups – presence of another group may have intimidated participants. The project includes two disabled individuals (both men) but neither of them volunteered to attend the focus group.

### ***Time line***

In order to capture the main changes noted by the beneficiaries during and after the project (1999-2006) a focus group of 20 adult people consisting of both women and men was formed. A time line was used as a participatory tool which allows for capturing of important events, changes and trends within a given community.

### **3.5 Data analysis**

The data generated from observation notes, time line and semi-structured interviews was analysed using a theory-led thematic analyses approach. The adoption of the theory-led thematic analyses instead of inductive thematic analyses approach was done in order to combine both the knowledge already available about the topic and new findings which the study brings.

The data generated from questionnaires was analysed using SPSS. Descriptive statistics, crosstabulations and non-parametric tests (Chi-square and Kuskal-Wallis tests and Spearman correlations) were carried out to analyse household asset growth and trust within the Association/Union of farmers. Non-parametric tests were adopted because the data set is smaller and for the case of trust the data is at ordinal level. According to Kinnear and Gray (2006: 198, 316) when the data set is smaller and there are highly deviant scores, or if the data is at ordinal level, a non parametric test is compulsory. Information gathered using the wellbeing ranking exercise was

analysed by calculating wellbeing scores for each individual household (Kumar, 2002:223).

### **3.6. Delimitations and limitations of the study**

Marrambajane has the peculiarity of (a) not providing credit in cash and (b) not including voluntary or compulsory saving schemes, which are key characteristics of many micro-credit projects. This might make it difficult to compare the findings from Marrambajane project and other micro-credit initiatives elsewhere. The crops grown in Marrambajane are basically related to horticulture (tomatoes, onions, cabbages and green kale). This means that the findings from the Marrambajane project may be difficult to compare with other agricultural micro-credit projects where other crops are produced.

Households grow in size through births and marriage, while others shrink (Meyer, 2002:8). As indicated earlier the disbursement of funds to the project took place from 1999 to 2004 i.e. identification of the direct beneficiaries would have been made in 1999 or before (about seven years before the study). If this is the case the household size in some families might have changed, consequently the share of per capita expenditure within the households targeted might have increased or decreased not only as a result of participation in the project. Since consumption and expenditure details are beyond the scope of the research project, it might not be possible to separate the bias which might result from changes in household size.

The lack of a control group in this study makes it difficult to estimate the well-being of the beneficiaries if they had not received the micro-credit to compare with the outcome observed.

Measurement errors in responses provided by persons interviewed while administering the questionnaire and estimating baseline data might have occurred, since this assessment is being conducted seven years after initiation of the project. While attempting to recall their situation prior to the time that the micro-credit began beneficiaries may have overestimated or underestimated the changes of well-being

observed. In addition, no baseline data collected at the beginning of the project for comparative purposes.

Since changes of human capita assets are beyond the scope of this research it will not be possible to understand whether the material wellbeing experienced by some of the participants had enhanced the capabilities (Sen, 1999:87-110) of the beneficiaries to improve education and health status of the household members.

## **4. FINDINGS – CHANGES IN MATERIAL WELLBEING, EVIDENCE OF SOCIAL CAPITAL, AND SUSTAINABILITY OF THE PROJECT**

This chapter focuses on description of changes in material wellbeing observed among micro-credit beneficiaries as a result of their participation in the project. The main aim of the chapter is to provide evidence that demonstrates either effectiveness or ineffectiveness of the micro-credit project to reduce poverty of the beneficiaries. The chapter comprises three main sections. The first section highlights the impact of the project on material and social wellbeing of beneficiaries, as well as the input invested in order to achieve such change. The second section describes changes in social capital development through formation of Associations and Union of farmers. The third section focuses on sustainability of the project.

### **4.1. Impact of the project on material and social wellbeing of beneficiaries**

#### **4.1.1. The beneficiaries**

Beneficiary households had been affected by the catastrophic floods of 2000<sup>14</sup>. Many of them lost their assets, while others managed to escape because they had alternative residence in Hókwe village. The memorable President Samora Machel had developed a land use plan which discouraged farmers from establishing conventional durable houses in Marrambajane, but rather shacks, huts and other traditional dwellings instead because Marrambajane is vulnerable to floods. The area is considered a place for farming and not for permanent residence. However, most of the beneficiaries of the project have no alternative residence in Hókwe or elsewhere nearby, while some have a residence in Marrambajane and Hókwe.

One of the common features of these households within the study population is that almost 90 percent of the heads of the households are illiterate since, they had no chance to attend school (i.e. had no formal education). However, most households tend to have someone literate within the household (but below grade 7). It is presumed that the study population is a mixture of households immediately above and below poverty line (including the most disadvantaged groups). Most people who

---

<sup>14</sup> According to the World Bank the 2000 floods have killed 700 people and 491,000 were displaced; reconstruction costs were estimated at \$430m (BBC, 2007).

joined the project at later stages appeared to be related to the first group of the beneficiaries (son, spouse, and daughter-in-law). It thus seems that those who became part of the project in later stages became so as a consequence of 'knowing the right people'. This process of joining could potentially exclude the most disadvantaged people. Out of 67 households comprising the sample, fifteen percent are very large (10-18 members) while forty nine percent are large (5-10 members) since, in most cases, a son tends to remain within his parents' compound even after he marries. The more married sons the parents have the larger the household size is likely to be. Only thirty six percent of the households have less than five household members and can be considered small.

Many households were members of earlier agricultural cooperatives, the LWF agricultural project and *Swikarato* Association. Cattle are a key measure of wellbeing status in Marrambajane; Gaza province is a strong cattle producer in the country. The households under study rely mostly on agriculture for their livelihood. Young men tend to migrate to South Africa to work in mines or farms. Thus, remittances from them are an important share of the common household resource pool, although not every young man sends remittance to the household regularly. De Vletter (2007:141-144) argues that the value of remittance forwarded depends among other factors on age of the migrant, commitment of the migrant to assist the household, and the level of remuneration of the migrant. That author notes that remittances have a positive impact on wellbeing of the households' recipients, but that there is a decline in the monetary value of remittances due to lower earnings in recent years. A significant proportion of households with a family member working in South Africa are poor or vulnerable (De Vletter, 2007:150).

#### **4.1.2 Change in wellbeing ranking (perception of beneficiaries)**

Table 4.1 summarizes the findings from the three different informant groups selected to complete the well-being ranking exercise (see Chapter 3), ranking beneficiaries of the project in 2000 (when the project started) and in 2006 (when this research was conducted). Beneficiaries were classified into one of four categories of wellbeing - rich, middle, poor and poorest - by each group. The wellbeing ranking criteria adopted in each group were mostly similar. However, there were implicit categories which were not easy to capture and which differed by group. Common features of

explicit criteria used in ranking wellbeing from rich to poorest in all three groups were: amount, dimension and quality of assets owned by the household; degree of shock experienced by the household during 2000 floods as measured by loss of material assets; and ownership of an alternative residence in Hókwe. Less common implicit criteria that emerged in the different groups were: degree of shock experienced by the household during 2000 floods measured by loss of human capital; level of hospitality given to visitors; quality of life experienced; addiction to alcohol; management and reinvestment skills of the earnings obtained; and connection to social networks.

To calculate a wellbeing score, households rated as rich, middle, poor and poorest (relative to other households participating in the project) were allocated scores of ¼, ½, ¾ and 1 respectively for each group ranking. The three scores were then averaged to get a single score for each household. As described by Kumar (2002:223), the higher the average wellbeing score, the poorer the household, and vice-versa. This scoring was conducted for group rankings for 2000 and 2006. Change in average ranking between 2000 and 2006 was also calculated. Households were categorised according to whether they were ranked as experiencing no change or as showing improvement or decline in wellbeing. Details of the ranking criteria used by each key informant group and average wellbeing scores are shown in Appendix B.

Table 4.1. Summary of changes in beneficiary household wellbeing ranking between 2000 and 2006 (N=66 households).

<b>Improvement in wellbeing</b>		<b>No change in wellbeing</b>		<b>Deterioration in wellbeing</b>	
Total	18 households	Total	34 households	Total	14 households
Poorest to poor	10 (15.2 %)	Remains rich	6 (9.1 %)	Rich to middle	5 (7.6 %)
Poor to middle	4 (6.1 %)	Remains middle	8 (12.1 %)	Rich to poorest	1 (1.5 %)
Middle to rich	4 (6.1 %)	Remains poor	7 (10.6 %)	Middle to Poor	2 (3.0 %)
		Remains Poorest	13 (19.7 %)	Middle to poorest	1 (1.5 %)
				Poor to poorest	5 (7.6 %)

Notes: Ranking and change in ranking based on average from three key informant groups from community. Scores, averaging of scores, and changes in ranking calculated by the author. One interviewed household was not ranked because it was omitted by mistake from the list of the households subject to ranking.

Fourteen of the 66 households were ranked as showing decline in wellbeing (Table 4.1). This means that their wellbeing category had worsened relative to other

beneficiary households between 2000 and 2006. However, this does not necessarily mean that absolute wellbeing had declined. Individual households are better off in 2006 than in 2000 because they have recovered from the floods, under which most households had lost their assets, were failing to meet their basic needs and were under emergency.

Thirty-four of the beneficiary households were reported to have experienced no change in their well-being category.

Eighteen households (27.3 %) experienced positive changes. These changes are based on relative perception of poverty among the beneficiaries. However, they fail to explain how much change has taken place, neither within each individual household nor in relation to changes in poverty within the country.

The average wellbeing scores in 2000 and 2006 and relative changes were estimated assuming that the information given by key informant groups is accurate. For 2000: twenty-two households were ranked in the identical category by all three groups – 11 households were ranked as rich and 11 were classified as poorest; nine households were ranked in completely different categories, for example Farmer 19's household was ranked in rich, middle and poor categories by key informant groups 3, 1 and 2 respectively; for the remaining 35 households, at least two groups gave an identical ranking – 16 households were ranked as rich, two middle and 17 poorest. For 2006: seven households were given an identical ranking – all rich – by all three groups; 14 households received completely different rankings from each group; 44 households were given the same ranking by two of the groups – 16 rich, eight middle, four poor and 16 poorest.

The inconsistencies observed are due to use of differing implicit criteria. For example, one key informant group had added loss of human capital as a criterion. As a result, one lady whose 25 cattle survived after 2000 floods, but had lost her children during the floods, was ranked as 'middle' instead of 'rich'. The particular informant group considered human capital more important as an indicator of wellbeing than material assets.

Kumar (2002:223) argues that if there is wide variation in household scores of different informants there is need to talk again with the informants, and if necessary they could be brought face to face to sort out the differences. The discrepancies in ranking were not deemed to be significantly variable to warrant this action.

#### 4.1.3. Credit allocated (input) to achieve change in wellbeing

Information compiled from the project archives showed that a total of at least MZM-OF (Old Family of Mozambique Currency) 1,410,632,000 was provided in the form of seeds, fertilizers, pesticides and other inputs. Table 4.2 shows the amount disbursed from 2001 to 2005.

Table 4.2. Credit allocated from 2001 to 2005 by individuals and households beneficiaries

Year	A) Value of inputs (seeds, fertilizers, pesticides, etc) allocated as credit in MZM-OF	B) Percent (annual credit/total credit)	C) Number of individual beneficiaries <sup>a</sup>			D) Number of beneficiary households			
			women	men	Total /year	♀headed households	♂headed households	Gender of the household head not identified	Total per year
2001	38,849,500	2.8	2	4	6	1	4	0	5
2002	437,404,000	31.0	26	33	59	14	33	5	52
2003	374,761,000	26.6	18	28	46	8	29	1	38
2004	391,216,500	27.7	17	21	38	7	23	0	30
2005	168,401,000	11.9	11	11	22	9	12	1	22
Total <sup>b</sup> (2001-2005)	1,410,632,000	100.0							

Notes: <sup>a</sup>One household could have more than one person receiving micro-credit. Therefore, the number of single beneficiaries in a given year may be different from the number of household beneficiaries in the same year.

<sup>b</sup> The same household person could take up credit in subsequent years. Hence, the figures of single beneficiaries or household allocated credit from 2001-2005 cannot be summed. The exchange rate to covert MZM-OF in USD was 0.04; i.e, 1 USD equivalent to 25 MZM (Noticias Newspaper, 29 November 2006).

Source: Authors own calculations from project archive

The amount allocated in 2001 and 2005 differs considerably from the amounts allocated between 2002 and 2004. This was due to late commencement of the project (2001) and diminishing sponsorship<sup>15</sup> (2005). The project was scheduled to start in November 1999 but only started mid-2001 after flood levels had subsided. During

<sup>15</sup> According to project management Fundacion Cear was originally scheduled to suspend funding in April 2002. Funding was stopped later because the project started later than expected and Fundacion Cear sourced additional funding.

2000 and part of 2001 inputs for food crops were donated by the project as part of the emergency response to the floods. The priority was to foster cultivation of food crops (maize and cowpea) in order to ensure self-sufficiency in food and to avoid loss of social productivity of labour. Allocation of project inputs for production of local cash crops started in mid-2001 thus, the amount of credit allocated was the lowest for that specific year. In 2005, the amount of credit allocated was also low compared with that during 2002-2004. This was a result of liquidity constraints as a consequence of cessation of sponsorship of the project in 2004. In the 2005/2006 agricultural campaign many farmers (for example farmers 1, 3, 4, 6 and 9) complained about lack of seeds (particularly onion and cabbage) or delays in allocation.

### ***Distribution of credit by wellbeing categories***

Table 4.3 illustrates the distribution of total credit in households by their wellbeing ranking for 2000.

Table 4.3 Distribution of micro-credit in beneficiary households by wellbeing categories (N=69<sup>a</sup>)

A) Wellbeing categories (in 2000)	B) Number of households	C) Amount of credit allocated MZM-OF	D) Share of each wellbeing category from the total of credit allocated (percent)	E) Amount of credit allocated per household MZM-OF
Rich	12	292,838,500	20.8	24,403,208
Middle	13	429,774,500	30.5	33,059,577
Poor	15	255,977,500	18.2	17,065,166
Poorest	21	373,651,500	26.5	17,792,928
Not categorized	8	58,390,000	4.1	7,298,750
All beneficiaries	69	1,410,632,000	100.0	-

Note: <sup>a</sup> The number of cases varies here because the information was derived from the archive which had information for a greater number of households than were included in the wellbeing analysis

Source: Authors own calculations from project archive

Table 4.3 demonstrates that the share of credit received is uneven for the four wellbeing categories, with middle and poorest receiving higher share than rich and poor groups (column D). However, *per household* credit received is significantly lower for poor and poorest households (column E).

Table 4.4 Proportion of individual beneficiaries in each household category (N=69)

A) Wellbeing categories (in 2000)	B) No. of individuals receiving credit in each wellbeing category	B) No. of households receiving credit in each wellbeing category	D) Proportion (No. of individuals beneficiaries in each wellbeing category per No. of households receiving credit )
Rich	12	12	1.0
Middle	17	13	1.3
Poor	15	15	1.0
Poorest	28	21	1.3
Not categorized	-	8	-
All Beneficiaries	-	69	-

Source: Authors own calculations from project archive

Table 4.4 shows that in rich and poor households there is only one individual receiving credit within the household. In addition, most middle and poorest households have also one individual receiving credit, although there are exceptions of certain households with two to three individuals receiving credit. The presence of multiple beneficiaries in the household results in households ranked as middle and poorest having a larger number of beneficiaries (than rich and poor households) which explains the greater share of credit received (Table 4.3, column D).

To establish whether credit was being awarded to multiple beneficiaries over time, Table 4.5 below shows the distribution of loans per household, number of years receiving credit, and approximate number of individual beneficiaries per loan interval. Like Table 4.4, Table 4.5 demonstrates that the large majority of households (95 percent) had only one household member receiving credit.

Table 4.5. Distribution of loans per number of households and number of individuals receiving credit within the household (N=66)

No. of loans	No. of households receiving a loan	No. of years receiving loan	No. of individuals receiving credit within the household
1	15	1	1
2-3	34	2-3	1 with exception of four households with 2-3 beneficiaries
4-5	12	3-4	1 with exception of one household with 2 beneficiaries
6-11	5	4-5	1 with exception of one household with 2 beneficiaries

Source: Authors own calculations from project archive

Table 4.5 shows that over the period of the project fifteen households received one loan in one year; thirty four households received 2-3 loans over a period of 2-3 years;

twelve households received 4-5 loans over a period of 3-4 years; and five households received 6-11 loans over the period of 4-5 years.

Table 4.5 also illustrates that just over half of the households had two or three loans for two or three years of participation. Roughly one quarter of the households received one loan only in one year, while another quarter received above three loans. Within this last group, households with 4-5 loans tend to have loans during three to four years, while households with 6-11 loans had loans during four to five years.

#### 4.1.4. Production to achieve change in wellbeing

Lack of access to improved agricultural inputs – such as quality seeds and irrigation – has been identified as a key constraint for poverty reduction in rural areas (Simler, et al. 2004b:79; Tarp et al. 2002:102). Participation in the micro-credit project provided farmers with access to improved tomatoes, onion and cabbage seeds, fertilizers and pesticides and irrigation. Farmers were able to grow irrigated local cash crops. According to the project document, annual production of tomatoes and onion was projected to be 62.5 and 45.0 tonnes, respectively. Table 4.6 highlights the amount of production of local cash crops in each agricultural campaign, compared to the expected outputs from the logical framework (LFM).

Table 4.6 Comparison of expected and achieved production of tomatoes, onion and cabbage

Agricultural campaign (years)	Tomatoes		Onion		Cabbage	
	Predicted in LFM (Tonnes)	Achieved (Tonnes)	Predicted in LFM (Tonnes)	Achieved	Predicted in LFM (Tonnes)	Achieved (Tonnes)
2002/2003	62.50	48.07	45.00	1.432	Not predicted	0.00
2003/2004	62.50	59.11	45.00	6.35	Not predicted	0.18
2004/2005	62.50	278.74	45.00	0.96	Not predicted	3.03
2005/2006	62.50	137.63	45.00	2.61	Not predicted	0.00

Source: Authors own calculations from project archive

In agricultural campaigns 2002/2003 and 2003/2004 the level of production of tomatoes was 23.0 and 5.4 percent lower respectively than the amount predicted (62.5 Tonnes). In contrast, in agricultural campaigns 2004/2005 and 2005/2006 the level of production of tomatoes exceeded the amount expected by 346.0 and 120.2 percent, respectively. The level of production of onion was always below the level predicted in the LFM (31.6 times below in 2002/2003, 7.1 in 2003/2004, 46.9 in 2004/2005; and 17.2 in 2005/2006). The level of production of cabbage is the lowest of the crops

observed. Production of cabbage was not predicted in the LFM. Tomatoes seems to be the farmers' favoured local cash crop despite the disadvantages that this crop perishes easily, the volatility of the price is high, and it demands more inputs than onion and cabbage. Farmers are motivated to produce tomatoes (even aware of the disadvantages listed) because of the possible gains when the price is high.

### *Income generated*

Due to diversified cropping of food crops (maize) and local cash crops (tomatoes, cabbage and onion), household income of the micro-credit beneficiaries increased compared to the period before the project. However, this does not mean large amounts of money were generated. Farmer 34 stated: [...] *But is not a huge amount of money that you can be proud of.* The income generated from commercialisation of tomatoes, onion and cabbage is shown in Table 4.7. The project archive confirmed allocation of credit to 69 households, however, only 57 households reported income generation from the micro-credit invested in production of local cash crop vegetables.<sup>16</sup>

Table 4.7 Income generated from sales of tomatoes, onion and cabbage (N=57)

Agricultural campaign (years)	Revenue MZM-OF			Apparent profit: money actually received by the households <sup>a</sup> MZM-OF		
	Tomatoes	Onion	Cabbage	Tomatoes	Onion	Cabbage
2002/2003	103,655,819	5,700,000	-	49,476,000	2,198,000	-
2003/2004	262,923,800	27,424,000	398,200	122,042,000	11,900,000	200,000
2004/2005	431,593,600	6,150,000	7,193,500	190,481,500	4,250,000	4,116,000
2005/2006	214,181,651	8,271,400	-	77,421,400	1,550,000	-
Total	1,012,354,870	47,545,400	7,591,700	439,420,900	19,898,000	4,316,000

Source: Authors own calculations from project archive

Note: <sup>a</sup>This is apparent profit, not real profit, because in many cases, the project did not deduct the entire amount owed (credit allocated to a client, membership fees, and transaction fees) if the household revenue was low.

Most of the income generated from sales came from tomatoes, the share of onions and cabbage was insignificant. From 2002 to 2005, the total apparent profit transferred to the farmers was MZM-OF 463,634,900.

Project archives and community perception of levels of production and profit did not always coincide. The time line focus group argued that more earnings were obtained from 2002 to 2004 as a result of high yields achieved for this period. In 2005 the

<sup>16</sup> There are reasons why there is no record for production for these 12 cases. Firstly, no records were kept for some of the farmers and secondly the crops of some farmers failed.

levels of earnings went down due to lack of money necessary to meet costs of fuel needed to irrigate. However, figures from Table 4.6 show that the amount of production in 2005/2006 agricultural campaign was almost three times (2.9) above the 2002/2003 agricultural campaign. Furthermore, income generated (apparent profit) in 2005/2006 agricultural campaign (current prices) was two times above the returns from 2002/2003 agricultural campaign. With respect to 2003/2004 and 2004/2005 agricultural campaigns Table 4.6 is consistent with the information provided by the time line focus group.

The apparent profit distributed among different households according to wellbeing categories is presented in Table 4.8.

Table 4.8 Distribution of income generated from micro-credit according to wellbeing categories (N=57)

A) Wellbeing categories (year 2000)	B) Number of households	C) Amount of apparent profit received MZM (Old Family)	D) Amount of apparent profit received per household	E) Share of each wellbeing category in the total of apparent profit distributed (percent)
Rich	8	127,837,500	15,979,688	27.6
Middle	13	148,946,000	11,457,385	32.1
Poor	10	74,677,000	7,467,700	16.1
Poorest	18	103,143,400	5,730,189	22.3
Not categorized	8	9,031,000	1,128,875	2.0
All beneficiaries	57	463,634,900	-	100.0

Source: Authors own calculations from project archive

Table 4.8 demonstrates that profit per household ranges from MZM-OF 5,730,189 per poorest household to MZM-OF 15,979,688 per richest household. Rich households represent 14% of the beneficiary households but receive over 25% of the profit. The finding that profit is correlated with wellbeing ranking of household is consistent with the SACA case study undertaken in Malawi (Buckley, 1996:362) which found, for a mixed in kind (fertilizer) and cash credit scheme, that the better off farmers had benefited more than the poor and the poorest.

#### 4.1.5 Changes in household assets

Findings from the time line, wellbeing exercises, and interviews with the key informants, as well as farmers in general, show that many micro-credit beneficiaries

bought assets with earnings from participation on the project. Key informants (Farmers 39) stated that:

In general, there was a change in household material assets; many households did not have anything before, because we had lost our assets due to 2000 floods. Only a minority of people with alternative residences in Hókwe were able to preserve some of their assets. Those households who had cattle before joining the project had accumulated more cattle.

Households with adequate management and reinvestment skills took better advantage of the earnings than the households which lacked these skills. Some beneficiaries suffered from alcoholism which constrained their ability to accumulate assets.

Table 4.9 presents the current assets possessed by the beneficiary household of the project and illustrates the source of the asset (project or other).

Table 4.9. Household assets: number of households holding asset and estimate of assets acquired through participation in the project (N=67)

Assets	Number of households with at least one of given asset (Percentage households)	Asset accumulation from participation in projects (Number of households acquiring asset)			
		New asset	Adding to existing assets	Total	Percent of households acquiring asset
Cattle	42 (62.8%)	2	4	6	9.1
Sheep	12 (17.9%)	2	0	2	3.0
Goats	42 (63.1%)	16	2	18	27.3
Pigs	18 (27.0%)	6	0	6	9.1
Poultry	53 (79.7%)	9	5	14	21.5
Farm equipment <sup>a</sup>	43 (64.4%)	3	3	6	9.2
Other farming low cost tools <sup>b</sup>	60 (89.6%)	12	8	20	30.3
Paraffin lamp	14 (20.9%)	1	0	1	1.5
Paraffin stove	6 (9.0%)	1	0	1	1.5
Hifi	14 (20.9%)	1	1	2	3.0
Radio	37 (55.4%)	6	1	7	10.6
Cellphone	46 (68.7%)	2	1	3	4.5
Articles of furniture	-	7	0	7	10.6
Table and chairs	31 (46.3%)	3	1	4	6.1
Kitchen cupboard	41 (61.2%)	2	0	2	3.0
Sofas	54 (80.6%)	2	0	2	3.0
Bed	25 (37.5%)	4	1	5	7.6
Jewellery/watch	54 (80.6%)	1	0	1	1.5
Bicycle	37 (55.2%)	6	0	6	9.1
Corrugated sheet roofing	-	3	0	3	4.5
Kitchen utensils	-	3	3	6	9.8
Clothes	-	0	13	13	10.7

Notes: <sup>a</sup>Farm equipment refers to pulverizer, plough and/or cart; <sup>b</sup>Other farming low cost tools refers to hoes, spades, pangas and machetes.

Source: Survey conducted by the author.

Over ten percent of households reported that they acquired goats, poultry, other farming low cost tools, a radio, an article of furniture, and clothes as a result of participating in the project. The highest contribution of the project was in other farming low cost tools and goats, acquired by 30.0 and 27.0 percent of households respectively.

Table 4.9 also illustrates that high return assets (cattle and sheep which are used to determine rich and middle wellbeing classification) are acquired by relatively few households participating in the project, 9.1 and 3.0 percent respectively. With the exception of cattle and clothes, the major contribution of the project was in acquisition of new assets rather than adding to an existing asset (accumulation). This confirms the claim from the farmers 39, 42 and 45 [.....] *that many households did not have anything before, because we had lost our assets due to 2000 floods... and Those households who had cattle before joining the project had accumulated more cattle.*

Assets such as paraffin lamps, paraffin stoves and watches were acquired by a single household. Paraffin lamps and stoves do not appear to be the main sources of lighting and energy (owned by less than a quarter of households) and most households (80 percent) have a watch so would not need to acquire another.

From Table 4.9 it is clear that a significant proportion of assets owned by the household are acquired through other sources than income generated from the project. For example 42 households reported owning cattle but only six of these households acquired cattle through income raised by participation in the project. Nevertheless, participation in the project has resulted in acquisition of assets. Other sources of assets could include donations following the 2000 floods, a traditional form of acquiring cattle (*kuvekuela*), and off-farm income.

Table 4.10 shows the number of all items bought by wellbeing category. The median number of items bought by the rich, middle, poor and poorest household categories is not significantly different (Kruskal-Wallis Test:  $\chi^2= 4.571$ ,  $df=3$ ,  $p=0.206$ ).

Table 4.10 Number of items bought by wellbeing category (N=66)

Number of items bought by the household	Wellbeing categories (2000)			
	Rich	Middle	Poor	Poorest
0	6	1	7	7
1	2	3	1	11
2	2	1	2	1
3	1	1	3	
4	1	1	2	1
5	2	3		2
6	1			
7	1			1
8		1	1	
Median	1.0	1.0	2.0	1.0

Source: Survey conducted by the author

Table 4.11 analyses the assets bought in each household wellbeing category, grouping assets in six groups according to monetary value. Three groups of livestock include: high return animals (cattle); middle return animals (sheep, pigs and goats); and low return animals, poultry (chicken and duck). Non-animal durable assets that are subject to depreciation are grouped as: expensive durable assets – pulveriser, plough, cart, hifi, cell phone, table and chairs, kitchen cupboard, sofas, bed, bicycle and corrugated sheet roofing; less expensive durable assets – radio, articles of furniture, jewellery/watch, and kitchen utensils; and cheaper durable assets or low cost farming tools – hoes, spades, panga and machete, paraffin lamp and paraffin stove.

Table 4.11 Assets (grouped by monetary value) bought by wellbeing category (N=66)

Asset	Did the household buy?	Wellbeing 2000				
		Rich	Middle	Poor	Poorest	Total
High return animals	Yes	3 (18.8%)	1 (9.1%)	1 (6.3%)	1 (4.3%)	6 (9.1%)
Middle return animals	Yes	5 (31.3%)	6 (54.5%)	4 (25.0%)	4 (17.4%)	19 (28.8%)
Low return animals	Yes	3 (18.8%)	3 (27.3%)	4 (25%)	4 (17.4%)	14 (21.2%)
Expensive durable assets	Yes	6 (37.5%)	5 (45.5 %)	4 (25%)	4 (17.4 %)	19 (28%)
Less expensive durable assets	Yes	5 (31.3%)	2 (18.2%)	3 (18.8%)	6 (26.1)	16 (24.2%)
Cheapest durable assets	Yes	3 (18.8%)	5 (45.5%)	6 (37.5%)	7 (30.4%)	21 (31.8%)

Source: Survey conducted by the author

Table 4.11 shows that almost 20 percent of rich households buy high return animals (cattle) compared to less than ten percent of other households. Over half the middle ranked households buy middle return animals compared to less than one quarter of poor and poorest households. Higher proportions of rich (37.5 percent) and middle (45.5 percent) ranked households buy expensive durable goods. A higher proportion of middle (45.5 percent) ranked households buy low cost farming tools compared to both rich and poorer beneficiaries. A higher proportion of middle (45.5 percent) and poor (37.5 percent) households buy low cost farming tools compared with the poorest households. These apparent differences must be interpreted with caution given that the number of cases is low for each type of asset acquired.

Some of the households that acquired the assets from participating in the project lost their assets as a result of shocks, including illness (of farmer or household member), conflict in the household leading to split of households, and death of animals due to disease. For example, farmer 52 reported that she used a goat to pay health expenses while farmer 39 reported that her sheep died. Farmer 9 said that all his chickens died due to Newcastle disease. Farmer 13 declared that the furniture articles that she had bought had been taken by her son when the household had split. As a result of farming cash crops, animals are not often sold unless in critical situations. Animals therefore represent buffer stock for a period of severe crisis.

Out of 67 households interviewed, 64 own the houses while three hire houses but live in Chilembene and Hókwe. Fifty three of these households (79 percent) live in huts of different forms (block round huts, reed/timber round huts, reed/timber and corrugated sheet roofing huts (labelled *zinc*), square hut (labelled *barraca*) and shacks. Farmers are not motivated to invest in conventional (modern)<sup>17</sup> dwellings in Marrambajane due to vulnerability of the village to floods. They prefer to stay in traditional houses<sup>18</sup>. However, some farmers have an alternative residence in Chilembene and Hókwe. These areas are less vulnerable to floods and farmers are willing to invest in conventional houses in those villages.

---

<sup>17</sup> Conventional (modern) houses are defined here as durable houses with walls made by blocks/bricks/ stones and plastered with concrete/cement. The roof is made of metal (zinc or aluminum), fibreglass or concrete

<sup>18</sup> Traditional houses are defined here as huts of different forms (round block huts, round reed/timber huts, reed/timber and corrugated sheet roofing huts (called *zinc*), square hut (called *barraca*) and shacks.

Participation in the project allowed beneficiaries to make improvements to their dwellings in Marrambajane. A significant proportion (42 percent) of beneficiary households reported being able to make improvements and perform maintenance. There was little evidence of building from scratch and repayment of bonds or loans.

In relation to dwelling improvements, a higher proportion of poor (seven or 43.8 %) than middle (one or 9.1%) ranked households were more likely to improve their dwellings using project-derived income. Regarding maintenance, poorest households were more likely than poor households to carry out maintenance of their traditional dwellings. The findings suggest that poorest households were not able to make significant improvements to their traditional dwellings, but were able to maintain them. In contrast, more poor than middle and rich ranked households had made improvements. This may be because middle and rich ranked dwellings are already in good condition or those households could use other sources of income to improve the dwelling. Few households in any category reported being able to build from scratch or pay off a loan as a result of participation in the project. Only one farmer, from Hókwe, was reported to have invested in a conventional house as a result of gains from the project.

## **4.2 Changes in social capital**

This section assesses development of social capital through a key goal of the project, the formation of Associations and a Union of farmers.

### **4.2.1 Formation of social capital**

Types of social capital – bonding, bridging and linking – were defined in Chapter 2 (Section 2.4). To achieve economic goals, bonding social capital can be fostered through formation of economic associations and a union of these associations which then play a significant role in development of bridging and linking social capital. One of the results predicted within the logical framework of the project was institutionalization of six Associations of self-managed farmers integrated within a Union of Associations. Six Associations were formed and legalized in October 2002 (Government Gazette, 24 March 2004; Government Gazette, 10 March 2004). These six Associations are integrated within the Union of Farmers Associations Uamechinga,

(União das Associações Agropecuárias de Uamechinga) legalized in February 2005 (Government Gazette, 14 September 2005).

These Associations and the Union contributed to the enhancement of social capital of the households participating in the project. This is in line with one of the objectives outlined within the statutes of the Associations i.e. *to contribute to enhancement and consolidation of social relations and solidarity among members of the associations* (Government Gazette, 24 March 2004).

#### **4.2.2 Selection of the beneficiaries**

According to the project document, the aim of the project was to assist resettlement of 60 households that were failing to meet basic needs since the end of the civil war in 1992. This suggests that participants were below the poverty line because they could not meet their basic needs. However, there was some selection bias of participants. Although, some disadvantaged groups were included in the project there is not enough evidence that absolute poverty was taken into account as a criterion for participation. Three key informants (farmers 21, 37, 39) – Union President, Union Deputy President and leader of one Association – were asked how the beneficiaries of the agricultural micro-credit project were selected. The answer given was:

*Mr. Tchaka from District Directorate of Agriculture came to convince us that we group ourselves in associations. He met us in Swikarato. The remaining people they joined because they were attracted and they were welcomed. Of course there are included disadvantaged people such as the old, women in general, single women with children, but there was no other criteria for selection unless the will of the person to be part of the Association/Union.*

The FDC contacted an informal association (*Swikarato*) through the local administrative post (Posto Administratitvo de Chilembene) to identify 60 people to work with them. *Swikarato* was made up of Mozambicans, former South African mine workers with no retirement pension, and disadvantaged women whose husbands work in South African mines. *Swikarato* had been sponsored by a South African organisation [whose name was not recalled by the interviewees], and had given cattle and cash to invest in farming. By the time FDC met *Swikarato* the South Africa organisation had stopped sponsorship so the FDC initiative was welcomed.

The membership of *Swikarato* was 53 farmers but FDC wanted to assist 60 members. To meet this target *Swikarato* looked for seven new members. These additional seven farmers were recruited from neighbours of *Swikarato* members. The group of 60 farmers formed Associations which were integrated into the Union of Associations. The FDC technicians facilitated the formation of Associations. Initially the Associations were made up of 10 farmers each. Later, more farmers joined the Union. There are now 120 members of the Union of Associations (but not all members benefited from the micro-credit project).

These facts were confirmed by farmers themselves during administration of the questionnaire. In addition, farmers stated that households possessing farming land that could be used by the project were given irrigating water, but not necessarily micro-credit, from the project in exchange for some of their land. Some land owners did receive micro-credit. During the exploratory field trip the project coordinator listed some of the criteria for receiving credit as being a household headed by a woman and having somebody of economically active age in the household. The project inherited women whose husbands work in South African mines from *Swikarato* Association but most of these women are the *de facto* (not *de jure*) head of household.

#### **4.2.3 Development of social capital**

Membership in Associations enhanced bonding, bridging and linking ties. In addition, empowerment, solidarity, collective action, access to resources, and information sharing was also improved.

##### ***Bonding social capital***

Being a member of an Association brought farmers closer together and improved cooperation, solidarity and personal relationships within the associations and the Union. Before formation of associations, cooperation among farmers was very weak compared to the period after the project:

Before formation of associations you could not approach too many farmers for support, because they could say that you intend to bewitch their crops. But now we lend each other money, farming tools for farm requirements, we help each other in times of greater demand of labour for weeding and harvest. We give each other technical advice and moral support. If one farmer is sick

another farmer can harvest his/her crops, sell and give him/her the revenue.  
(Farmer 34)

With respect to the level of trust among farmers within the Associations and the Union, farmers were divided. Some key informants emphasised that the level of trust is high, while others consider it as limited. Some farmers not integrated in decision making forums were cautious when asked about the extent to which they trust each other within the Association and the Union of Associations. One senior key informant (farmer 39) declared that conflicts emerged within the Union when MZM-OF 86,880,000 were stolen from the Union's office in 2005. Farmers thought that the Union management team had stolen the money. Farmer 43, who had brought the money from the market, was accused and the Treasurer/Secretary of the Union (farmer 38) was brutally beaten in attempts to force him to confess to the deed. However, two thieves who were not members of an Association or Union were later identified as the culprits. An insignificant amount of the stolen money was recovered. Occurrence of violence within the micro-credit projects have been documented in the literature (for example, Rahman, 1999:67-82), but emphases has been mostly in violence against women, rather than men. This research found verbal aggression for both women and men in the Union Management or project technical assistance. But physical aggregation was only reported against men.

Trust within each individual Association seems to be higher compared to the Union of Associations Uamechinga as a whole, as illustrated in Figure 4.1.

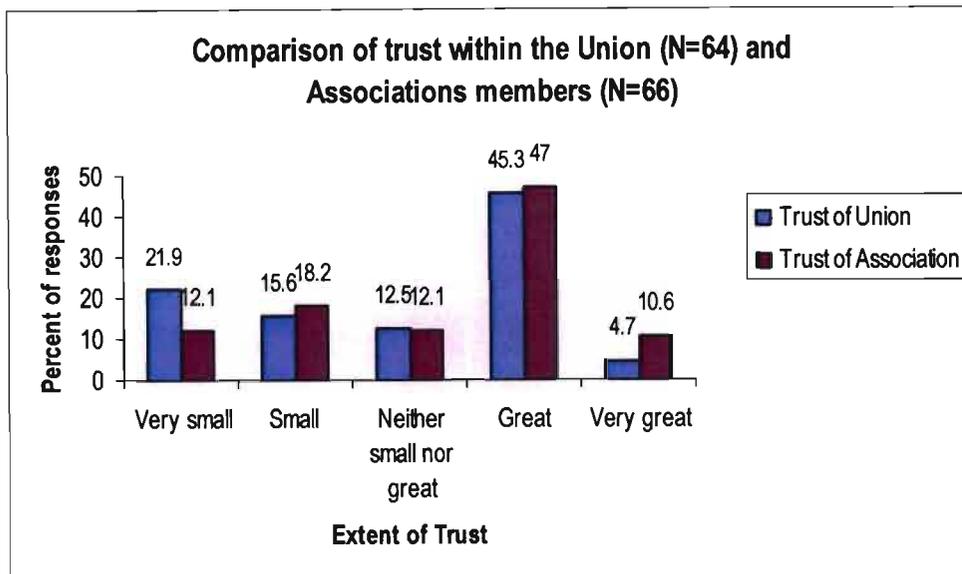


Figure 4.1 Rating of trust of the Union (N=64) and Association (N=66) by beneficiaries.

Figure 4.1 shows that 50.0 and 57.6 percent of farmers have ‘great’ or ‘very great’ trust in the Union and Association respectively. A higher proportion of farmers (21.9 percent) reported having a ‘very small’ level of trust in the Union compared with 12.1 percent for the Association. The difference in level of trust by organisation (Union or Association) is statistically significant at the 0.1 level ( $\chi^2=8.110$ ,  $df=4$ ,  $p=0.088$ ). There is a significant correlation between trust of Associations and Union Uamechinga (Spearman  $r=0.652$ ,  $p=0.01$ ). That is, when a beneficiary reported trust of an individual Association s/he was also likely to report trust in the Union.

Most of the farmers who reported very small or small level of trust for the Union also reported not having made a profit. While significant ( $r=-0.263$ ,  $p=0.05$ ), this is a weak negative correlation. No significant correlation was observed between profit and trust in the Associations. This finding was not unsurprising since the commercialisation of the harvests – a key factor in determination of trust – is basically managed by the Union, despite the fact that the Associations also take part in the process.

Many farmers within the six Associations complained that they did not get the right amount of revenue following transactions done by the Union. An old man (farmer 7), pointed out that he had given up and withdrawn from the project because he was defrauded a significant amount of his revenue: *They have stolen MZM-OF 17,000,000*

*out of the revenue of MZM-OF 24,000,000. Mr X [farmer 45] had stolen my money and bought cattle. The case was reported within the Union and the Community Leader of Marrambajane.* Mistrust in farmer 45 was later reported by another key informant (farmer 2) who argued the issue of trust to be a domestic subject, and that he had also complained about shortage of his revenue to farmer 45. A senior key informant (farmer 39) had explained that farmers do not understand that there are micro-credit expenses as well as Association and Union fees to be deducted from their revenue. In addition, commercialisation of produce is undertaken by a team comprising one farmer representing the owners of the produce, one member of the Union and one farmer appointed by the Associations involved. Thus, the commercialisation process appears to be open and transparent but there are problems of communication among farmers and the Union of Associations. Many farmers reported that they do not know the amount they were given as credit and the amount they are supposed to receive after deduction of the micro-credit. At the beginning of the project farming information was issued to farmers but, according to farmer 2, this practice was later abandoned.

It is important to note that mistrust is a legacy from earlier technical assistance provided by the FDC. The FDC technicians did not attract enough trust from farmers. Information gathered in interviews suggested they apparently failed to provide information of revenues, debits and profits of farmers. In addition, they apparently failed to inform farmers that inputs distributed during the emergency period were free of charge, while the inputs allocated after the emergency included costs to be met by the farmers. Farmer 47 had taken some of these technicians to police due to alleged shortages of her revenue. A number of farmers complained that technicians had left their sugar bean crop to perish within the Union storage facility. Others even suspect that part of the sugar bean stores were used, because stocks declined but farmers did not see a significant amount of bean attacked by pests. Figure 4.2 shows the Union storage facilities beside the Union office (on the left). The roof of the store is metallic (corrugated zinc) which is extremely hot. Under high temperatures farmer's produce is more susceptible to storage pests.



Figure 4.2 Union office and storage facilities

To sum up, the level of trust displayed by farmers has generally increased compared to the period before the implementation of the project. However, due to the alleged shortage of expected revenues, the current level of trust is not as high as desired. While mistrust caused by theft of money in 2005 was partially overcome when the thieves were identified, the alleged shortages of revenue and information of farmers about their debts, revenues and profit have not yet been properly addressed and mistrust is perpetuated as a consequence.

### ***Bridging social capital***

The Union of Associations Uamechinga developed ties with other Unions of Associations sponsored by the FDC within the Chókwé District. These Unions of Associations comprise the Union of Farmer Associations Emilio Guebuza in Hókwe and Union of Farmer Associations in Chilembene, Muianga, and Guija. The collaboration among these unions is manifest through sharing or lending of cars, tractors, and inputs (seeds, fertilizers and pesticides). Vehicle, tractors, and implements are shared free of charge but operational costs, such as fuel, are met by the borrower. Inputs borrowed are paid back without interest.

### ***Linking social capital***

Links between the Union of Associations Uamechinga and the District Directorate of Agriculture, local administration (Post Administrative of Chilembene) and other formal organisations such as banks and NGOs, were developed. Once the associations

and the Union of Associations Uamechinga were legalized, the assistance from the District Directorate of Agriculture increased. Assistance was manifest through technical assistance from extension workers and access of the Union management committee to officials from the Directorate of Agriculture and Local Administration. For instance, in October 2006 the Union received donations of 60 bags of rice seed and unspecified quantities of herbicides were given in credit. Technical assistance to farmers for production of rice in the 2006/2007 agricultural campaign was guaranteed. This is important support because the farmers have no experience with production of rice.

The Directorate of Agriculture had also provided a link between the Union and formal banks, for example the Millennium International Bank of Mozambique, to access credit. The Directorate achieved this linkage by issuing the relevant documentation acknowledging that the Union is an official and legal organisation. An amount of MZM 775,000,302 was lent to the Union by the Millennium Bank for production of rice in the 2006/07 agricultural campaign. The Union had attracted many visits from several NGOs to learn about the Union as well as Masters and PhD students conducting dissertation research. Outputs from these research projects, if well disseminated among key stakeholders e.g. government and sponsors, may increase linking social capital of farmers.

One of the key informants (farmer 34) witnessed the existence of strong links between the Directorate of Agriculture and the Union Uamechinga:

Before formation of Associations we were not well known by the state/government. Now we can also access advice from the extension worker. Now we are much closer to agricultural authorities because we have our statutes published in Government Gazette and the Agricultural Authorities are interested in assisting those farmers who are organised.

In late 2005, an area of 32 hectares of agricultural farm land with a furrow irrigation system located in Chiguidela, was allocated to the Union Uamechinga by the District Directorate of Agriculture and Administrative Post of Chilembene. The Union selected 24 farmers out of 120 from the Marrambajane project to farm this land. The request of the farmland was expressed to the local administration, as an alternative of coping with the collapse of the Marrambajane irrigation system. The Marrambajane

farmers who obtained land in Chiguidela are growing tomatoes (Figure 4.3). Many ex-Marrambajane farmers in Chiguidela made losses in 2005 and 2006 due to lack of micro-credit and weak monitoring of crops. Chiguidela is about 20km from Marrambajane where the farmers live. With little formal transport, it is difficult for the farmers to travel often between home and farm. In late 2006 farmers started to spend nights on the land in the open or in derelict buildings (Figure 4.4). Traditional dwellings are being built (Figure 4.5), so that living conditions on the farm improve. However, since the farm is surrounded by water from irrigation channels (Figure 4.3) farmers are exposed to mosquitoes and many have suffered from malarial infection. Nevertheless, some farmers are prospering in Chiguidela while the large majority of the Marrambajane farmers are still deprived of irrigation facilities due to inability of the Union to pay for fuel.



Figure 4.3. Irrigated tomatoes fields on a Chiguidela farm



Figure 4.4. Derelict building used on Chiguidela farm before construction of traditional dwelling



Figure 4.5. Construction of traditional dwelling on a Chiguidela farm.

### ***Access to resources***

Once integrated in Associations, access to inputs such as seeds increased and facilitation of commercialisation of yield was enhanced. The bridging social capital developed had allowed access to inputs and farm equipment from other Unions of Agricultural Associations. In addition, farmers acknowledge that within the Associations and Union it is much easier to have bank accounts for savings than to open individual accounts. Small farmers often do not have bank accounts in rural areas due to low income generated, unavailability of banks within the local villages, negligence, and ignorance associated with high levels of illiteracy. Key informants (farmers 21, 34, 45) recognised that saving accounts from the Associations help to: buy agricultural inputs; qualify for bank credit; and deliver credit for other needs of the members with no interest charged. Credit from savings is likely to be provided for agricultural purposes because the main objective of a loan is to serve agricultural goals and the Union can collect any income earned from sale of harvests. The Union has less control over credit used for other purposes and not every farmer in need of credit for other purposes has benefited from participation. For example, lending is based on trust that the borrower will pay back; if a farmer is not trusted s/he will not receive a loan. Farmer 7 who is a very poor and an alcoholic (according to farmer 37 and 39) stated: *They do not lend me money because they question where I am going to get money to pay back.* Farmer 21, the leader of one of the Associations, stated: *Due to the fact that there is trust the Union lends us money and then we pay back.* Lending also depends on the amount of money available within the account (farmer 34) and who you are.

### ***Risk sharing***

For perishable crops such as tomatoes, risk sharing is manifested in terms of division of amount of loss among farmers involved in a given amount of crop transported to market. The boxes of tomatoes transported are not labelled to distinguish the produce of each farmer. Therefore, once tomatoes are packed in boxes and transported, it is not possible to say that the one which perished belongs to a given farmer. Concerning loans from formal banks, the risk of losing assets used as collateral is carried by the Union and shared among all individuals.

### ***Information sharing***

Key informants and farmers interviewed revealed that the price of the produce to be sold by the Union is acquired through an informal contact in each one of the two main markets (Xai-Xai and Maputo). The information acquired serves for everybody involved in a given transaction, and not for a single person. It is more cost-effective than individual transactions, where an individual farmer could look for this information on his own. Farmers acknowledge that market information has become much more accessible thanks to extension of a cellular network to cover rural areas. The price of cell phones had gone down recently so some farmers (but still few) have bought cell phones, while others rely on those belonging to a relative.

In summary, membership in social networks increased as a result of formation of Associations and the Union of Associations Uamechinga. Approximately forty-eight percent of the interviewees declared that, compared to five years ago, the members of their households participate in more social networks. Moreover, over eighty percent of beneficiaries reported being a member of an economic social network, including finance and credit organisations. Most importantly, eighty five percent of the Marrrambajane beneficiaries ranked the farmers Association and the Union Uamechinga in first position among non-family social networks in which their household members belong to.

### **4.3. Sustainability of the project**

The project sustainability is analysed based on economic sustainability, measured through amount of money owed by beneficiaries and financial sustainability of the project, and ability of the Union to maintain and replace infrastructure and equipment. Participation of the beneficiaries in identification, design and management of the project is also discussed.

#### **4.3.1 Economic sustainability: repayment of credit**

Participation in the project has led farmers into debt, more than half (53.0 percent) of the credit allocated is still owed (Table 4.13). Of 80 individual clients allocated micro-credit during the project, 67 are indebted, while 13 have no records of payments. For the latter it is difficult to know whether they have paid or not. The

number of individual clients indebted corresponds to 61 households that have not cleared their debts.

Table 4.13 Credit owed from 2001 to 2005

A) Year	B) Value of inputs owed in MZM-OF	C) Percent of money owed in relation to the amount of loan in same year	D) Number Of beneficiaries in debt			E) Number of household in debt			
			Women	Men	Total/year	♀headed households	♂headed households	Gender of the household head unknown	Total per year
2001	22,914,000	59.0	2	3	5	1	4	0	5
2002	258,888,500	59.2	23	25	48	15	26	5	46
2003	213,236,500	57.0	11	21	32	8	24	1	33
2004	225,840,500	58.0	11	17	28	7	21	0	28
2005	27,167,000	16.1	1	3	4	1	3	0	4
Total <sup>a</sup> (2001-2005)	748,046,500	53.0	-	-	-	-	-	-	-

Notes: <sup>a</sup> The same household person could get several loans and accumulate debt. Hence, the figures of single beneficiaries or households owing credit from 2001-2005 cannot be summed

Source: Authors own calculations from project archive

The percentage of money owed in relation to the amount allocated each year did not vary much between 2001 and 2004 (Table 4.13). In contrast, in 2005 the percentage of money owed in relation to the amount allocated in the same year dropped from an average of 58.3 percent between 2001 and 2004 to 16.1 percent. There may be two reasons for this reduction. Firstly, production in 2004 and 2005 had increased steadily compared to 2002 and 2003. This increase in production may have increased the ability of the borrowers to pay their loans. Secondly, management of the project was completely under farmers in 2005. The new management may have taken measures to minimize enforcement problems faced in previous years. Nevertheless, the figure of debt for 2005 should be interpreted with caution since 11 individual clients out of a total of 22 households have no records of payment. The real value of money owed in 2005 may be higher if some of the clients with no records of payment are actually indebted.

### 4.3.2 Financial sustainability

The Union did not impose direct or indirect methods to reduce risk; procedures to repay loans were extremely flexible<sup>19</sup>. This meant increased enforcement problems and high levels of default. The project failed to ensure that borrowers pay back their debts when they could afford to do so. This undermined financial sustainability of the project, because in the long run the project failed to create enough reserves to ensure its long term operation. However, in the short and medium term, production and revenue increased.

Key informants (farmers 21, 26, 34, 37, 39 and 45), indeed most farmers interviewed, reported that the Union was failing to meet operational costs from 2005 when the project sponsorship ended. The money paid into the account of the Union was not enough to cover project costs including purchase of fuel to supply the pump engine used for irrigation and administrative costs such as vehicle maintenance and the salary of the Treasurer/Secretary. The costs of fuel became much higher because the size of pipes acquired was smaller in relation to the power of the engine pumps. According to one of the key informants (farmer 26), the size of the pipes used was 3-4 inches instead of 6-8 recommended for the power of 56.5 Kilowatts (kW). As a result, the engine pumps were forced to work at low rotation to avoid rupture of the pipes. Consequently the consumption of fuel was higher than expected. In addition, farmer 15 explained that the distance is long – about 2 km – between the site where the engine pump is placed and the farms. The pump captures the water straight from the Limpopo River and has to pump it for 2 km. Usually once the water is captured from the river a furrow small channel could be dug for this distance of 2 km. However, it was observed that there is a huge crater caused by erosion from the 2000 floods (Figure 4.6). The pit is about 10 meters deep and 40 metres long. Pipes were suspended across the crater using poles for the project. Measures were not taken to eliminate the crater. The pumping system was not effective because of the problems with size of pipes, the crater, and the Union decided to stop using irrigation facilities

---

<sup>19</sup> The project did not deduct the entire amount owed (credit allocated to a client, membership fees, and transaction fees) if the household revenue was low. According to farmer 15, the project did not take effective measures to discount previous debts of borrowers in following years, when the household revenue was higher.

acquired by the project. Funds were being used to pay a salary to the project Treasurer/Secretary instead but these have run out.



Figure 4.6 Abandoned irrigation system in crater caused by erosion from the 2000 floods.

Since 2006, the collapse of irrigation facilities acquired by the project has affected negatively both the flow of income within the households of earlier beneficiaries from the micro-credit and the payment of fees expected from the members. The source of money for membership fees, transaction fees and loan repayment within the Associations and Union is from production of cash crops (tomatoes, onion and cabbage).

The Union had sold half of the cattle (6 cattle, one from each one of six Associations) acquired by the project. This transaction was made in order to open an account in a formal bank, so that the Union could qualify for a bank loan. Currently each Association has only one cow or ox, but two of these animals are required to plough. Therefore, it is not possible for one Association to plough unless animals are shared among Associations (farmer 21).

#### **4.3.3 Infrastructure and equipment**

With respect to infrastructure and equipment, sustainability of the project is interpreted as the ability of the Union of Associations Uamechinga to maintain and

replace the equipment and infrastructure acquired under umbrella of the project once it is obsolete. Field observation during August and December 2006 demonstrated the project equipment and infrastructure was either unused or depreciating rapidly.

### **Engine pumps**

Three pumps were provided for the project. Despite the fact that, there are constructions built in order to protect this machinery against sun all three pumps have been abandoned and exposed to sun for long time (Figure 4.7).



Figure 4.7 One of the engine pumps allocated to the project.

It was observed that the machinery has been working without acceptable level of grease (lubricant) and exposed to sun for long time (Figure 4.8). As a result parts of the machinery were oxidised and depreciation of the whole pump had taken place.



Figure 4.8. Key informants and researcher observing condition of the biggest engine pump.

### **Irrigation pipes**

Irrigation pipes had been unused since the irrigation system collapsed (Figure 4.9). No effort was being made to revive the irrigation system or protect the pipes.



Figure 4.9. Unused irrigation pipes.

The farmers' preference is for the development of a furrow irrigation system rather than reliance on piped water. This would involve digging a furrow from the main channel at the village of Muianga to Marrambajane (Figure 4.10).



Figure 4.10. Examination of the site at Muianga village where a secondary irrigation channel could be extended to Marrambajane.

In December 2006 the tractor had broken down and was to be taken to be serviced. Farmers complained about systematic break down of the tractor as well as the truck and bakkie. Both truck and bakkie are also in advanced stage of depreciation and the Union has no financial resources for adequate repair or replacement.



Figure 4.11. The project's second hand tractor.

The equipment acquired under the umbrella of this project is exposed to adverse conditions which accelerate depreciation. It can be concluded that the Union lacks the necessary skills and force of will to perform adequate maintenance of collective infrastructure and equipment.

#### **4.3.4 Participation**

The sustainability of the project is in part undermined by weak participation of the beneficiaries in identification of problems, project design and decision making during implementation. Participation of the farmers themselves within the project cycle was limited. Firstly, farmers themselves were not involved in identification and selection of participants. Only the Chilembene Post Administrative, the Agriculture Directorate of Agriculture and the sponsors (Fundacion Cear) were involved. Although, it is argued in the project document that the selection of the first sixty beneficiaries was undertaken by local leaders in Marrambajne, this information was not confirmed on the ground. Secondly, according to key informants (farmer 37, 39) active participation of the communities was mainly observed during the implementation of the project. This participation was made by means of offering to work as human resources and offering their tools to work with (hoes, hatchet, boots, plough, and pairs of cattle as

draft power). The design of the project was entirely done by the FDC and the Administrative Post of Chilembene. The Administrative Post also played a role in allocation of farm land for the project in coordination with the traditional leader of Marrambajane. Identification of the other beneficiaries was made by *Swikarato* members to complete the 60 first participants. Thirdly, with regards to decision making during implementation, the communities claim that their voice was not heard because it was not possible to sort out the problems as these occurred. For example the inappropriately sized pipes which could not work with the engine pumps were not replaced as farmers requested. Fourthly, there was no evaluation of the project as key informants (farmers 37 and 39) complained: *the end of the project was so sad as there was no adequate evaluation of the project*. The project document states that internal evaluation involving the beneficiaries and the union management team should be organised by FDC and Fundacion Cear.

## **5. DISCUSSION OF FINDINGS**

In this chapter the triangle model and forms of social capital are used to assess the economic and social effectiveness of the Marrambajane project. If the Marrambajane project is to be rated as successful using the triangle model it must show strong poverty outreach and impact and demonstrate long term financial stability. To be rated as effective in the social dimension the Marrambajane project must show development of horizontal, vertical and linking capital. Based on these factors, strengths and weaknesses of the project are identified and discussed.

### **5.1. Poverty outreach, poverty impact and financial sustainability**

#### **5.1.1. Poverty outreach**

One of the key research questions was ‘Has the project resulted in change in wellbeing of participants?’ In the section below I answer this question by analysing the findings in relation to the triangle model.

In the triangle model, poverty outreach has two components i.e. breadth and depth. Indicators for breadth of outreach include number of poor beneficiaries and women receiving credit. It is clear that most of the farmers targeted had no access to formal finance services, as key informants reported that before the project many farmers did not have individual accounts in formal banks. Thus, Marrambajane rates reasonably well on these indicators with just over half the beneficiaries being rated as poor or very poor on the wellbeing ranking (Chapter 4, Table 4.3) and there being a significant number of women receiving credit (Chapter 4, Table 4.2).

Depth of outreach represents the distance of beneficiaries from a poverty line. Unfortunately it was not possible to derive a poverty line for the sample based on expenditure or consumption because these were not measured in the questionnaire and income data collected through the questionnaire was deemed to be unreliable. However, the wellbeing ranking represents a community-derived poverty index of four categories with a distinction between poor and very poor. Thirty percent of

beneficiary households were rated as 'poorest' suggesting the Marrambajane project had achieved a reasonable depth of outreach. The farmers themselves noted that some of the poorest members of the broader community were beneficiaries of the project.

The Mozambique Agricultural Policy and the current National Agricultural Programme (PROAGRI 2) defends interventions oriented to support both poor and *promising* segments of small scale farmers (MADER 2004:30). The idea is to assist promising small scale farmers to be more integrated in commercial farming and poverty reduction, while ensuring food security and welfare of poor and poorest farmers (MADER 2004:30-33). However, programmes should be designed to ensure the poorest and the poor are not excluded in favour of promising (non-poor) farmers.

The bias in selection of the participants calls attention to the importance of a means test and ranking methods for targeting beneficiaries of poverty reduction projects, in order to avoid leakage of benefits to the non-poor. While a means test may be expensive for poor countries such as Mozambique, wellbeing ranking methods are affordable (Green et al. 2006:674; Rai, 2002:73). However, these may only be used if criteria of eligibility are standardised for different geographical regions because understanding of wellbeing factors varies across geographic location (Green et al. 2006:670-671; Rai, 2002:73). In this study the participatory wellbeing ranking method appeared to provide a fairly reliable measure of a household's poverty ranking. Nevertheless it would have been useful to develop an income or expenditure based poverty line to validate the categorization achieved through the community ranking activity.

### **5.1.2. Poverty impact**

#### ***Income generation***

Beneficiaries did generate income as a result of participating in the project. However, distribution of credit was uneven as was income generated, with rich and middle ranked beneficiaries receiving 1.2 times more credit and recording higher incomes (1.6 times more compared with 'poor' and 'poorest' households).

These findings are similar to those observed in other microfinance projects (cf Buckley 1996: 338; World Bank, FAO and USAID cited in Padmanabhan 1996:11-

14). These studies documented that better off farmers benefited more than poor farmers.

The amount of income generated was viewed by beneficiaries to be inadequate. From a total of MZM-OF 1,410,632,000 micro-credit invested an apparent profit of only MZM-OF 463,634,900 was achieved. Profit is labelled 'apparent' because in many cases when revenue was received by a farmer the full amount s/he owed was not deducted, leaving the farmer in debt. In other words the revenue did not cover the full amount owed from credit received, membership fees and transaction fees but the Union would still pay revenue to a farmer.

Despite all the constraints mentioned, slight positive changes of income in most of the beneficiaries from 2002 up to 2005 were observed. Before the project, income from sale of crops was almost non-existent since the beneficiaries were subsistence farmers and the farmers were not producing cash crops (tomatoes, onion and cabbage) because they had no irrigation facilities. However, the apparent increase in income should be assessed in relation to concomitant subsidisation of fuel and operational/administrative costs, as well as payment of income above the real profit generated by the farmers (because credit was not paid off in full). Farmers reported that systematic sale of low and medium return animals as source of cash for household needs had been replaced by sale of vegetables. Thus, participation has allowed some farmers to develop a buffer – in the form of livestock – for periods of severe crisis.

### ***Changes in assets***

With regard to assets acquisition, the findings from the Marrambajane project do not allow us to make robust statistical inference given that the number of cases in each type of asset acquired is low, and the sample size is also relatively small (67 households). There was no evidence of significant differences in median number of items bought (through participation in the project) by rich, middle, poor and poorest wellbeing categories. However, when assets bought in each household category are grouped according to their monetary value, the findings suggest that rich households are more likely to buy high return animals than poorest households; and middle households are more likely to buy more middle and low return animals than poorest

households. In terms of non-animal durable assets, poor households are more likely to buy cheaper durable assets e.g. hoes, spades, pangas and machetes than the rich and poorest households. In contrast, rich and middle households buy more expensive durable assets than poor households. A higher proportion of rich households (31.3 percent) also buy less expensive durable assets than poor households. Statistical tests to compare the monetary value of assets bought in each household category were not undertaken, because they could be meaningless and misleading due to the low number of cases in each type of asset acquired.

These findings are compatible with those of Zimmerman and Carter (2003:253-254) modelling wealth accumulation and portfolio management among rich and poor villagers under adverse environmental conditions and subsistence constraints in the developing world. These authors concluded that poor households invested in low return consumable assets such as grain at the expense of consumption smoothing while rich households bought expensive assets and were able to smooth their consumption. They also found positive correlation between initial wealth and the rate of returns of assets. It would be invalid to infer this correlation for the Marrambajane case because households started with very few assets as a result of loss through the 2000 floods.

The Marrambajane project elicited a small contribution to acquisition of households assets compared to other sources (donations following 2000 floods, traditional mechanisms of cattle acquisition purchase, off-farm income). For example, out of 67 households interviewed, 42 households<sup>20</sup> own cattle (63 percent), but the contribution of the project for acquisition of cattle was only in 6 households (9 percent).

A limitation of the survey instrument used was that it measured ownership of an asset (yes or no) but not the quantity owned. However, with the exception of cattle, the number of households acquiring new assets was always higher than the number of households adding to existing assets. Hence, the findings suggest that, with exception of cattle, there was no significant accumulation on household assets previously owned. This finding would probably be different if the household asset holding was not

---

<sup>20</sup> Some households did not lose (all) their cattle during the 2000 floods.

decimated by the dramatic floods in 2000. However, there was clearly growth in household asset value by acquisition of new assets. This finding is consistent with SACA case study of Malawi (Buckley, 1996:370) in which credit farmers were reported to have had higher growth on household assets value compared to non-credit farmers. Nevertheless, it is in contrast to Kaboski & Townsend (2005: Abstract) study of rice banks and buffalo banks which failed to promote asset growth in Thailand.

Some assets owned by richer people within the Marrambajane village were not acquired by the project beneficiaries. For example, none of the project participants reported acquiring a sewing machine, solar panel, refrigerator/freezer, television, motorcycle or car. This finding is in line with Buckley (1996:369) who found that farmers possessed assets such as farm cart, cattle, bicycle, radio, hut, cooking pot and eating utensils rather than luxury items. In Mozambique, rich households in rural areas where there is no electricity, like Marrambajane, may possess a solar panel which will become an incentive to buy a television, refrigerator/freezer and other electronic equipment. Rich households could also be willing to buy a paraffin refrigerator/freezer. Essentially, income generated from the project did not allow the Marrambajane farmers to purchase luxury goods.

Farmers observed that the quantity of assets acquired by the project participants not only depended on the amount of income generated but also on investment and management skills. Farmers with good investment and management skills bought more assets.

In summary, the Marrambajane project has had some impact on wellbeing through poverty reduction because farmers generated income and acquired assets. However, income generated was relatively low, certainly insufficient to acquire luxury items.

### **5.1.3. Financial sustainability**

Another research question was 'Is the project sustainable?'. In this section I answer this question by analysing findings in relation to Ohio School criteria.

It is estimated that 53.0 percent of credit allocated was not repaid. Low returns observed from the micro-credit together with extremely flexible procedures for

repayment of credit are the two main reasons for the significant discrepancy between credit given and amount still owed.

Low return on goods sold is the main reason for weak reinvestment of the income generated in subsequent agricultural campaigns as reported by farmers and FDC officers. However, it was also unreasonable to expect farmers could become independent from the micro-credit organisation, even if the income generated was remarkable. Short-term repayment of credit is unlikely because a farming system has reciprocal linkages with other off-farm activities and farmers have other household welfare goals, apart from income stability (Ellis, 1993:18). There is a flow of earning from off farm activities to farming and vice versa (MADER, 2004).

Due to low income returns and the Union's failure to enforce repayments when profits were relatively high, the project collapsed. It failed to secure long term financial sustainability or even operational sustainability (as demonstrated by unused irrigation pipes and equipment). The project failed to meet the Ohio School criteria for long term sustainability. According to this approach financial sustainability is achieved by setting up lending micro-credit organisations which are profitable and not subsidised as well as achieving mobilisation of savings (Harper, 1998:24; Hulme and Mosley, 1996:3).

## **5.2. Social capital development**

A third research question was 'Has participation in the project resulted in development of social capital?' In the section below I discuss this question by analysing findings in relation to different dimensions of social capital.

This research supports the hypothesis that accumulation of social capital by means of membership within the Associations/Union and subsequent development of personal and organisational relationships among farmers results in a positive change of material wellbeing. This claim is made based on evidence of horizontal ties, vertical ties and linking social capital. In addition, membership within Associations/Union enabled farmers to access resources that they could not access individually (micro-credit, agricultural equipment, irrigation scheme, draft power, commercialization

facilities, transport, inputs and technical assistance). Moreover, the study found that there is sharing of risk and information among farmers when marketing their products. These findings are in accordance with the outcomes from Fafchamps and Minten (1998:24) in Madagascar. However, the latter study is not directly comparable because the subjects, agricultural traders, developed social capital from personal relationships and not through integration into an association or union.

The Marrambajane case study demonstrates that trust within individual Associations and Union of Associations is good, but not as high as desired in a voluntary membership social network.

In an ideal situation at least three quarters of the members (in this case represented by the respondents) were supposed to demonstrate a strong trust of the Union management team (president, deputy president, accountant and treasurer). This claim is made because the management team is elected by deliberation of three quarters of the General Assembly of the Union, which comprises the total number of individual members of all associations integrated within the Union (Government Gazette, 14 September 2005). The management team is supposed to be elected annually according to the statutes of the Union (Government Gazette, 14 September 2005). However, these elections took place only once after the Union was informally (i.e before its legalisation in 2005) formed in 2001. The General Assembly of the Union has the power to dismiss the management team. The Union also has an overseeing/inspection team which among other things oversees economic activities, use of finances from the Union, enforcement of statutes and deliberations from the General Assembly. Thus, the Union has key mechanisms necessary to ensure that dedicated people are integrated within the management and overseeing teams. The findings from this study suggest that the General Assembly did not predict the impending collapse of the project. Had they recognised this they could have exerted their right to replace the management team. Another possible reason for the indifference of the General Assembly is the lack of information about the rights of the members. For the General Assembly members to act on their rights it would be imperative for them to understand the statutes of the Union and Associations. The statutes were prepared by an NGO (ORAM) which assists communities in legalisation of their organisations.

Given a greater majority of the members are illiterate it becomes imperative that their rights are communicated to them.

### **5.3. Key constraints to sustainability and possible solutions**

The causes of low returns arise from poor business planning, and market and institutional failures. The decision on which cash crops to produce was based on attractive prices achieved by producing tomatoes, onion and cabbage. However, no account was taken for the risk of rapid deterioration of these perishable crops, poor condition of roads, inaccessibility of markets during rainy seasons, a significant number of national and South African competitors, high elasticity of tomatoes prices, and limited transport available within the project. Farmers reported that many tons of tomatoes deteriorated due to limitation of transport and poor conditions of roads during rainy seasons. Indeed, agricultural micro-credit without good infrastructure and transport facilities to connect farmers to the main markets cannot be feasible (African Development Bank, 2003:8; Padmanabhan, 1996:12). The project could have eliminated this constraint by seeking to balance profit and long term stability of income. This could have been made by a sensible enterprise choice (Ellis, 1993:18), combining these vegetables with not so easily perishable cash crops, such as rice and sugar beans. Since the risk of deterioration of vegetables and inaccessibility of markets is high in the rainy season (November-March), farmers could produce rice in summer and the combination of sugar bean and vegetables in winter. As market access and competitiveness improves, farmers could gradually specialise in a given number of crops.

The common denominator of most financial sustainable rural micro-finances is high loan repayment rate (HSRC, 2002:141). This suggests that the Marrambajne project should follow this lesson to be financial sustainable. Direct methods which reduce the risk of default based on measures such as intensive scheduled loan collection, and supervision may play important role in increasing the rate of repayment. Since sale of the harvest is managed by the Union management committee it would not be difficult to implement intensive collection of loans after sale of the crops. Furthermore, the credit is given in inputs therefore there is no risk of fungibility of the loan. In addition, supervision of credit provision by senior officers representing the implementer, in collaboration with specialised micro-finance organizations, is also desirable. If

outsiders were participating the management committee will feel under pressure to ensure that the loans are collected.

Another determinant of low return and collapse of the micro-credit project related to poor quality infrastructure, particularly pertaining to water (through irrigation). Problems included: high costs of irrigation due to use of engine pump using fuel; smaller size of the pipes used in relation to the power of the pump; long distance (2 km) between location of engine and farms; and unwillingness of the project management to seek an effective solution to the irrigation problem. Farmers noted that the use of engine pumps to irrigate the farms is not sustainable for small scale farmers. Without sponsorship they failed to afford the fuel required by the machinery. Farmers have suggested that the furrow irrigation system should be extended to Marrambajane.

The main irrigation channel that distributes water to farms extends from Chókwé town to Mapapa village (a distance of approximately 40 km). Only farms alongside the channel with additional infrastructure to siphon off the water benefit from the main channel. Figure 5.1 shows the author with farmers at the site along the main channel where a secondary channel could be extended from Muinga village to the Marrambajane farms, a distance of 5-6 kms. The idea for this extension has been around for a long time; the furrow system was developed during Portuguese rule. However, is important to assess how the extension of furrow irrigation will affect other farmers further down the channel. For example, the latter may get less water or interrupted delivery if a secondary furrow is routed to Marrambajane.



Figure 5.1. The author (left) with a local traditional leader and two key informants at the site where the secondary furrow irrigation channel could be extended from Muianga village to Marrambajane.

The agricultural micro-credit project will not be sustainable if the strategy of supplying water for irrigation is not changed. The Traditional Leader, a man aged 65-70 years and currently in poor health, stated: *“I would die happy if the government could extend the furrow irrigation system to Marrambajane, because this could improve the wellbeing of the land”*.

## **6. CONCLUSION, RECOMMENDATIONS AND DIRECTIONS FOR FUTURE RESEARCH**

### **6.1 Conclusions**

The findings from this study suggest that the goals of the Marrambajane project (refer to logical framework, Chapter 3) were achieved. The project achieved goals of promoting agriculture, increased production, and institutionalisation of Associations and the Union. In addition, farmers moved from subsistence to commercial farming thanks to provision of irrigation system and farming of cash crops. When applying the lens of the micro-credit triangle model the project also appears to have achieved some success – the project shows some success in depth and breadth of outreach and some gains in improved wellbeing through poverty reduction. However, it was difficult to separate from the analysis the changes observed by individuals and households. This could be considered as an important limitation of the research. Farmers also benefited from social networks. In spite of these positive outcomes, income generation was not high, asset accumulation remained low, farmers are in debt, level of trust was not extensive, and the project has collapsed. In practice the project worked as a safety net for the farmers rather a sustainable economic initiative.

In terms of the economic paradigms described in Chapter 2 it is clear that the project did not equip the Marrambajane farmers to succeed in a free market economy. Indeed there are indications that the farmers expect state support and require donor support for their agricultural activities to succeed. The expectation of state support is captured eloquently in the quote that brings Chapter 5 to a close. The reliance on donor support is evident from the collapse of the project soon after donor funding ceased. While it is important for Mozambique to reduce her reliance on donor funding, the experience of the Marrambajane farmers suggests stronger interventions are needed before the state and donors can withdraw their support. Analysis of findings from this research indicate that interventions are necessary at different levels.

Poor project design, poor business planning, market and institutional failures, and lack of corrective action when problems were identified during implementation can be identified. At the project design level there was too strong a focus on perishable crops. The solution here would be to develop skills in growing a more robust crop, such as

rice, along with the more lucrative, but more volatile, tomatoes crop. In the case of Marrambajane, the Union management and other stakeholders did not implement any direct or indirect method to ensure consistent repayments and to reduce risk of debt. The introduction of direct or indirect methods would go some way toward improving the business model. An economic model that encourages partnership between the community, the state and donors should be adopted. This could ensure that problems resulting from poor infrastructure are addressed, for example the installation of a furrow irrigation system through to Marrambajane. The study also revealed that human capital is low (a significant proportion of the farmers are illiterate) in Marrambajane. If development projects are to succeed human capital must grow. Thus, education should be prioritised in the area. Better educated farmers would be able to develop stronger relationships with donors, project technicians and representatives from the state. If farmers are to gain leverage in order to achieve, for example sustainable irrigation infrastructure, they need to be sufficiently educated to lobby the state and donors.

## **6.2 Policy recommendations**

Based on Chapters 4 and 5 and the conclusions drawn above, the Marrambajne project, and similar projects which aim to have an impact on poverty reduction, achieve financial sustainability and poverty outreach and develop social capital, must adopt the following policies:

1. Design agricultural micro-credit interventions targeting a particular segment of small scale farmers and not heterogeneous households. For example an intervention can target only poor households (below a poverty line, or poor according to wellbeing ranking) leaving out the non-poor households. Alternatively, an intervention can be designed to target specifically non-poor households (above poverty line or middle and rich households in wellbeing ranking). By doing so, it would ensure more benefits reach the intended segment of small-scale farmers.
2. Micro-credit projects must be designed with both poverty reduction and financial sustainability in mind. The project must recover administrative and operational costs and subsidisation should be avoided; where subsidies are necessary participants must be informed well in advance of their withdrawal. Those

development organisations whose mission is not provision of financial services must seek to implement agricultural micro-credit programmes in collaboration with specialised micro-credit organisations. The latter should have a strong sense of how to achieve financial sustainability while the former may not meet the prerequisites demanded for saving schemes and they have no adequate skills in loan supervision and intensive loan collection, which are an important elements for financial sustainability (Zeller, 2003:20).

3. Mistakes identified during implementation of agricultural micro-credit projects must be resolved timeously, so that the sustainability of the interventions is not compromised.
4. Since factors such as strong investment and management skills and alcoholism are important determinants of household asset growth, agricultural micro-credit projects must adopt policies which enhance investment and management skills of the beneficiaries, while taking measures to reduce problems such as alcoholism.
5. The Ministry of Agriculture and all stakeholders involved in promotion of farmer's Associations/Unions in Mozambique must not concentrate only in institutionalisation of farmers Associations/Unions. Monitoring and evaluation of the performance of Associations/Union must be one of the major priorities. More attention must be given in systematic evaluation of the dynamics of trust, prevention of violence, and divulging of the statutes in order to empower the members to exercise their rights.

### **6.3. Recommendations and directions for future research**

This research was constrained by difficulties faced by farmers to recall the amount and value of inputs used and outputs generated. The researcher overcame this problem using the project archive. The project provided some documentation but there are significant gaps. I strongly recommend the implementers of agricultural micro-credit projects carry out an effective documentation of amount of inputs employed, outputs generated, and other relevant indicators.

I argued that one of the causes of low returns was poor business planning. I therefore, recommend development of a good business planning, based on market research and wise research of enterprises (crops) taking into consideration all the weakness and risks discussed in Chapter 5.

Identification of sustainable systems of irrigation for poor small scale farmers was beyond the scope of this research. However, extension of furrow irrigation from Muianga village to Marrambajane must be investigated further. A rural engineering study to assess the practicality of the vision should be carried out.

In conclusion, this research has shown that poverty reduction (measured by gains in income, assets and social capital) can occur in Marrambajane through the use of in-kind credit. However, stronger project design and attention to credit recovery are required for longer term success.

## 7. REFERENCES:

- African Development Bank (2003) *Rural Finance Intermediation Support Project: Appraisal Report*. Available online: [http://www.afdb.org/pls/portal/docs/PAGE/ADB\\_ADMIN\\_PG/DOCUMENTS/OPERATIONSINFORMATION/ADF\\_BD\\_WP\\_2003\\_E.PDF](http://www.afdb.org/pls/portal/docs/PAGE/ADB_ADMIN_PG/DOCUMENTS/OPERATIONSINFORMATION/ADF_BD_WP_2003_E.PDF). Downloaded 27 June, 2006.
- African Economic Outlook (AEO) (2006) *Mozambique*. Available online: Downloaded 07 April, 2006. [www.oecd.org/dev/publications/africanoutlok](http://www.oecd.org/dev/publications/africanoutlok).
- Baumann, T. (2004) 'Imp-Act Cost-effectiveness Study of Small Enterprise Foundation, South Africa', *Small Enterprise Development*, 15(3):28-40.
- BBC News (2007) *Timeline: Mozambique*. Available online: [http://news.bbc.co.uk/2/hi/africa/country\\_profiles/1063120.stm](http://news.bbc.co.uk/2/hi/africa/country_profiles/1063120.stm). Downloaded 12 March, 2008.
- Buckley, G. (1996) 'Rural and Agricultural Credit in Malawi: A Study of the Malawi Mudzi Fund and the Smallholder Agricultural Credit'. In Hulme, D. and Mosley P. (eds). *Finance Against Poverty*. London: Routledge.
- Carmona, F\*. (2005) 'Imminent Collapse of João Ferreira dos Santos Group', *Savana, Weekly Independent Newspaper*. Maputo, 17 June.
- Cohen, M. (2002) 'Making Microfinance More Client-Led', *Journal of International Development*, 14: 335-350.
- Copestake, J. (2004) 'Cost-Effectiveness of Microfinance Client Assessment in Honduras', *Small Enterprise Development*, 15(3):52-60.
- Development Research (2000) It's not what you know - It's who you know! *Insights*, Issue #34.
- De Vletter, F. (2007) 'Migration and Development in Mozambique: Poverty, Inequality and Survival', *Development Southern Africa*, 24(1): 137-153.
- Ellis, F. (1993) *Peasant Economics: Farm Household and Agrarian Development*. Cambridge: University Press.
- Fafchamps, M. and Miten, B. (1998) *Relationships and Traders in Madagascar*. MSSD Discussion Paper No 24. Washington, D.C: International Food Policy Research Institute.
- Fine, B. (2003) 'Review Essay. Social Capital: The World Banks Fungible Friend', *Journal of Agrarian Change*, 3 (4):586-603.
- Fundacion CEAR\* (2001) *Final Report about the Project: Rehabilitation of Agriculture in Chilembene, Mozambique*.
- Fundacion CEAR\* (1999) *Project Document: Rehabilitation of Agriculture in Chilembene. Mozambique. Agrarian Component*. FCEAR Projects in Mozambique.
- Government Gazette\* (2004) Republic Bulletin: Official Publication of the Republic of Mozambique. 10 March (3), 10: 321-322.
- Government Gazette\* (2004) Republic Bulletin: Official Publication of the Republic of Mozambique. 24 March (3), 12: 423-438.
- Government Gazette\* (2005) Republic Bulletin: Official Publication of the Republic of Mozambique. 14 September (3), 37: 2245-2247.
- Green, M., Lukanu, G., Worth, S. and Greenfield, P. L (2006) 'Use of Wealth Ranking to Analyse Factors Influencing Smallholder Farmers' Market Participation in Northern Mozambique', *Development Southern Africa*, 23(5): 659-683.

- Grootaert, C., Narayan, D., Jones, Veronica, N. and Woolcock, M. (2004) *Measuring Social Capital: An Integrated Questionnaire*. World Bank Working Paper No 18. Available online: [http://povlibrary.worldbank.org/files/11998\\_WP18-Web.PDF](http://povlibrary.worldbank.org/files/11998_WP18-Web.PDF). Downloaded 13 September, 2006.
- Handa, S. (2002) 'Raising Primary School Enrolment in Developing Countries: The Relative Importance of Supply and Demand', *Journal of Development Economics*, 69 (1): 103-128.
- Harper, M. (1998) *Profit for the Poor: Cases in Microfinance*. London: Intermediate Technology Publications Ltd.
- Hart C. (2005) *Doing Your Masters Dissertation*. London: SAGE Publication Ltd.
- Hulme, D. and Mosley, P. (1996). *Finance Against Poverty: Volume 1*. London: Routledge.
- Human Sciences Research Council (HSRC) (2002) *Micro-Finance in Rural Communities in Southern Africa: Country and Pilot Site Case Studies, Policy Issues and Recommendations*. Prepared for the Integrated Rural Development Program of the W.K Kellogg Foundation, Southern Africa. Available online: [www.hsrbpress.ac.za](http://www.hsrbpress.ac.za). Downloaded 17 July, 2007
- Kaboski, J. P. and Townsend, R. M. (2005) 'Policies and Impact: An Analysis of Village-Level Microfinance Institutions', *Journal of the European Economic Association*, 3(1):1-50.
- Kinnear, P. R and Gray, C.D. (2006) *SPSS 14 Made Simple*. New York: Psychology Press. Taylor & Francis group.
- Kulipossa, F. (2006) Mozambique, *IDS Bulletin*, 37(2): 40-52.
- Kumar, S. (2002) *Methods for Community Development*. London: ITDG Publishing
- Lok-Dessalien, R. (2001) *Review of Poverty Concepts and Indicators*. Available online: <http://www.undp.org/poverty/publications/pov red/ Demystifying Poverty Lines.pdf>. Downloaded June 2006.
- Marconi, R. and Mosley, P. (2004) 'The Fin Rural Impact Evaluation Service – a Cost-effectiveness Analysis', *Small Enterprise Development*, 15 (3), 18-27.
- Marshall, J. (1990) 'Structural Adjustment and Social Policy in Mozambique', *A Review of African Political Economy: What Price Economic Reform*. Spring, 47:28-43.
- Martinussen, J. (1997) *Society, State & Market: A Guide to Competing Theories of Development*. London: Zed Books Ltd.
- Meyer, R. (2002) *Track Record of Financial Institutions in Assisting the Poor in Asia*. ADB Institute Research Paper No 49. Available Online: <http://www.adbi.org/files/2002.12.rp049.track.record.pdf> . Downloaded July 04, 2006.
- Ministry of State Administration (MAE)\* (2005) *Profile of Chókwè District. Gaza Province*. Republic of Mozambique. Available online: [www.undp.org/mz/en/content/download/541/2479/file/Chókwè.pdf](http://www.undp.org/mz/en/content/download/541/2479/file/Chókwè.pdf) Downloaded 24 March, 2008.
- Ministry of Agriculture and Rural Development (MADER) (2004) *Strategy Document Proagri II*. Republic of Mozambique. Maputo.
- Montgomery, H. and Weiss, J. (2005) *Great Expectations: Microfinance and Poverty Reduction in Asia and Latin America*. ADB Institute Research Paper Series No.63. Available online: <http://ubpan1.un.org/intradoc/groups/public/documents/APCITY/UNPANO21002.PDF>. Downloaded 29 June, 2006

- Montgomery, H. (2005) *Serving the Poorest of the Poor: The Poverty Impact of the Khushhali Bank's Microfinance Lending in Pakistan*. Asian Development Bank Institute (ADBI). Available online: <http://www.adbi.org/files/2005.09.28.book.khushhali.microfinance.study.pdf>. Downloaded 29 June, 2006.
- Muradzikwa, S., Smith, L. and Villiers, P. (2004) *Economics*. Cape Town: Oxford University Press.
- Narayan, D. (1999) *Bonds and Bridges: Social Capital and Poverty*. National Institute for Social Action\* (2005) *Global Report on the Current Situation of Development Programme*.
- O'Meara, D. (1991) 'Mozambique: The Collapse of Mozambican Socialism', *Transformation*, 14.
- Padmanabhan, K.P. (1996) *Rural Credit: Lessons for Rural Bankers and Policy Makers*. London: Intermediate Technology Publications Ltd.
- Palmer, K. and Sender, J. (2006) 'Prospectus for On-Farm Self-Employment and Poverty Reduction: Analysis of the South African Income and Expenditure Survey 2000', *Journal of Contemporary African Studies*, 24(3): 347-371.
- Portes, A. and Landolt, P. (1996) 'The Downside of Social Capital', *The American Prospect*, (26):18-21.
- Putnam, R. D. (1995) 'Bowling Alone: America's Declining Social Capital,' *Journal of Democracy*, 6 (1):65-78.
- Putnam, R. D. (1993) 'The Prosperous Community: Social Capital and Public Life', *American Prospect*, (13):35-42
- Rai, A. S. (2002) 'Targeting the Poor Using Community Information', *Journal of Development Economics*, 69 (1): 71-83.
- Rahman, A. (1999) 'Micro-credit Initiatives for Equitable and Sustainable Development: Who Pays?' *World Development*, 27(1): 67-82.
- Republic of Mozambique (2006) *State Budget for 2007*.
- Republic of Mozambique\* (2005) *Social Economic Plan-PES for 2006*. Available online: [http://www.opais.co.mz/documentos/plano\\_economico\\_social\\_e\\_2006.df](http://www.opais.co.mz/documentos/plano_economico_social_e_2006.df). Downloaded 24 January, 2006.
- Saul, J. S. (1991) 'Mozambique: The Failure of Socialism', *Transformation*, 14.
- Sen, A. (1999) *Development as Freedom: Winner of the Nobel Prize for Economics*. Oxford: Oxford University Press.
- Simler (a), K., Arndt, C., Maximiano, N., Massinguirela, C., Muzima, J. and Ubisse, A. (2004) *Poverty and Well-Being in Mozambique: The Second National Assessment (2002-2003)*. National Directorate of Planning and Budget, Ministry of Planning and Finance. Economic Research Bureau, Ministry of Planning and Finance. International Food Policy Research Institute. Prude University.
- Simler (b), K. R., Mukherjee, S., Dava, G. L and Datt, G. (2004) . *Research Report No 132: Rebuilding after War: Micro-level Determinants of Poverty Reduction in Mozambique*. International Food Policy Research Institute. Washington, DC: Library of Congress Cataloging-in-Publication Data. Available online: [www.ifpri.org/pubs/abstract/132/rr132.pdf](http://www.ifpri.org/pubs/abstract/132/rr132.pdf). Downloaded 06 July, 2006.
- Streeten, P. (2002) 'Reflection on Social Capital', *Journal of Human Development*, 3(1):7-22.
- Tarp, F., Arndt C., Jensen, H. T., Robinson, S., and Heltberg, R. (2002) *Research Report No 126: Facing The Development Challenge In Mozambique. An Economywide Perspective* International. Food Policy Research Institute. Washington, D.C: Library of Congress Cataloging-in-Publication Data.

Available online: [www.ifpri.org/pubs/abstract/126/rr126.pdf](http://www.ifpri.org/pubs/abstract/126/rr126.pdf). Downloaded 06 July, 2006.

- United Nations High Commissioner for Refugees (UNHCR)\* and United Nation Development Programme (UNDP) (1997) *District Development Profile*. District of Chókwe. Gaza Province.
- Van de Ruit, C., May, J. and Roberts, B. (2001) *A Poverty Assessment of the Small Enterprise Foundation on behalf of the Consultative Group to Assist the Poorest*. Research Report No 39. School of Development Studies, University of Natal, Durban.
- Walsby, M. (2004) 'Crossfire', *Small Enterprise Development*, 15(3):28-40.
- Wenner, M. (2001) *Rural Finance Strategy*. Sector Strategy and Policy Papers Series. Washington DC: Inter-American Development Bank. Sustainable Development Department. Available online: <http://www.iadb.org/sds/>.  
[www.ifpri.org/pubs/abstract/126/rr126.pdf](http://www.ifpri.org/pubs/abstract/126/rr126.pdf). Downloaded 28 June, 2006.
- Wikipedia (2007). Mozambique. Online: url, <http://www.wikipedia.org>
- Wikipedia (2007). Micro-credit. Online: url, <http://www.wikipedia.org>
- Winter-Nelson, Al. and Temu, A. A. (2005) 'Liquidity Constraints, Access to Credit and Pro-Poor Growth in Rural Tanzania', *Journal of International Development*, 17:867-882. Available online: <http://www3.interscience.wiley.com/cgi-bin/fulltext/112092631/PDFSTART>. Downloaded 28 June, 2006
- World Bank, (1997) *World Development Report: The State in a Changing World*. Oxford: Oxford University Press.
- Zeller, M. (2003) *Rural Finance Institutions and Systems: Models of Rural Financial Institutions*. Paving the Way Forward for Rural Finance. An International Conference on Best Practices. Available online: [http://www.basis.wisc.edu/rfc/documents/theme\\_models.pdf](http://www.basis.wisc.edu/rfc/documents/theme_models.pdf). Downloaded 04 July, 2006.
- Zimmerman, F. J. and Carter, M. R. (2003) 'Asset Smoothing, Consumption Smoothing and the Reproduction of Inequality under Risk and Substance Constraints,' *Journal of Development Economics*, 71 (2): 223-260.

References with asterisk (\*) were translated either from Portuguese to English or Spanish to English.

# APPENDIX A: QUESTIONNAIRE IN PORTUGUESE

## QUESTIONÁRIO

Hora do início \_\_\_\_\_ Hora do fim \_\_\_\_\_

PRIMEIRO GRUPO DOS 60 BENEFICIÁRIOS DO MICRO-CRÉDITO  SEGUNDO GRUPO DOS 60 BENEFICIÁRIOS DO MICRO-CRÉDITO

Identificação do agregado   familiar

Pesquisador \_\_\_\_\_

Enumerador (Assistente do pesquisador) \_\_\_\_\_

Data \_\_\_\_\_

Nome do entrevistado \_\_\_\_\_

Nome do beneficiário do micro-crédito \_\_\_\_\_

Ano em que o agregado familiar começou a receber o micro-crédito \_\_\_\_\_

Número de vezes em que o agregado familiar foi concedido o micro-crédito \_\_\_\_\_

Quantia total que o agregado familiar foi concedido como micro-crédito \_\_\_\_\_

Quantia total que o agregado familiar está a dever ao prtojecto/ União \_\_\_\_\_

Local (localização do agregado familiar) \_\_\_\_\_

Dados adicionais \_\_\_\_\_

## Informação sobre a pesquisa

*(Para ser lida pelo entrevistador antes do início da entrevista. Uma cópia deve ser deixada com o entrevistado e, as duas cópias devem ser assinadas pelo entrevistado).*

Meu nome é Alcino das Felicidade Fabião (estudante número 205505768). Eu estou a fazer uma pesquisa intitulada Análise da Eficácia de Micro-projectos Agrários na Redução da Pobreza Absoluta: Estudo de caso da componente de Micro-crédito em Insumos Agrícolas do Projecto de Reabilitação Agrícola de Marrambajane. Este estudo é supervisionado pelos docentes Richard Devey e Julian May da Escola dos Estudos de Desenvolvimento da Universidade de Kwazulu Natal em Durban. Os meus contactos para qualquer questão relacionado com esta pesquisa são: School of Development Studies, University of KwaZulu-Natal, Durban, celular 0027781964756 na África do Sul; Instituto de Investigação Agrária de Moçambique, Direcção de Formação Documentação e Transferência de Tecnologias, telefone 21-460219 e celular pessoal 823284260 em Moçambique.

Muito obrigado por ter aceite receber me para a entrevista. Antes de começar gostaria de enfatizar que:

- a sua participação é inteiramente voluntária;
- Você está livre de não aceitar responder certas perguntas se assim o desejar;
- Você está livre de desistir da pesquisa à qualquer momento.

A entrevista é confidencial, só os membros da equipe da pesquisa é que terão acesso aos formulários. Estratos da entrevista poderão ser integradas no relatório final da pesquisa. Você autoriza que... (por favor assinala uma das opções abaixo)

Seu nome, posição e organização apareça no relatório ou	<input type="checkbox"/>
Sua posição e organização ou	<input type="checkbox"/>
Sua organização ou tipo de organização <i>(por favor especifique) ou</i>	<input type="checkbox"/>
Nenhuma das opções acima alistadas	<input type="checkbox"/>

Por favor assine este formulário para mostrar que li o seu conteúdo para ti

----- (Assinatura)      ----- (data)

----- (Nome completo)

Escreva o endereço para o qual gostaria de receber a cópia do relatório de pesquisa

**ÍNDICE**

<b>Número da secção</b>	<b>Número da secção</b>	<b>Número da página</b>
<b>1</b>	Matriz sobre dados do agregado familiar e o nível de escolaridade alcançado	<b>4</b>
<b>2</b>	Habitação: condições actuais da habitação e contribuição do projecto de reabilitação agrícola de Marrambajane	<b>5</b>
<b>3</b>	Acesso à água: qual é a principal fonte de água existente e qual foi a contribuição do projecto na disponibilização da água?	<b>7</b>
<b>4</b>	Fontes de rendimento (dinheiro) dos membros do agregado familiar com idade superior a 15 anos	<b>8</b>
	Qualidade da vida	<b>10</b>
<b>5</b>	Bens do agregado familiar	<b>11</b>
<b>7</b>	Capital social	<b>15</b>
<b>8</b>	Recursos investidos (terra, mão-de-obra e insumos agrícolas ) e o retorno do investimento do micro-crédito no ano 2005	<b>27</b>
<b>9</b>	Reinvestimento do lucro gerado do micro-crédito na produção/negócio agrícola.	<b>31</b>

## SECÇÃO 1. MATRIZ SOBRE DADOS DO AGREGADO FAMILIAR E NIVEL DE ESCOLARIDADE ALCANÇADO

1.1 Eu agora vou fazer lhe perguntas no que diz respeito as pessoas que vivem neste agregado familiar (Não esqueças as crianças menores de um ano)

**NOTA:** Nesta pesquisa, o agregado familiar é definido como pessoas que vivem no mesmo tecto ou no mesmo quintal 15 dias ou mais no ano passado (2005). Uma pessoa é membro de um determinado agregado familiar se compartilha comida da mesma panela com a família quando ele/a está presente e contribui para um mesmo “cesto” de recursos da família ou um fundo comum.

Código (número) da pessoa seguida pelo primeiro e o último nome; (comece pelo respondente). Aliste todas as pessoas do agregado familiar primeiro, e só depois é que vai fazer as perguntas das colunas seguintes.	Qual é a relação familiar do FULANO... com o chefe do agregado familiar 1= Chefe do agregado familiar 2=Esposa, parceira 3=Filho, filha, enteado, enteada 4=Pai, mãe, padastro, madastra 5=neto,neta 6=Vovó/avó/avú 7=Sogro/sogra 8=Genro/nora 9=Cunhado/cunhada 10=Tio, tia 11=Irmão, irmã 12=Sobrinho(a) 13=Primo (a) 14 =ajudante da família 15=outros familiares 16=outras pessoas não da família	Sexo 1=Masculino 2=Femenino	Idade (referente ao último aniversário)  Faça a estimativa da idade se for necessário)	Estado civil  1=casado (oficialmente) 2=casado (tradicionalmente) 3=apenas vivem juntos 4=Nunca casou 5=viuva(o) 6=Divorciado(a) 7=Separado(a) 8=Menor de idade 9=Outro (especifique)	Nível elevado de escolaridade alcançado  0=Não tem idade escolar 1=1ª classe 2= 2ª classe 3=3ª classe 4=4ª classe 5=5ª classe 6=6ª classe 7=7ª classe 8= 8ª classe / 1º ano ETB (Ensino Técnico Básico) 9=9ª classe / 2º ano ETB 10= 10ª classe / 3º ano ETB 11=11ª classe / 1º ano IMT (Instituto Médio Técnico) 12=12ª classe /2º ano IMT 13=3º ano IMT 14=4º ano IMT (agricultura or qualquer curso do IMT nocturno) 15=Freqüencia de disciplinas na universidade ou Institutos Superiores 16=Grau univertitário conluído ou Institito Superior conluído 17=Não está matriculada 18=Nunca estudou 19=Outros (especifique)
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					

1.2 Alguém deste agregado familiar esteve ausente de casa por um período mínimo de 15 dias no mês passado (duas semanas e um dia) ?

1= Sim , [ (existe(m) um migrante (s)]

2= Não (todos os membros do agregado familiar são residentes)

1.3 Se a resposta de 1.2 foi sim ponha um círculo no código da pessoa(s)  1 ;  2;  3;  4;  5;  6;  7;  8;  9;  10;  11;  12;  13;  14;  15;  16

## SECÇÃO 2. HABITAÇÃO: CONDIÇÕES ACTUAIS DA HABITAÇÃO E CONTRIBUIÇÃO DO PROJECTO DE REABILITAÇÃO AGRICOLA DE MARRAMBAJANE

### Definições dos diferentes tipos de habitação

**Cabana**- habitação tradicional não durável consistindo de paredes feitas de material local não convencional (material precário como caniço, capim, estacas, paus finos). Não está maticada nem roubocada. A sua cobertura é feita de capim ou palha de caniço, espidana (*makhagala*). É extremamente vulnerável ao mau tempo. A sua construção não teve o rigor que se tem na construção de uma palhota normal.

**Palhota**- habitação tradicional consistindo de paredes de pedra ou torrões de argila, estacas, ou caniço. O chão está maticado com escrementos de bovinos e/ou argila. O tecto é feito de paus, laca-lacas, cordas tradicionais / arrame e é coberto por capim, geralmente tecido. Exige substituição do capim em intervalo médio de 05 em 05 anos (se não ocorrerem chuvas torrenciais ou ventos fortes-furacões). Se a cobertura for feita de caniço pode durar 10 anos. Mas as paredes devem ser maticadas anualmente com argila.

**Palhota redonda (Riundável)**- palhota tradicional melhorada consistindo de paredes feitas de blocos convencionais ou tijolos, que formam um cilindro. O tecto é feito de material local (paus) e, é coberto por de capim ou caniço. É uma construção semidurável, embora requer substituição regular do capim num intervalo médio de 05 em 05 anos.

**Palhota quadrada ou barracão**: habitação tradicional consistindo de paredes de pedra ou torrões de argila, estacas, ou caniço. O chão está maticado com escrementos de bovinos e/ou argila. O tecto não é de forma cônica que é característica das palhotas e, é feito de paus, laca-lacas, cordas tradicionais / arrame e é coberto por capim, geralmente tecido. Exige substituição do capim em intervalo médio de 05 em 05 anos (se não ocorrerem chuvas torrenciais ou ventos fortes-furacões). Se a cobertura for feita de caniço pode durar 10 anos. Mas as paredes devem ser maticadas anualmente com argila.

**Zinco**- construção de caniço coberta de zinco podendo estar maticada de argila ou não.

**Casa de alvenaria sem tecto de betão**: é uma casa duradoira com paredes feitas de material convencional ( blocos, tijolos, pedras,ferro etc). A cobertura é feita de metal (chapas de zinco ou alumínio) ou *fibroglass*(vulgo "lusalite")

**Casa de alvenaria com tecto de betão**: é uma casa duradoira com paredes feitas de material convencional ( blocos, tijolos, pedras,ferro etc). O tecto é feito de betão, este tipo de casa é mais durável do que as casas de alvenaria sem tecto de betão.

## 2.1 Tipo de casa (construção) principal

1	Cabana
2	Palhota
3	Palhota redonda
4	Casa de alvenaria sem tecto de betão
5	Casa de alvenaria sem tecto de betão + uma(s) palhotas no quintal
6	Casa de alvenaria com tecto de betão
7	Casa de alvenaria com tecto de betão + uma(s) palhotas no quintal
8	Zinco
9	Palhota quadrada
10	Outros (especifique)

2.2 Quantos compartimentos (quartos, cozinha, incluindo palhotas) existem no quintal ou na casa? (somar todos os compartimentos existentes no quintal, **sem incluir casas de banhos e celeiros tradicionais**) \_\_\_\_\_

## 2.3. Esta casa é propriedade do agregado familiar ?

1	Sim
2	Não

2.4 Qual foi a contribuição mais importante da componente de micro-crédito na melhoria das condições de alojamento do agregado familiar ?

1	Permetiu-nos melhorar a habitação ou ampliar
2	Permitiu fazer a manutenção ou reabilitação
3	Permitiu construir partindo do nada
4	Permitiu fazer os pagamentos da renda
5	Permitiu nos pagar outras dividas
6	Outros especifique
7	Não teve nenhuma contribuição

**SECÇÃO 03. ACESSO À ÁGUA: QUAL É A PRINCIPAL FONTE DE ÁGUA EXISTENTE E QUAL FOI A CONTRIBUIÇÃO DO PROJECTO NA DISPONIBILIZAÇÃO DA ÁGUA ?**

3.1 Agora vamos falar a cerca da fonte **principal** de água usada nesta casa para beber, cozinhar e tomar banho. **PONHA UM CIRCULO SOBRE UMA ÚNICA FONTE**

Fonte de água (se houver outras fontes especifique)	Code	Observation
Água canalizada no interior da casa	01	
Água canalizada mas a torneira só existe no recinto do quintal	02	
Água transportada por um tank móvel	03	
Uma torneira pública (fontanário comunitário) cuja água não se paga	04	
Uma torneira pública (fontanário comunitário) cuja água se paga	05	
Furo de água (furo de sondagem)	06	
Sisterna para captar água da chuva	07	
Água corrente do rio	08	
Charcos (água estaganda)	09	
Poço	10	
Uma nascente protegida	11	
Outros	12	
	13	
	14	

3.2 Como é que a participação (inclusão) deste agregado familiar no micro-crédito em insumos contribuiu para o acesso à água?

1. Conseguimos abrir um poço (se se tratar de poços profundos que exigem elevadas somas de dinheiro)
2. Conseguimos abrir um furo de água (furo de sondagem)
3. Os lucros conseguidos foram usados para a construção de uma sisterna
4. Os lucros conseguidos foram usados para comprar carrinho de mão/carroça/burro para buscar água
5. Outras contribuições específicas
6. Não teve nenhuma contribuição

## SECÇÃO 4. FONTES DE RENDIMENTO (DINHEIRO) DOS MEMBROS DO AGREGADO FAMILIAR COM IDADE SUPERIOR A 15 ANOS

**4.1 ENTREVISTADOR.** Para cada indivíduo com idade igual ou superior a 15 anos faça as perguntas da tabela seguinte. Recode-se de escrever o código de cada pessoa

Fonte de rendimento	Primeira pessoa	Segunda pessoa	Terceira pessoa	Durante o ano, a fonte de rendimento é geralmente [...]? 1= Contínua (todos meses) 2=Sazonal 3=Ocasional	Quando é que o agregado familiar começou a receber o dinheiro das fontes mencionadas?  1= antes de receber o micro-crédito em insumos (introduza o ano)  2= Depois de receber o micro-crédito em insumos (introduza o ano)	Ano em que começou a receber o dinheiro da fonte [...]
1=Venda de produtos da machamba e frutos						
2.Mão-de-obra sazonal na agricultura						
3= Mão-de- obra permanente na agricultura						
4=Venda de animais						
5=Venda de produtos artesanais						
6=Venda de bebidas tradicionais						
7=Outras actividades de geração de rendimento não agrícolas						
8=Empregado doméstico						
9=Emprego formal / pensão de reforma (professores, enfermeiros...)						
10=Aluguer de bens						
11=Juros de dinheiro guardado no banco						
12=Remitências						
13= Doações da Igreja /ONGs / INAS						
14=Outras fontes (especifique)						

4.2 Quantas pessoas dentro do agregado familiar ganham dinheiro de uma actividade económica, trabalho remunerado ou qualquer outra fonte de rendimento (dinheiro)

**ENTREVISTADOR**, registre o número de pessoas dentro do agregado familiar que ganham dinheiro de qualquer fonte de rendimento

[ \_\_\_\_\_ ]

4.3 Em média qual é o rendimento de todo o agregado familiar por semana/mês/ano, SEM CONSIDERAR OS PRODUTOS DA VOSSA MACHAMBA QUE A USAM PARA A VOSSA ALIMENTAÇÃO [ \_\_\_\_\_ ]

Assinale a unidade referida : semana  ;/mês  ;/ano

4.4 Este agregado familiar tem tido lucro da sua participação no projecto de micro-credito em insumos ?

**Nota: Lucro refere-se aos ganhos obtidos depois de ter subtraído todas as despesas envolvidas no seu negócio tais como pagamento da mão-de-obra, compra de fertilizantes, pesticidas, etc**

1=Sim

2=Não

4.5 Se "Sim" 4.4, os lucros obtidos são investidos em algumas das actividades de geração de rendimento alistado na tabela acima ?

1=Sim

2=Não

4.6. Se "Sim" 4.5 quais são as actividades de geração de rendimento do agregado familiar que são financiados pelos lucros? **FAÇA UM CIRCULO NOS CODIGOS CORRESPONDENTES**

**2=Mão-de-obra sazonal na agricultura; 3= Mão-de- obra permanente na agricultura; 4= Venda e compra de animais; 5= Venda de produtos artesanais; 6= Venda de bebidas tradicionais; 7= Outras actividades de geração de rendimento não agrícolas (por exemplo barracas); 8= Empregado doméstico; 10=Aluguer de bens; 14= Outras actividades especifique**

## SECÇÃO 5. QUALIDADE DA VIDA

**5.1 ENTREVISTADOR.** Agora eu gostaria de pedir-lhe para sumarizar a qualidade de vida deste agregado familiar. Eu tenho a lista das palavras nas quais você vai ter que escolher uma palavra para cada pergunta que vou lhe fazer. **ENTREVISTADOR.** Faça um círculo no código correspondente a palavra escolhida que responde a pergunta feita.

			<b>OBSERVAÇÃO</b>
5.1.1	Tomando tudo em consideração, até que ponto este agregado familiar está satisfeito nestes dias com o estilo de vida que tem em termos de bem estar económico?	1=Muito satisfeito 2=Satisfeito 3=Nem satisfeito, nem discontente 4=discontente 5=Muito discontente	
5.1.2	Como classificarias a situação financeira do agregado familiar Agora ?	1=Muito boa 2=Boa 3=Normal 4= Má 5=Muito má	
5.1.3	Como classificarias a situação financeira do agregado familiar comparado ao período antes de ter o acesso ao micro-crédito do projecto?	1=Melhorou 2=Não mudou nada (manteve) 3=Piorou	
5.1.4	Como classificarias a situação financeira do agregado familiar agora, comparado ao período um pouco antes das cheias de 2000?	1=Melhorou 2=Não mudou nada (manteve) 3=Piorou	

5.2 Se a situação financeira do agregado familiar comparativamente ao período antes de ter o acesso ao micro-crédito do projecto melhorou ou piorou; quais é que são as grandes razões da mudança da situação financeira inicial do agregado familiar (ENTREVISTADOR ESCREVA AS PALAVRAS EXACTAS E NÃO MAIS DO QUE TRÊS RAZÕES)

**SECÇÃO 6. BENS DO AGREGADO FAMILIAR.** [Esta secção pretende explorar quais são os bens que o agregado familiar possui e; se a sua participação no micro-crédito do projecto teria influenciado qualquer mudança nos bens do agregado familia]. **ENTREVISTADOR**, para responder a primeira pergunta (segunda coluna) Escreva /desenhe cada um dos bens alistados na couluna 1, em cartões de cartolina. Leia/ mostra cada cartão ao entrevistado e pergunte se o agregado familiar possui o(s) ben(s) escrito no cartão. Uma vez confirmado os bens que o agregado familiar faça as perguntas das coulunas seguintes.

**6.1. A gora vou lhe perguntar sobre os bens que o agregado familiar poderá ter.**

Bens	O agregado familiar possui [...]? 1=Sim 2=Não <b>PASSE PARA O BEM SEGUINTE</b>	Quem dentro do agregado familiar possui [...] ? <b>Introduza o código da pessoa</b>  <b>Se pretence a mais de uma pessoa cololoque o, código=00</b>  <b>Se a pessoa não estiver alistada na matrix do agregado familiar coloque o código 99</b>	Qual é o preço aproximado do [...] se você quisesse vender para comprar outro  <b>Meticais da antiga família</b>	O agregado familiar adquiriu este bem [...] antes ou depois de ter tido acesso ao micro-credito do projecto?  1=Antes de ter acesso ao micro-crédito  2= Depois de ter acesso ao micro-crédito  3=antes e também depois	<b>Qual foi a fonte principal do dinheiro usado para a compra dete bem ?</b>  <b>1= Bem oferecido ou comprador com dinheiro oferecido</b>  <b>2= Bem comprado com dinheiro pessoal ( lucros do micro-credito )</b>  <b>3= Bem comprado com dinheiro pessoal (mas não são lucros do micro-crédito)</b> <b>4 = Outros especifique</b>
1. Gado bovino					
2. Ovelhas					
3. Cabritos					
4. Porcos					
5. Galinhas/patos					
6. Burro(s)					
7. Utensílios agrícolas (pulverizadores de dorso, charrua, carroça)					
8. Outros utensílios agrícolas de baixo custo (pás, enxada manual, catana, machado etc...)					
9. candeiro à petróleo					
10. Fogão à petróleo					
11. Televisão					
12. Aparelhagem de música					

Bens	O agregado familiar possui [...]? 1=Sim 2=Não <b>PASSE PARA O BEM SEGUINTE</b>	Quem dentro do agregado familiar possui [...] ? <b>Introduza o código da pessoa</b>  <b>Se pretence a mais de uma pessoa cololoque o, código=00</b>  <b>Se a pessoa não estiver alistada na matrix do agregado familiar coloque o código 99</b>	Qual é o preço aproximado do [...] se você quisesse vender para comprar outro  <b>Meticais da antiga família</b>	O agregado familiar adquiriu este bem [...] antes ou depois de ter tido acesso ao micro-credito do projecto?  1=Antes de ter acesso ao micro-credito  2= Depois de ter acesso ao micro-credito  3=antes e também depois	<b>Qual foi a fonte principal do dinheiro usado para a compra de bem ?</b>  <b>1= Bem oferecido ou comprador com dinheiro oferecido</b>  <b>2= Bem comprado com dinheiro pessoal ( lucros do micro-credito )</b>  <b>3= Bem comprado com dinheiro pessoal (mas não são lucros do micro-credito)</b> <b>4 = Outros especifique</b>
13. Gileira/congelador					
14. Fogão eléctrico ou a gás					
15. Máquina de costura					
16. Radio					
17. Celular do agregado familiar					
18. Partes de mobília (cadeira (s), banco (s), etc)					
19. Mesa e respectivas cadeiras					
20. Arumário de loiça					
21. Sofás					
22. cama					
23. Joias , relógio(s) etc					
24. Bicicleta					
25. Motocicleta (motorizadas)					
26. Carro (Minibus)					
27. Carro (turismo)					
28. Carro (carrinha)					
29. Carro (camioneta)					
30. Painel solar					
31. Roupa					
32. Chapas de zinco					

## 6.2 Agora eu vou perguntar especificamente sobre o acesso do agregado familiar aos bens produtivos (incluindo os bens da comunidade em geral)

### Acesso do agregado familiar aos produtivos bens (incluindo os bens da comunidade em geral)

Bens	O agregado familiar tem acesso à [...]? 1=Sim 2=Não <b>PASSE PARA O BEM SEGUINTE</b>	O agregado familiar começou a ter acesso este bem [...] antes ou depois de ter tido acesso ao micro-credito do projecto?  1=Antes de ter acesso ao micro-crédito 2= Depois de ter acesso ao micro-crédito 3=Antes e também depois 4= Não aplicável (n/a)	Qual foi a fonte de rendimento usado para aquisição/ aluguer do bem? 1= Bem oferecido/herdado ou comprado com dinheiro oferecido 2= Bem comprado com dinheiro pessoal (lucro do micro-crédito) 3= Bem comprado com dinheiro pessoal (mas não proveniente do micro-credito) 4= Bem/ serviço fornecido pelo projecto com comparticipação simbólica no pagamento 5= Bem/serviço fornecido pelo projecto sem nenhum pagamento 6= Não aplicável (n/a) 7=Outros especifique
1.Terra para o cultivo			
2.Terra para a pastagem (pousio ou reserva para pastagem)			
3.Facilidades /equipamento de irrigação			
4.Tractor			
5.Transportes para comercialização			
6.Sementes/pesticidas/fertilizantes e outros insumos			
7.Tracção animal (cultivo, transporte)			
8. Implementos agrícolas accoplado ao tractor (arrados, grades, sulcadores)			

6.3 Quantas áreas para o cultivo a o agregado familiar tem ? \_\_\_\_\_

6.4 Se você somar todas as áreas do cultivo quantos hectares (ou outra unidade de medição) o agregado familiar tem acesso? \_\_\_\_\_ (Não esqueça de escrever a unidade de medição)

6.5 O facto deste agregado familiar ter se beneficiado do micro-crédito ajudou a melhorar a qualidade dos seus bens ?

1=Sim

2=Não

6.6 O facto deste agregado familiar ter se beneficiado do micro-crédito ajudou adquirir bens que não tinha antes do micro-crédito?

1=Sim

2=Não

6.7. Se “Sim” 6.6, Quais são esses bens? Faça um circulo no código correspondente no quadro seguinte

**Códigos:** 1= gado bovino; 2=ovelhas; 3= cabritos; 4= porcos; 5= galinhas; 6= burro(s); 7= utensílios agrícolas (**bombas**, pulverizadores, charrua, carroça); 8= Outros utensílios agrícolas de baixo custo (pás, enxada manual, catana, machado etc...); 9= candeiro à petróleo; 10= fogão à petróleo; 11=televisão; 12= aparelhagem de música; 13= geleira/congelador; 14= fogão eléctrico ou a gás; 15= máquina de costura; 16= radio; 17= celular do agregado familiar; 18= partes de mobília (cadeira (s), banco (s), etc)); 19= mesa e respectivas cadeiras; 20= armário de loiça; 21= sofás; 22=cama; 23= Joias , relógio(s) etc; 24= bicicleta; 25= motocicleta (motorizadas); 26= Carro (mnibus) ; 27= caro (turismo); 28= carro (carrinha) ; 29= carro (camioneta) ; 30= painel solar; 31=roupa; 32=zinco; 33=loiça

## 7.0 CAPITAL SOCIAL

**O capital social é geralmente definido em termos de grupos, networks (redes de trabalho), normas e relações de confiança em que as pessoas estão integradas para fins produtivos. Estas características da organização social facilita a coordenação e cooperação para um benefício mútuo**

### 7.1 Grupos e Redes de Trabalho (Capital Social Estrutural)

7.1.1 Eu gostaria de começar por perguntar sobre grupos ou organizações, redes de trabalho (networks), associações para os quais você ou algum outro membro deste agregado familiar pertence. Podem ser grupos organizados formalmente, ou simplesmente grupos de pessoas que se juntam regularmente para levar a cabo uma actividade ou debater sobre alguns assuntos. À medida que eu vou lendo a lista de grupos seguinte, agradecia que me dissesse se alguém deste agregado familiar pertence à esse grupo. Se sim (pertence), diga me qual é o membro do agregado familiar que é muito activo neste grupo, e se ele(a) participa activamente na tomada de decisões que dizem respeito ao grupo.

Tipo de organização	Nome do grupo ou organização	Codigo do membro do agregado familiar que é muito activo neste grupo [ENTREVISTADOR, USE OS CÓDIGOS NÚMERICOS DA MATRIZ SOBRE DADOS DO AGREGADO FAMILIAR]	Até que ponto esta pessoa participa na tomada de decisões que dizem respeito ao grupo. 1 = Líder 2 = Muito activo 3 = Um pouco activo 4 = Não participa na tomada de decisões
A. Organização de tipo associação de agricultores ou pescadores	1		
	2		
	3		
B. Outros grupos relacionados com qualquer tipo de produção económica	1		
	2		
	3		
C. Associação de comerciantes/vedendores ou de negociantes	1		
	2		
	3		

Tipo de organização	Nome do grupo ou organização	Codigo do membro do agregado familiar que é muito activo neste grupo <b>[ENTREVISTADOR, USE OS CÓDIGOS NÚMERICOS DA MATRIZ SOBRE DADOS DO AGREGADO FAMILIAR]</b>	Até que ponto esta pessoa participa na tomada de decisões que dizem respeito ao grupo. 1 = Líder 2 = Muito activo 3 = Um pouco activo 4 = Não participa na tomada de decisões
D. Associações de pessoas da mesma profissão tais como (enfermeiros, professores, veteranos etc...)	1		
	2		
	3		
E. Sindicato dos trabalhadores	1		
	2		
	3		
F. Vizinhança/ comités da aldeia	1		
	2		
	3		
G. Grupos de relegiosos ou de carácter espiritual (por exemplo Igreja, Mesquita, templo, grupos informais de relegiosos, grupos de estudo ligados á relegião	1		
	2		
	3		
H. Grupos ou movimentos políticos	1		
	2		
	3		
I. Grupos ou associações culturais (por exemplo, artes, música, teatro, filme)	1		
	2		
	3		
J. Grupos de festas	1		
	2		
	3		
K. grupos de carácter financeiro, crédito ou grupos de poupanças (por exemplo, xitique)	1		
	2		
	3		
L. Grupos relacionados com a educação( por exemplo Associação dos Encarregados de Educação, Comités dentro da Escola	1		
	2		
	3		

Tipo de organização	Nome do grupo ou organização	Código do membro do agregado familiar que é muito activo neste grupo [ENTREVISTADOR, USE OS CÓDIGOS NÚMERICOS DA MATRIZ SOBRE DADOS DO AGREGADO FAMILIAR]	Até que ponto esta pessoa participa na tomada de decisões que dizem respeito ao grupo. 1 = Líder 2 = Muito activo 3 = Um pouco activo 4 = Não participa na tomada de decisões
M. Grupos ligados à saúde	1		
	2		
	3		
N. Grupos de gestão de água	1		
	2		
	3		
Q. Organizações não governamentais locais	1		
	2		
	3		
S. Outros Grupos	1		
	2		
	3		

7.1.2 Comparativamente à cinco anos atrás (antes das cheias de 2000), os membros do seu agregado familiar participavam em poucos ou mais grupos/organizações? (ENTREVISTADOR, especifique na tabela, se o respondente refer se à organizações económicas ou não económicas)

1 Mais

2 Mesmo número

3 Pouco(a)s

4 Não era membro de nenhum grupo ou organização

Grupos/organizações não económicas tais como religioso(a)s, culturais, desportivo(a)s etc <b>(Introduza o código)</b>	Grupos/organizações económicas tais organizações de produtores, comerciantes/ vededores ou de negociantes etc <b>(Introduza o código)</b>

7.1.3 De todos os grupos que os membros deste agregado familiar pertence, quais são os dois mais importante para este agregado familiar ?

[ENTREVISTADOR: Escreva os nomes completos dos dois grupos/organizações ]

Grupo 1 \_\_\_\_\_

Grupo 2 \_\_\_\_\_

7.1.4 Quantas vezes/dias nos últimos 12 meses (desde Outubro do ano passado à Outubro de 2006) alguém deste agregado familiar participou em actividades destes grupos/organizações, por exemplo participando em reuniões ou em trabalho(s) levados à cabo por estes grupo(s) ou organização(ões)?

Grupo 1  Grupo 2

7.1.5 Como é que alguém se torna membro deste grupo ou organização ?

1 Nascido dentro do grupo

2 Solicitado para fazer parte

3 Convidado

4 Escolha voluntária

5 Outros (especifique) \_\_\_\_\_

Grupo 1

Grupo 2

7.1.6 Quanto dinheiro ou bens (estime o valor) o seu agregado familiar contribuiu para este grupo nos últimos 12 meses ?

Grupo 1  Grupo 2

7.1.7 Quantos dias de trabalho o seu agregado familiar deu à este grupo/organização nos últimos 12 meses ?

Grupo1  Grupo 2

7.1.8 Quais são os grandes benefícios de ser parte deste grupo ou organização?

1 Melhora o actual sistema de subsistência (sustento) do agregado familiar ou acesso à serviços

2 É importante nos momentos de emergência/ no futuro

3 Beneficia a comunidade

4 Agradável/ recreação/paz na mente

5 Espiritual, classe social, auto-estima

6 Não tem benefícios é uma obrigação

7 Outros (especifique) \_\_\_\_\_

Grupo 1

Grupo 2

7.1.9 O grupo ajuda o seu agregado familiar a ter o acesso à quaquer dos serviços seguintes?

1 Sim

2 Não

	Grupo1	Grupo2
A. Educação ou treinamento		
B. Serviços de saúde		
C. Fornecimento de água e saneamento		
D. Créditoem dinheiro		
E. Insumos agrícolas ou tecnologias		
F. Irrigação		
G. Outras (especifique)		

7.1.10 Pensando sobre os membros deste grupo, são muitos deles da mesma....

1 Sim

2 Não

	Grupo1	Grupo2
A área (vizinhos)/ aldeia		
B. Família alargada		
C. Religião		
D. Sexo		
E. Idade		

7.1.11 Será que os membros destes grupos possuem geralmente o mesmo(a)...?

1 Sim

2 Não

	Grupo1	Grupo2
A. Ocupação/profissão		
B. Nível de educação		

7.1.12 Os membros geralmente possuem o mesmo ponto de vista político ou pertence ao mesmo partido ?

1 Sim

2 Não

Grupo 1  Grupo 2

7.1.13 Alguns membros do grupo são ricos ou pobres do que os outros, ou muitos deles tem o mesmo nível de rendimento (dinheiro) ?

1 Geralmente mesmo nível de rendimento (dinheiro)

2 Mistura de ricos e pobres

3 Não sei

Grupo 1  Grupo 2

7.1.14 Nos últimos 05 anos (desde 2000 depois das cheias até 2006), o número de membros dentro do grupo diminuiu, manteve-se, ou aumentou?

- 1 Diminuiu
- 2 Manteve-se
- 3 Aumentou

Grupo 1

Grupo 2

7.1.15 Este grupo/associação trabalha e/ou tem ligações com outros grupos com objectivos similares **dentro** da aldeia ou nas proximidades da aldeia ?

- 1 Não
- 2 Sim, ocasionalmente
- 3 Sim, frequentemente

Grupo 1

Grupo 2

7.1.16 Este grupo/associação trabalha e/ou tem ligações com outros grupos com objectivos similares **fora** da aldeia ou nas proximidades da aldeia ?

- 1 Não
- 2 Sim, ocasionalmente
- 3 Sim, frequentemente

Grupo 1

Grupo 2

7.1.17 Este grupo/associação trabalha e/ou tem ligações com outros grupos com **diferentes objectivos** dentro da aldeia ou nas proximidades da aldeia ?

- 1 Não
- 2 Sim, ocasionalmente
- 3 Sim, frequentemente

Grupo 1

Grupo 2

7.1.18 Este grupo/associação trabalha e/ou tem ligações com outros grupos com diferentes objectivos **fora** da aldeia ou nas proximidades da aldeia ?

1 Não

2 Sim, ocasionalmente

3 Sim, frequentemente

Grupo 1  Grupo 2

7.1.19 Qual é a fonte de financiamento mais importante deste grupo?

1 Contribuição dos membros (como sua obrigação ou dever)

2 Outras fontes dentro da comunidade

3 Fontes fora da comunidade

Grupo 1  Grupo 2

7.1.20 Qual é a fonte mais importante de conhecimentos, habilidades ou assistência técnica deste grupo?

1 Membros do grupo

2 Outras fontes dentro da comunidade

3 Fontes fora da comunidade

Grupo 1  Grupo 2

### **Networks (Redes de Trabalho)**

7.1.21 Quanto(a)s amigo(a)s próximos este agregado familiar tem esses dias? Refiro me à pessoas com quem o agregado familiar se sente à vontade e pode falar sobre coisas privadas ou pedir apoio

7.1.22 Se derrepente um membro deste agregado familiar ficar doente, e você precisar de uma pequena quantia de dinheiro para levar o(a) doente ao Hospital Rural de Chókwe quantas pessoas deixando de lado os vizinhos poderias pedir ajuda e que poderiam estar dispostas a ajudar?

- 1 Ninguém
- 2 Uma ou duas pessoas
- 3 Três ou quatro pessoas
- 4 Cinco ou mais pessoas

7.1.23 [SE NÃO FOR ZERO] São muitas destas pessoas de um nível económico igual/alto/baixo?

- 1 Igual
- 2 Alto
- 3 Baixo

7.1.24 Nos últimos 12 meses, quantas pessoas com problemas pessoais vieram à este agregado familiar para pedir assistência ?

## 7.2. Confiança e solidariedade

Em todas as comunidades, algumas pessoas ajudam-se entre elas e confiam se um ao outro, enquanto outras não. Agora eu gostaria de falar sobre confiança e solidariedade na sua comunidade

7.2.1 Em geral, você concorda ou não concorda com afirmações seguintes?

	1. Concordo plenamente 2. Concordo um pouco 3. Não concordo nem discordo 4. Discordo um pouco 5. Discordo completamente
A. Muitas pessoas do grupo 1 do meu agregado familiar podem ser confiadas	
B. Muitas pessoas do grupo 2 do meu agregado familiar podem ser confiadas	
C. Dentro do grupo 1 do meu agregado familiar, a pessoa tem que se cautelosa porque há pessoas que gostam de “aproveitar” os outros	
D. Dentro do grupo 2 do meu agregado familiar, a pessoa tem que ser cautelosa porque há pessoas que gostam de “aproveitar” os outros	
E. Muitas pessoas dentro do grupo 1 do meu agregado familiar estão dispostas a dar ajuda quando alguém está necessitada	
F. Muitas pessoas dentro do grupo 2 do meu agregado familiar estão dispostos a dar ajuda quando alguém está necessitada	
G. Dentro do grupo 1 do meu agregado familiar, as pessoas geralmente não se confiam um ao outro em questões de dar ou pedir emprestado dinheiro.	
H. Dentro do grupo 2 do meu agregado familiar, as pessoas geralmente não se confiam um ao outro em questões de dar ou pedir emprestado dinheiro.	

7.2.2 Agora eu quero perguntar lhe até que ponto confia diferentes tipos de pessoas. Na escala de 1 a 5, onde 1 significa tem muito pouca confiança e 5 significa tem muita confiança

- |                        |
|------------------------|
| 1. Muito pouco         |
| 2. Pouco               |
| 3. Nem pouco nem muito |
| 4. Muito               |
| 5. Muitissimo          |

A. As pessoas da sua associação – membro da união das associações de Uamechinga	
B. As pessoas dentro da União das Associações de Uamechinga no seu todo	
C. As pessoas da sua família alargada [pais, irmãos(ãs), tio(a)s e primo(a)s legítimos]	
D. Os seus/suas amigo(a)s	
E. As pessoas do grupo 1 do seu agregado familiar	
F: As pessoas do grupo 2 do seu agregado familiar	

7.2.3 Pensa que durante os últimos 05 anos (desde as cheias de 2000 até agora), o nível de confiança dentro do **grupo 1** o qual o seu agregado familiar é membro melhorou, piourou ou permaneceu na mesma?

1 Melhorou

2 Piourou

3 Permaneceu na mesma

7.2.4 Pensa que durante os últimos 05 anos (desde as cheias de 2000 até agora), o nível de confiança dentro do **grupo 2** o qual o seu agregado familiar é membro melhorou, piourou ou permaneceu na mesma?

1 Melhorou

2 Piourou

3 Permaneceu na mesma

### 7.3 . Informação e Comunicação

7.3.1 Por favor, diga me as três fontes mais importantes através das quais você fica informado dos preços dos insumos, produtos agrícolas (colheitas) nos mercados onde você compra insumos ou vende produtos agrícolas (colheitas). Faça um círculo no código correspondente.

- 1 família alargada e vizinho(a)s
- 2 Bolentin/quadro informativo dos preços compilado pela comunidade
- 3 Mercados locais
- 4 Comunidade ou jornal local
- 5 Journal nacional (por exemplo notícias)
- 6 Rádio
- 7 Televisão
- 8 Grupos ou associações
- 9 Colegas do negócio/associação/União das Associações de Uamechinga
- 10 Associações políticas
- 11 Líderes comunitários
- 12 agentes do estado
- 13 ONGs
- 14=Gaigais
- 15=Amigos
- 16 Outras fontes especifique \_\_\_\_\_

Primeira forma	Segunda forma	Terceira forma

7.3.2 Em geral, comparativamente à 05 anos atrás (desde às cheias de 2000 até agora) o acesso à nformação do mercado melhorou, deteriorou-se ou permaneceu na mesma?

- 1 Melhorou
- 2 Deteriorou (piourou)
- 3 Permaneceu na mesma

**SECÇÃO 08. RECURSOS INVESTIDOS (TERRA, MÃO-DE-OBRA E INSUMOS AGRÍCOLAS ) E O RETORNO DO INVESTIMENTO DO MICRO-CRÉDITO NO ANO 2005 E 2006 (PARA TRÊS CULTURAS DE RENDIMENTO AO NÍVEL LOCAL: TOMATE, CEBOLA E REPOLHO).**

**8.1 ENTREVISTADOR,** pergunte ao entrevistado cada uma das questões da primeira coluna da tabela com as variáveis dos recursos investidos e do retorno

variáveis dos recursos investidos e do retorno	Código da cultura 1= tomate				Código da cultura 2=Cebola				Código da cultura 3=Repolho			
	Ano 2005		Ano 2006		Ano 2005		Ano 2006		Ano 2005		Ano 2006	
Antes de perguntar as questões sobre os recursos investidos e os retornos, especifique a estação na qual este agregado familiar desenvolveu cada uma das três culturas (tomate, cebola e veijão vulgar) 0=Inverno 1=Verão 2=Inverno e verão (ambas estações)												
1=Área semeada/plantada em (hectares, tantos metros de comprimento X tantos metros de largura. Por exemplo: 10mx15m)	Número	Unid	Número	Unid	Número	Unid	Número	Unid	Número	Unid	Número	Unid
2=Quantidade de semente semeada (gramas ou quilogramas) ou uma outra unidade de medição usada (ESPECIFIQUE A UNIDADE DE MEDIÇÃO)												
3=Quantidade de fertilizantes usados em (Kg) ou uma outra unidade de medição usada (ESPECIFIQUE A UNIDADE DE MEDIÇÃO)												
a)												
b)												
c)												
4= Quantidade de pesticidas usados em (Kg) ou uma outra unidade de medição usada (ESPECIFIQUE A UNIDADE DE MEDIÇÃO)												
a)												
b)												
c)												
5= Quantidade de herbicida usado em (Kg, litros) ou uma outra unidade de medição usada (ESPECIFIQUE A UNIDADE DE MEDIÇÃO)												

variáveis dos recursos investidos e do retorno	Código da cultura 1= tomate				Código da cultura 2=Cebola				Código da cultura 3=Repolho			
	Ano 2005		Ano 2006		Ano 2005		Ano 2006		Ano 2005		Ano 2006	
Antes de perguntar as questões sobre os recursos investidos e os retornos, especifique a estação na qual este agregado familiar desenvolveu cada uma das três culturas (tomate, cebola e veijão vulgar) 0=Inverno 1=Verão 2=Inverno e verão (ambas estações)												
6= Quantidade da colheita produzida ( em kg, sacos de 10kg ; sacos de 25 kg ; sacos de 50 kg; sacos de 80 kg; caixas; toneladas) ou uma outra unidade de medição usada (ESPECIFIQUE A UNIDADE DE MEDIÇÃO)	Número	Unid	Número	Unid	Número	Unid	Número	Unid	Número	Unid	Número	Unid
7= Quantidade de mão-de obra de fora do agregado familiar que foi empregue para a produção (ESPECIFIQUE O NÚMERO DE TRABALHADORES CONTRATADOS)												
8= Quantidade de mão-de obra do agregado familiar que foi usada para a produção mas que não foi pago [NÚMERO DE crianças (menores de 18 anos) e adultos envolvidos]												
a) Crianças												
b) Adultos												
9= Qual é a quantidade da colheita que se perdeu devido à pragas, roubo e apodrecimento ( em kg, sacos de 10kg ; sacos de 25 kg ; sacos de 50 kg; sacos de 80 kg; caixas; toneladas) ou uma outra unidade de medição que achar conveniente (ESPECIFIQUE A UNIDADE DE MEDIÇÃO)												

**8.2 Agora vou fazer lhe perguntas especificamente sobre o custo dos recursos investidos (terra e insumos agrícolas ) e pagamento de mão-de-obra e outros serviços (trabalhos) prestado.**

**Custo dos recursos investidos (terra e insumos agrícolas ) e pagamento de mão-de-obra e outros serviços (trabalhos) prestado no ano 2005**

Quanto custou cada uma das actividades e recursos a baixo descritos (custos em Meticais da antiga família)	1=Tomate		2=Cebola		3=Repolho	
	2005	2006	2005	2006	2005	2006
Antes de responder as questões sobre os custos de cada actividade ou recursos investidos, especifique a estação na qual este agregado familiar desenvolveu cada uma das três culturas (tomate, cebola e veijão vulgar) no ano 2005 0=Inverno 1=Verão 2=Inverno e verão (ambas estações)						
1=Lavoura* (incluindo mão-de-obra usada se tiver sido contratada mão-de-obra remunerável) + Gradagem + Sulcagem						
2= Plantação (semente semeada/ ou plântulas adquiridas; mão-de-obra usada se tiver sido contratada mão-de-obra remunerável; e aluguer do equipamento usado, se for o caso )						
3= Sachas (mão-de-obra usada, se tiver sido contratada mão-de-obra remunerável)						
4=Control (combate) de pragas e doenças no campo (pesticidas usados; mão-de-obra usada, se tiver sido contratada mão-de-obra remunerável)						
5= Irrigação (custos de água, equipamento, mão-de-obra usada, se tiver sido contratada mão-de-obra remunerável)						
6=Adubação orgânica (custos de compostos, estrume, restos de culturas; mão-de-obra usada, se tiver sido contratada mão-de-obra remunerável para a sua aplicação)						
7=Colheita (custos de mão-de-obra usada, se tiver sido contratada mão-de-obra remunerável; e o equipamento)						
8=Armazenamento ( custos do empilhamento, pesticidas usados no armazenamento e os custos da sua aplicação, se tiver sido contratada mão-de-obra remunerável para a sua aplicação)						
9=Empacotamento/ ensacamento (custos dos sacos, caixas, plásticos usados etc...)						
10=Transporte para o mercado (aluguer de carroça, camioneta, combustíveis para a camioneta/carrinha da união, pagamento do motorista etc...)						
11=Comercialização (despesas logísticas dos vendedores da União tais como sua alimentação, alojamento etc...)						
12=Fertilizantes usados e os custos da sua aplicação se o agregado familiar tiver contratada mão-de-obra remunerável						
13=Quanto dinheiro (Meticais da antiga família) foi perdido devido á pragas e doenças, roubo e apodrecimento no armazenamento (faça uma estimativa).						
14= Custo total por cada cultura						
15=Para todas as três culturas, quais foram os custos incorridos no ano 2005?						

8.3 Agora eu vou perguntar lhe especificamente sobre as receitas e lucro das campanhas agrícola 2005 e 2006. **ENTREVISTADOR.** Faça a pergunta da primeira coluna

**Nota: RECEITA** referere-se a quantidade de dinheiro recebido uma vez vendidos os produtos agrícolas, mas sem deduzir os custos dos recursos investidos e da mão-de-obra usada. Enquanto **LUCRO** refere-se aos ganhos obtidos depois de ter subtraído todas as despesas envolvidas no seu negócio tais como pagamento da mão-de-obra, compra de fertilizantes, pesticidas, etc

**Receitas e lucros da conseguidos nos anos 2005 e 2006**

Receitas e lucros de cada uma das três culturas no inverno e no verão	1=Tomate		2=Cebola		3=Repolho	
	Ano 2005	Ano 2006	Ano 2005	Ano 2006	Ano 2005	Ano 2006
1= Valor do micro-crédito para cada uma das culturas						
3=Receitas de cada uma das culturas = Unidades do produto vendido x o preço por unidade do produto vendido						
4= Lucro de cada cultura= (Receita da referida cultura— todos os custos associados com os recursos, mão-de-obra e serviços investidos na sua produção)						

## SECÇÃO 9. REINVESTIMENTO DO LUCRO GERADO DO MICRO-CRÉDITO NA PRODUÇÃO/NEGÓCIO AGRICÓLA.

### 9.1 ENTREVISTADOR. Agora eu vou perguntar-lhe sobre o reinvestimento do lucro gerado no micro-crédito na na produção/negócio agrícola

Ano em que o agregado familiar obteve o micro-crédito	Qual foi o valor do micro-crédito para todas as culturas alimentares (milho, feijão nhemba) e culturas de rendimento (tomate, cebola, Repolho e repolho) no contexto da aldeia de Marrambajane; em cada um dos anos da coluna à esquerda  [Introduza o valor em Meticais da antiga família e <b>COMPARE ESTE TOTAL COM OS VALORES DECLARADOS NA PRIMEIRA PÁGINA]</b>	Para todas as culturas alimentares e de rendimento desenvolvidas, quais foram os <b>CUSTOS</b> totais incorridos em cada um dos seis anos  [Introduza o valor em Meticais da antiga família]	Para todas as culturas alimentares e de rendimento desenvolvidas, quais foram as <b>RECEITAS</b> geradas em cada um dos seis anos  [Introduza o valor em Meticais da antiga família]	Para todas as culturas alimentares e de rendimento desenvolvidas, quais foram os <b>LUCROS</b> gerados em cada um dos seis anos  [Introduza o valor em Meticais da antiga família]	Quanto dinheiro do lucro foi reinvestido no equipamento ou nos custos de produção/comercialização agrícola?  1= Não foi gerado nenhum lucro 2= Não se investiu nada do lucro gerado 3= Investiu-se menos que metade do lucro gerado, faça uma estimativa 4= Investiu-se metade ou mais que metade do lucro gerado, faça uma estimativa 5= Investiu-se todo o lucro gerado, faça uma estimativa
2001					
2002					
2003					
2004					
2005					
2006					

9.2 Se o agregado familiar tiver falhado reinvestir o lucro gerado em algum dos ciclos do micro-crédito dos anos mencionados na tabela acima; agradeça que me dissesse quais são as principais razões que contribuíram para este agregado familiar não reinvestir o lucro na campanha agrícola seguinte?

---



---



---



---



---



---



---

---

---

---

**Muito obrigado pelo seu tempo**

**NOTA: Recorde-se de tomar nota da hora do fim da entrevista**

# APPENDIX A: QUESTIONNAIRE ENGLISH

FIRST GROUP OF THE 60 MICRO-CREDIT BENEFICIARIES

SECOND GROUP OF THE 60 MICRO-CREDIT BENEFICIARIES

Household Identifier

Researcher

Enumerator (research assistant)

Date

Interviewee name

Name of the beneficiary of the micro-credit

Year in which the household started to receive the micro-credit

Number of times the household was allocated the micro-credit

Total amount that the household was allocated from the micro-credit

Amount currently owed by the household to the micro-credit project

Place

Additional details

## Informed Consent Form

*(To be read out by researcher before the beginning of the interview. One copy of the form to be left with the respondent; one copy to be signed by the respondent and kept by the researcher.)*

My name is Alcino das Felicidades Fabião (student number 205505768). I am doing research on a project entitled 'Effectiveness of Agricultural Micro-credit Projects on Poverty Reduction: A Case Study of an In Kind, Agricultural Micro-credit Project in Marrambajane village, Chokwé District (Southern of Mozambique). This project is supervised by Mr Richard Devey and Prof. Julian May at the School of Development Studies, University of KwaZulu-Natal. I am managing the project and should you have any questions my contact details are:

School of Development Studies, University of KwaZulu-Natal, Durban or Instituto de Investigação Agrária de Moçambique–Maputo/Mozambique. Cell: 0027781964756 or 09258823284260 Tel: 09258460219.

Thank you for agreeing to take part in the project. Before we start I would like to emphasize that:

- your participation is entirely voluntary;
- you are free to refuse to answer any question;
- you are free to withdraw at any time.

The interview will be kept strictly confidential and will be available only to members of the research team. Excerpts from the interview may be made part of the final research report. Do you give your consent for: *(please tick one of the options below)*

Your name, position and organisation, or	
Your position and organisation, or	
Your organisation or type of organisation <i>(please specify)</i> , or	
None of the above	

to be used in the report?

Please sign this form to show that I have read the contents to you.

----- (signed) ----- (date)

----- (print name)

Write your address below if you wish to receive a copy of the research report:

**INDEX**

<b>Section number</b>	<b>Section Name</b>	<b>Page number</b>	<b>Comments</b>
1	Household background matrix and education achievements	4	
2	Housing: Current housing conditions and contribution of participation in project	6	
3	Access to water: Form of access and contribution of participation in project	7	
4	Sources of income of household members aged 15 years and older	8	This sections aims to measure sources of income and any contribution made as a result of participating in the project
5	Quality of life	11	This section aims to measure which assets the households own and what changes in assets have occurred as a result of participating in the project
6	Household assets	12	This section measures the impact of the project based on comparison of the output generated before the micro-credit and after the provision of micro-credit]
7	Social capital	15	
8	Agricultural inputs invested and outputs generated from the Marrambajane in-kind agricultural micro-credit project	27	
9	Reinvestment of the profit generated from the micro-credit in agricultural production /business	31	This is one of the important conditions for the sustainability of the intervention

**SECTION 1. HOUSEHOLD BACKGROUND MATRIX AND EDUCATION ACHIEVEMENTS**

1.1. I am now going to ask you for information in respect of all persons who live in this household (don't forget children under 1 year of age)

**NOTE: In this research, household is defined as people living in the same roof or within the same compound 15 days or more out of the past year (2005). A household member must share food from a common source when he (she) is present, and share in or contribute to a common resource pool.**

Person code followed by the first and last name of the person (start with respondent). List all the people in the household first and then ask questions on the following columns	What is ...'s relationship to the head of the household? 1=Head of the household 2=Spouse, partner 3=Son, daughter, stepson, stepdaughter 4=Father, mother, stepfather, stepmother 5=Grand child, grand stepson/daughter 6=Grand parent 7=Mother/father-in-law 8=Son/daughter-in-law 9=Brother/sister-in-law 10=Aunt, uncle 11=Sister, brother 12=Niece, nephew 13=Cousin 14=Household help 15=Other family (relative) 16=Other non-family	Gender 1=Male 2=Female	Age (at last birthday)  Enter in proximate age if necessary)	Marital status  1=Married (customary) 2=Married (traditional) 3=Living together 4=Never married 5=Widowed 6=Divorced 7=Separated  Other (specify)	Highest Level of education  0=have no school age 1=Grade 1 2= Grade 2 3=Grade 3 4=Grade 4 5=Grade 5 6=Grade 6 7=Grade 7 8=Grade 8 / fist year ETB (Basic Technical Teaching) 9=Grade 9/ second year ETB 10=Grade 10/ third year ETB 11=Grade 11/ first year IMT (Median Technical Teaching) 12=Grade 12/second year IMT 13=Third year IMT 14=Fourth year IMT (agriculture or any IMT- night school) 15=Courses at university or technicom 16=Completed university degree or technicon degree Other specify 17=Is not enrolled 18=Never studied 19=Others (specify)
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					

1.2 Did any member of this household been 15 days (two weeks and one day) out of last month ?

- 1= yes [there is/are migrant(s)]
- 2= No (all member are residents)

1.3, If 1.2 is yes circle the person code 1 ; 2; 3; 4; 5; 6; 7; 8; 9; 10; 11; 12; 13; 14; 15; 16

**SECTION 2.HOUSING: CURRENT HOUSING CONDITIONS AND CONTRIBUTION OF THE PROJECT?**

**Definitions of different types of houses in the village**

**Shack** - non durable traditional dwelling consisting of walls made by non conventional material – reeds or timbers which are not plastered. It is highly vulnerable to bed weather.

**Hut**- traditional dwelling consisting of plastered walls with structure made of reed/ timber, and the floor is plastered by mud. The roof is made by timber and is covered by grass. It requires replacement of the grass in average interval of three years (if there are no heavy rains and/or strong winds) and the walls have to be plastered again in five years time if the last plastering was made by mud or sand.

**Round hut**- improved traditional hut consisting of walls made by blocks, while the roof is made by timber and covered by grass. It is a semi-durable house; however it requires replacement of grass in average interval of three years (local grass).

**Conventional house with no concrete roof:** a durable house with walls made by blocks/bricks/stones/ plastered with concrete/cement. The roof is made of metal (zinc, aluminum, etc.) or fiberglass.

**Conventional house with concrete roof:** a durable house with walls made by blocks/bricks/stones/ plastered with concrete/cement. The roof is made of concrete; therefore the house is more durable than conventional house with no concrete roof.

**Squared hut or “barraca”:** traditional dwelling consisting of walls of stone or clay soil timber or reeds. The floor is plastered with dung from cattle and/or clay soil. The roof is not conic and it is made by timber, traditional cords (rope) or wire and covered with local grass. The grass must be replaced in average interval of five years.

**Corrugated roofing & reed walls:** a traditional housing consisting of walls made with reeds and corrugated roofing. The walls can be either plastered with clay soil or not plastered.

2.1. Type of the **main** dwelling

1	Shack
2	Hut
3	Round hut
4	Conventional house with no concrete roof
5	Conventional house with no concrete roof + some huts within the compound
6	Conventional house with concrete roof
7	Conventional house with concrete roof + some huts within the compound
8	Corrugated roofing & reed walls
9	Square hut
10	Other (specify)

2.2. How many rooms in the dwelling ['extend the house' (add rooms)]?

\_\_\_\_\_

2.3. Do you own this dwelling?

1	Yes
2	No

2.4. What was the most important contribution of the Marrambajane in kind agricultural micro-credit for provision of the household housing?

1	Allowed us to make improvements
2	Allowed us to conduct maintenance
3	Allowed us to build from scratch
4	Allowed us to make rental payments
5	Allowed us to repay bonds on loan
6	Other (specify)
7	No contribution at all

**SECTION 03. ACCESS TO WATER: WHAT IS THE EXISTING SOURCE OF WATER AND WHAT EFFECT HAS PARTICIPATION HAD ON ACCESS TO WATER AND QUALITY OF WATER?**

3.1. Now we are going to talk about the **main** source of water used by this household for drinking, cooking and bathing. **CIRCLE ONLY ONE**

Source of water (if there are others specify)	Code	Observation
Piped-internal	01	
Piped-yard tap	02	
Water carrier/tanker	03	
Piped-public tap/kiosk (free)	04	
Piped-public tap/kiosk (paid for)	05	
Borehole	06	
Rainwater tank	07	
Flowing river/stream	08	
Dam/stagnant water	09	
Well (non-borehole)	10	
Protected spring	11	
Other	12	
	13	
	14	

3.2. How has participation in the Marrambajane in-kind agricultural micro-credit project contributed to access to water?

1. Water installed since joining the project (Borehole)
2. Profits generated from the project micro-credit were use to build carrier/tanker
3. Profits used to buy e.g. wheelbarrow/cart/donkey to transport the water
4. Other contribution (specify).
5. No contribution at all

---



---



---



---

**SECTION 04. SOURCES OF INCOME OF HOUSEHOLD MEMBERS AGED 15 YEARS AND ABOVE.**

**4.1. INTERVIEWER.** For each individual aged 15 years and above within the household ask the questions in the table below. Remember to put the person code of each household member concerned with the first three columns.

Sources of income	a) Person 1	c) Person 2	d) Person 3	e) During the year, is the source of income mostly [...]? 1=Continuously (every month) 2=Seasonally 3=Occasionally 4=Seasonally and non occasionally	f) When did the household first start to receive income from the source(s) mentioned? 1=Before received micro-credit from the Marrambajane project (enter the year) 2= After received micro-credit from the Marrambajane project (enter the year)	Year started to receive income
1=Sale of crops/fruits						
2=Seasonal labour in agriculture						
3=Permanent labour in agriculture						
4=Sale of livestock						
5=Sale of handcrafts						
6=Sale of traditional alcohol drink						
7=Other non-farming income generating activities						
8=Domestic worker						
9=Formal employment / pension (eg. teacher, nurse...)						
10=Property rental						
11=Interest from savings						
12=Remittance						
13=Donation from church/NGOs						
14=Other (specify)						

4.2. How many people within the household earn income from an economic activity, pension, any paid work or any other source of income?

INTERVIEWER. Record the number of household members earning income from any source [\_\_\_\_\_]

4.3 What is the income of the household in total per week/month/year [\_\_\_\_\_ /week  ; /month  ; /year

4.4. Has this household seen a profit from its participation in the Marrambajane project?

**Note: by profit we mean earnings above and beyond what you business spend for wages, expenses, and other costs.**

- 1=Yes
- 2=No

4.5 If "Yes" 4.4, are the profits invested in some of the income generating activities listed on the table above?

- 1=Yes
- 2=No

4.6. If "Yes"4.4, which household income economic activities/remunerations are financed by the profits? **Circle the corresponding codes below**

**1=Sale of crops/fruits (non applicable); 2=Seasonal labour in agriculture; 3=Permanent labour in agriculture; 4=Sale of livestock; 5=Sale of handcrafts; 6=Sale of traditional alcohol drink; 7=Other non-farming income generating activities; 8=Domestic worker; 9=Formal employment / pension (non applicable); 10=Property rental; 11=Interest from savings; 12=Remittance; 13=Donation from church/NGOs; 14=Other (specify)**

---

---

---

**SECTION 5. QUALITY OF LIFE**

**5.1. INTERVIEWER.** Now I would like to ask you, to summarize the quality of life in this household. I have the list of words in which you will have to choose one word for each question I am going to ask you. **INTERVIEWER,** Circle the code corresponding to the word chosen to answer each question.

5.1.1	Taking everything into account, how satisfied is this household with the way it lives these days, <u>in terms of economic well-being?</u>	1=Very satisfied 2=Satisfied 3=Neither satisfied nor dissatisfied 4=Dissatisfied 5=Very dissatisfied	<b>OBSERVATIONS:</b>
5.1.2	How would you rate the financial situation of the household AT PRESENT?	1=Very good 2=Good 3=Average 4=Bad 5=Very bad	
5.1.3	How would you rate the financial situation of the household compared to a period before you accessed the micro-credit from the Marrambajane project?	1=Better 2=Same 3=Worse	
5.1.4	How would you rate the financial situation of the household now, compared with just before the 2000 floods?	1=Better 2=Same 3=Worse	

5.2. If the financial situation of the household compared to a period before you accessed the micro-credit from the Marrambajane project is better or worse; what would you say are the main reasons for the change in the financial situation of the household (write exact words and list no more than three reasons)

---



---



---



---

**SECTION 06. HOUSEHOLD ASSETS.** [This section aims to explore which assets the households own and whether participation in the Marrambajane in-kind agricultural micro-credit project has any influence on change in assets]. INTERVIEWER, to answer the first question (second column) use a card sorting exercise to establish if the household own a given asset and then, once you have established which ones they own ask the remaining questions on other columns.

**6.1. Now I am going to ask about assets which the household may own**

Assets	a) Does the household own [...]? 1=Yes 2=no <b>Go to next Item</b>	b) Who in the household owns [...] ?  Person code If jointly owned, code=00 If not on household matrix code 99	c) What is the approximately value of [...] "it you were to replace this item"  MZM (Mozambique money)	d) Did the household acquire the asset [...] before or after accessing credit from the Marrambajane In Kind agricultural micro-credit project  1=Before accessing micro-credit 2= After accessing micro-credit	e) What was the main source of income used for acquisition of the asset?  1= Donated asset or purchased with donated funds 2= Purchased with own funds (profit from agricultural micro-credit) 3= Purchased with own funds (not income from agricultural micro-credit) 4 = Other, specify
1. Cattle					
2. Sheep					
3. Goats					
4. Pigs					
5. Poultry					
6. Donkeys					
7. Farm equipment (pump, pulverizer) plough, cart)					
8. Other low farming tools (spades, hoe, panga, machete etc...)					
9. Paraffin lamp					
10. Primous stove					
11. Television					
12. HIFI					
13. Refrigerator/freezer					
14. Electric or gas cookers					
15. Sewing machinery					
16. Radio					
17. household cell phone					
18. articles of furniture (chair, bench, etc)					
19. Table and its chair					

20. Kitchen cupboard					
21. Sofas					
22. Bed					
23. Household Jewellery , watches etc					
24. Bicycle					
25. Motorcycles					
26. Minibus					
27. Van					
28. Cars/bakkie					
29. Truck					
30. Solar panel					
31. Cloths					
32. Corrugated roofing					

6.2 Now I am going to ask specifically about access of the household to productive assets (including communal assets)

**Access of the household to productive assets (including communal assets)**

Assets	Does the household have access to [...]? 1=Yes 2=no 3=n/a <b>Go to next Item</b>	Did the household have access to similar asset [...] before or after accessing credit from the Marrambajne In Kind agricultural micro-credit project  1=Before accessing micro-credit 2= After accessing micro-credit 3=Before and after 4=n/a	What was the source of income used for acquisition/hiring of the asset 1= Donated asset or purchased with donated funds 2= Purchased with own funds (profit from agricultural micro-credit) 3= Purchased with own funds (not income from agricultural micro-credit) 4= asset supplied and subsidised by the project 5= asset supplied freely by the Marrambajne in kind agricultural project 6=n/a 7=Other specify
1. Land for cultivation			
2. Land for grazing			
3. Irrigation equipment			
4. Tractor			
5. Transport for commercialization			
6. Seeds/pesticides/herbicides/fertilizers and other inputs*			
7. Draft power - animal traction			
8. Ploughing, planting, harvesting equipment			

6.3. How many plots of farming land does the household have access to for planting? \_\_\_\_\_

6.4 If you add all household farming land plots, how many hectares (or any other measurement units) of land does the household has access?  
\_\_\_\_\_ (write the measurement unit).

6.5. Has participation in the Marrambajane project helped the household improve the quality of their assets?

1=Yes

2=No

6.6. Has participation in the Marrambajane project helped the household improve their access to assets?

2=No

6.7. If "Yes" 6.6, what assets? Circle the corresponding codes below

**CODES:** 1=cattle ; 2=sheep; 3=goats; 4=pigs; 5=poultry; 6=Donkeys; 7=farm equipment (pump, pulverizer; plough, cart); 8=other farming tools (hoes, spades, panga, machete); 9=paraffin lamp; 10= primous stove; 11=television; 12=Hifi; 13=refrigerator/freezer; 14=electric or gas cooker; 15=sewing machinery; 16= radio; 17= household cell phone; 18= furniture articles (chair, bench); 19=table and its chair; 20=kitchen cupboard; 21=sofas; 22=bed; 23= household jewellery, watches; 24=bicycle; 25= Motorcycle; 26=Minibus; 27= Van; 28=bakkie; 29=truck; 30= solar panel = 31= cloths; 33= Kitchen utensilius

## 7.0 SOCIAL CAPITAL

### 7.1. Groups and Networks (Structural Social Capital)

7.1.1 I'd like to start by asking you about the groups or organizations, networks, associations to which you or any member of your household belong. These could be formally organized groups or just groups of people who get together regularly to do an activity or talk about things. As I read the following list of groups, please tell me if anyone in this household belongs to such a group. If yes, tell me which household member is most active in this group, and whether he/she participates actively in the group's decision making.

[NOTE: IF A VILLAGE QUESTIONNAIRE HAS BEEN COMPLETED PRIOR TO THE HOUSEHOLD

QUESTIONNAIRE, THE ENUMERATOR CAN USE THE VILLAGE LIST OF GROUPS TO PROBE.

Type of Organization or Group	Name of Organization or Group	Code of Most Active Household Member [ENUMERATOR: USE CODE NUMBERS FROM HOUSEHOLD ROSTER]	How actively does this person participate in the group's decision making? 1 = Leader 2 = Very Active 3 = Somewhat Active 4 = Does not participate in decision making
A. Farmer/Fisherman group or cooperative	1		
	2		
	3		
B. Other production group	1		
	2		
	3		
C. Traders or Business Association	1		
	2		
	3		
D. Professional Association (nurses, teachers, Veterans etc...)	1		
	2		
	3		
E. Trade Union or Labor Union	1		
	2		
	3		
F. Neighborhood/Village committee	1		
	2		
	3		

G. Religious or spiritual group (e.g. church, mosque, temple, informal religious group, religious study group)	1		
	2		
	3		
H. Political group or movement	1		
	2		
	3		
I. Cultural group or association (e.g. arts, music, theater, film)	1		
	2		
	3		
J. Burial society or festival society	1		
	2		
	3		
K. Finance, credit or savings group	1		
	2		
	3		
L. Education group (e.g. parent-teacher association, school committee)	1		
	2		
	3		
M. Health group	1		
	2		
	3		
N. Water and waste management group	1		
	2		
	3		
Q. NGO or civic group (e.g. Rotary Club, Red Cross)	1		
	2		
	3		
S. Other groups	1		
	2		
	3		

7.1.2 Compared to five years ago (before the floods of 2000), do members of your household participate in more or fewer groups or organizations? (INTERVIEWER, specify on the table, either the respondent refers to non economic or economic organizations.

- 1 More
- 2 Same number
- 3 Fewer
- 4 Not membership of organizations

Non-economic organizations such as religious, cultural group, sport group and so on <b>(enter the code)</b>	Economic organizations such as farmer organization, traders association and so on <b>(enter the code)</b>

7.1.3 Of all the groups to which members of your household belong, which two are the most important to your household?

[ENUMERATOR: WRITE DOWN THE FULL NAMES OF GROUPS]

Group 1 \_\_\_\_\_  
 Group 2 \_\_\_\_\_

7.1.4 How many times in the past 12 months (from October last year to October 2006) did anyone in this household participate in either of these group's activities, e.g. by attending meetings or doing group work?

Group 1  Group 2

7.1.5 How does one become a member of this group?

- 1 Born into the group
- 2 Required to join
- 3 Invited
- 4 Voluntary choice
- 5 Other (specify) \_\_\_\_\_

Group 1  Group 2

7.1.6 How much money or goods (estimate value) did your household contribute to this group in the past 12 months?

Group 1  Group 2

- 7.1.7 What is the **main** benefit from joining this group?
- 1 Improves my household's current livelihood or access to services
  - 2 Important in times of emergency/in future
  - 3 Benefits the community
  - 4 Enjoyment/ recreation/peace of mind
  - 5 Spiritual, social status, self-esteem
  - 6 No benefit, an obligation
  - 7 Other (specify) \_\_\_\_\_

Group 1  Group 2

- 7.1.8 Does the group help your household get access to any of the following services?
- 1 Yes
  - 2 No

	Group1	Group2
A. Education or training		
B. Health services		
C. Water supply or sanitation		
D. Credit or savings		
E. Agricultural input or technology		
F. Irrigation		
G. Other (specify)		

7.1.9 Thinking about the members of this group, are most of them of the same...

1 Yes

2 No

	Group1	Group2
A. Neighborhood/village		
B. Family or Kin group		
C. Religion		
D. Gender		
E. Age		

7.1.10 Do members mostly have the same...

1 Yes

2 No

	Group1	Group2
A. Occupation		
B. Educational background or level		

7.1.11 Are members mostly of the same political viewpoint or belong to the same political party?

1 Yes

2 No

Group 1  Group 2

7.1.12 Are some members richer or poorer than others, or do they all have mostly the same income level?

1 Mostly same income level

2 Mixed rich/poor

3 Don't know

Group 1  Group 2

7.1.13 In the past five years (from 2000 after floods up to 2006), has membership in the group declined, remained the same, or increased?

- 1 Declined
- 2 Remained same
- 3 Increased

Group 1       Group 2

7.1.14 Does this group/association work or interacts with other groups with similar goals *in* the village/neighborhood?

- 1 No
- 2 Yes, occasionally
- 3 Yes, frequently

Group 1       Group 2

7.1.15 Does this group work or interact with other groups with similar goals *outside* the village/neighborhood?

- 1 No
- 2 Yes, occasionally
- 3 Yes, frequently

Group 1       Group 2

7.1.16 Does this group work or interact with other groups with different goals *in* the village/neighborhood?

- 1 No
- 2 Yes, occasionally
- 3 Yes, frequently

Group 1       Group 2

7.1.17 Does this group work or interact with other groups with different goals *outside* the village/ neighborhood?

- 1 No
- 2 Yes, occasionally
- 3 Yes, frequently

Group 1       Group 2

7.1.18 What is the most important source of funding of this group?

- 1 From members' dues
- 2 Other sources within the community
- 3 Sources outside the community

Group 1

Group 2

7.1.19 What is the most important source of expertise or advice which this group receives?

- 1 From within the membership
- 2 From other sources within the community
- 3 From sources outside the community

Group 1

Group 2

*Networks*

7.1.20 About how many *close* friends does the household have these days? These are people you feel at ease with, can talk to about private matters, or call on for help.

7.1.21 If suddenly a household member fall sick and you need small amount of money to take him/her to the district hospital how many people beyond your immediate household could you turn to who would be *willing* to provide this money?

- 1 No one
- 2 One or two people
- 3 Three or four people
- 4 Five or more people

7.1.22 [IF NOT ZERO] are most of these people of similar/higher/lower economic status?

- 1 Similar
- 2 Higher
- 3 Lower

7.1.23 In the past 12 months, how many people with a personal problem have turned to you for assistance?

**7.2. Trust and Solidarity**

In every community, some people get along with others and trust each other, while other people do not. Now, I would like to talk to you about trust and solidarity in your community.

7.2.1 In general, do you agree or disagree with the following statements?

	1. Agree strongly 2. Agree somewhat 3. Neither agree nor disagree 4. Disagree somewhat 5. Disagree strongly
A. Most people from Group 1 of my household can be trusted.	
B. Most people from Group 2 of my household can be trusted.	
C. Within the Group 1 of my household, one has to be alert or someone is likely to take advantage of you.	
D. Within the Group 2 of my household, one has to be alert or someone is likely to take advantage of you	
E. Most people within group 1 of my household are willing to help if you need it.	
F. Most people within group 2 of my household are willing to help if you need it.	
G. Within the group 1 of my household, people generally do not trust each other in matters of lending and borrowing money.	
H Within the group 2 of my household, people generally do not trust each other in matters of lending and borrowing money.	

7.2.2 Now I want to ask you how much you trust different types of people. On a scale of 1 to 5, where 1 means a very small extent and 5 means a very great extent, how much do you trust the people in that category?

- |                                   |
|-----------------------------------|
| 1. To a very small extent         |
| 2. To a small extent              |
| 3. Neither small nor great extent |
| 4. To a great extent              |
| 5. To a very great extent         |

A. People from your association - member of the Union of Associations Uamechinga	
B. People within the Union of Associations Uamechinga as a whole	
C. People from you extended family	
D. your friends	
E. People from Group 1 of my household	
F: People from Group 2	

7.2.3 Do you think that over the last five years (from the floods of 2000 up to now), the level of trust within the group 1 which your household is member has gotten better, worse, or stayed about the same?

- 1 Gotten better
- 2 Gotten worse
- 3 Stayed about the same

7.2.4 Do you think that over the last five years (from the floods of 2000 up to now), the level of trust within the group 2 which your household is member has gotten better, worse, or stayed about the same?

- 1 Gotten better
- 2 Gotten worse
- 3 Stayed about the same

### 7.3.1 Information and Communication

Please, tell me the three most important ways by which you know the prices of goods or crops in markets where you sell crops or buy goods such as inputs, food and non food items (enter code).

- 1 Relatives, friends and neighbors
- 2 Community bulletin board
- 3 Local market
- 4 Community or local newspaper
- 5 National newspaper
- 6 Radio
- 7 Television
- 8 Groups or associations
- 9 Business or work associates
- 10 Political associates
- 11 Community leaders
- 12 An agent of the government
- 13 NGOs
- 14 informal employed focal pointed (*Gai-Gai*)
- 15 Friends
- 16 Other source specify

1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>

7.3.2 In general, compared to five years ago (from the floods of 2000 up to now), has access to information improved, deteriorated, or stay about the same?

- 1 improved
- 2 Deteriorated
- 3 Stayed about the same

**SECTION 08. AGRICULTURAL INPUTS INVESTED AND OUTPUTS GENERATED FROM THE MARRAMBAJANE IN KIND AGRICULTURAL MICRO-CREDIT.** [This section measures the impact of the project based on comparison of the output generated before the micro-credit and after the provision of micro-credit]

**Agricultural inputs and outputs in the year 2005 (for three main cash crops: tomato, onion and sugar bean).**

8.1. INTERVIEWER. Ask the interviewee each of the questions on the first column of the table, concerned with the variables of inputs and outputs.

Variables of inputs and outputs	Crop code 1= tomato				Crop code 2=Onion				Crop code 3=Cabbage			
	Year 2005		Year 2006		Year 2005		Year 2006		Year 2005		Year 2006	
Before asking the question on the inputs and outputs, specify the season in which the household had sown or planted each one of the three crops grown (tomato, onion and sugar bean) in 2005 agricultural campaign 0=Winter 1=Summer 2=Both seasons												
	NO.	Units	NO.	Units	NO.	Units	NO.	Units	NO.	Units	NO.	Units
1= Area grown in (hectares, meters by meters for example : 10 mX15 m )	#		#	Units	#		#		#		#	
2=Amount of seed sown (grams, kg) or any other unit of measurement used	#		#	Units	#		#		#		#	
3=Amount of fertilizers used (kg) or any other unit of measurement used	#		#	Units	#		#		#		#	
a)												
b)												
c)												
4=Amount of pesticides used (kg, litres) or any other unit of measurement used	#		#	units	#		#		#		#	
a)												
b)												
c)												
5=Amount of herbicides used (kg, litres) or any other unit of measurement used	#		#	units	#		#		#		#	
6=Amount of yield or harvest (kg, 10kilo bags; 25 kilo bags; 50 kilo bags; 80 kilo bags; boxes; tons) or any other unit of measurement used	#		#	units	#		#		#		#	
7=Amount of labour not from the household # employed (number of workers hired)	#		#	units	#		#		#		#	
8=Amount of labour from the household # used (number of household members involved in work but not paid, children and adults)	#		#	units	#		#		#		#	
9=How many units (kg, tons or any other unit of measurement used) of yield (crop) were lost due to pest, theft and/or rotting after harvesting and while in storage [enter the number and specify the unit of measurement]	#		#	units	#		#		#		#	

8.2. Now I am going to ask specifically about the cost of agricultural inputs and services from the outputs in 2005. **INTERVIEWER.** Ask the question on the first column.: Use a card sorting exercise to establish if the household has used a given input/service and then, once you've established which ones they have used probe to find out the cost.

**Cost of agricultural inputs and services used in 2005.**

How much did each of the activity and inputs below cost (in Meticais-MZM)?	1=Tomato	2=Onion	3=Cabbage
Before answering the question about the costs of each of the activities or inputs below; specify the season in which the household had sown or planted each one of the three crops grown (tomato, onion and sugar bean) in 2005 agricultural campaign 0=Winter 1= Summer 2=Both seasons			
1=Ploughing* (including the labour used if used paid labour)			
2=Planting (seeds sown/seedlings, labour- if used paid labour- and hiring of equipment used)			
3=Weeding (labour, if used paid labour; as well as herbicides if they were used)			
4=Pest management in the field (pesticides, labour used, if used paid labour)			
5=Watering (cost of water, equipment and labour if used paid labour)			
6=Mulching/ manure (cost of mulch/ manure and labour if used paid labour)			
7=Harvesting (cost of labour, if used paid labour; equipment)			
8=Storage (costs of stacking, pesticides used in storage and its application)			
9=Packing and processing (costs of sacks, boxes, plastic bags etc)			
10=Transport to market (hiring of cart, truck, fuel for the Union truck, payment of driver etc)			
11=Marketing (logistic expenses for the sellers: transport, food, accommodation etc)			
12= Fertilizers used and the costs of their application if the household had hired labour			
13=How much money (MZM) were lost due to pest, theft and/or rotting after harvesting and while in storage (please estimate)			
14= Total cost per each crop			
15=For all the three crops, what was the total cost incurred in 2005?			

Observation: \* Indicate if the farmers make intercropping (which crops are intercropped) as the cost of ploughing for each one of the crops intercropped will be the same.

8.3. Now I am going to ask specifically about the revenue and profit from the 2005 Agricultural campaign. **INTERVIEWER.** Ask the question on the first column

**Note: by revenue we mean the amount of money received for crops sold without deducting the costs of inputs and services used in production of the crops. While, profit means earnings above and beyond what you business spends for wages, expenses, and other costs (Nickels, 1996:13, 29).**

**Revenue and profit from the 2005 Agricultural campaign in 2005. (People may not recall, unless if this information is recorded within the documentation of the Union of Association)**

Revenue and profit of each of the three crops in both seasons (winter and summer)	1=Tomato	2=Onion	3=Sugar bean
1=Value of the micro-credit loan for each crop in 2005			
2=Total Value of the micro-credit loan for all three crop			
3=Revenue of each crop = Units of crop sold x prices of unit of crop sold			
4=Profit of each crop = (Revenue of the crop — all the costs associated with inputs and services used to produce the crop)			
Total of revenue for the three crops (is the sum of all the revenues for the three crops)			
Total of profit for the three crops (is the sum of all the profits for the three crops)			

**SECTION 9. REINVESTMENT OF THE PROFIT GENERATED FROM THE MICRO-CREDIT IN AGRICULTURAL PRODUCTION /BUSINESS.** [This is one of the main important conditions for the sustainability of the intervention]

**9.1. INTERVIEWER.** Now I am going to ask you about the reinvestment of the profit generated from the micro-credit in agricultural production /business.

Year (s) in which the household got loan	What was the agricultural micro-credit value for both local food crops and cash crops (maize, cowpea, tomato, onion, sugar bean and cabbage) in each of the 06 years on the left column  [enter the value in Meticais] . <b>INTERVIEWER Compare total with response on front page</b>	For all the crops grown, what was the total costs incurred in each of the 06 years  [enter the value in Meticais]	For all the crops grown, what was the revenue generated in each of the 06 years  [enter the value in Meticais]	For all the crops grown, what was the total profits earned in each of the 06 years  [enter the value in Meticais]	How much of the profit have you reinvested in equipment or production costs: 1= No profit was generated 2=Nothing 3= less than a half (estimate if possible) 4=Half or more (estimate if possible) 5=All (estimate if possible)
2000					
2001					
2002					
2003					
2004					
2005					

9.2. If the household had failed to reinvest the profit generated from one of the loans or more; could you tell me what are the many reasons for you household failing to reinvest the profit in the next agricultural campaign?

---



---



---



---



---



---



---



---



---



---

**Thank you for your time.**

### Appendix C: Assets acquired by the households as a contribution of the micro-credit

Assets acquired	Total of households acquiring the asset	Percentage from the total of respondents	Code numbers of the households acquiring the asset
Cattle	6	9.1	23, 25, 39, 45, 47, 63
Sheep	2	3.0	39, 42
Goats	18	27.3	2, 3, 4, 11, 23, 24, 25, 37, 39, 40, 42, 45, 52, 60, 63, 64, 65, 32
Pigs	6	9.1	11, 24, 25, 29, 40, 51
Poultry	14	21.5	4, 9, 11, 16, 23, 26, 29, 32, 42, 47, 55, 60, 61, 65
Farm equipment <sup>1</sup>	6	9.2	31, 32, 35, 40, 42, 45
Other farming low cost tools <sup>2</sup>	20	30.3	3, 4, 6, 8, 9, 23, 25, 28, 29, 38, 40, 42, 45, 48, 55, 60, 61, 63, 64, 65
Paraffin lamp	1	1.5	11
Paraffin stove	1	1.5	11
Hifi	2	3.0	21, 28
Radio	7	10.6	9, 11, 37, 40, 51, 55, 63
Cell phone	3	4.5	37, 51, 57
Articles of furniture	7	10.6	2, 9, 11, 13, 40, 51, 53
Table with its chairs	4	6.1	9, 31, 45, 51
Kitchen cupboard	2	3.0	9, 31
Sofas	2	3.0	31, 37
Bed	5	7.6	1, 3, 9, 31, 51
Jewellery/watch	1	1.5	45
Bicycle	6	9.1	11, 37, 38, 39, 45, 51
Corrugated sheet roofing	3	4.5	4, 5, 17
Kitchen utensil	6	9.8	3, 24, 30, 32, 36, 40
Cloths	13	10.7	2, 3, 4, 16, 24, 25, 32, 34, 38, 40, 41, 57, 64

Survey conducted by the author

<sup>1</sup> Farm equipment refers to pulverizer, plough and/or cart

<sup>2</sup> Other farming low cost tools refers to hoes, spades, panga and machete

