Efficacy of micro-financing women's activities in Côte d'Ivoire

Evidence from rural areas and HIV/AIDS-affected women

Namizata Binaté Fofana

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Namizata Binaté Fofana

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This work is dedicated to
my parents, husband and children

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List of acronyms and abbreviations

ADB	African Development Bank
AIDS	Acquired Immunodeficiency Syndrome
ANADER	National Agency for Supporting Rural Development
AWLAE	African Women Leaders in Agriculture and Environment
AFISEF	Women Access to Financial Services
CERAB	Cercle des Amis d'Abengourou (Circle of the friends of Abengourou)
CFA	African Financial Community
CGAP	Consultative Group for Assistance of the Poor
CMEC	Mutual Saving and Credit
CNC	National Committee of Agreement
CNM	National Committee for Microfinance
COOPEC	Savings and Credit Cooperatives
DCI	Direct Credit Institutions
DM	Directory of Microfinance
EIS	Inquiry on AIDS Indicators
FAO	Food and Agriculture Organization
FGD	Focus Group Discussions
GDP	Gross Domestic Product
HIV	Human Immunodeficiency Virus
INS	National Institute of Statistics
MDG	Millennium Development Goals
MFIs	Microfinance Institutions
MSCR	Microcredit Summit Campaign Report
NCFA	National Council of the Fight Against HIV/AIDS
NHE	New Household Economics
NGOs	Non-governmental Organizations
NSM	National Strategy of Microfinance
NSP	National Strategic Plan
OCDE	Organization for Economic Cooperation and Development
PGN	Practical Gender Needs
PLWHA	People Living With HIV/AIDS
PROSTAB	Stabilization of Agricultural Production Systems Project
PSB	Belgian Health Project
RETROCI	Retrovirus in Côte d'Ivoire
RCMEC	Mutual Saving and Credit Network
ROSCAs	Rotating Savings and Credit Associations
SAP	Structural Adjustment Policy
SCI	Saving and Credit Institutions
SGN	Strategic Gender Needs
SPRD	Strategy of Poverty Reduction Document
SPSS	Statistical Packages for Social Sciences

UNACOOPEC	National Union of Credit and Saving Cooperatives
UNAIDS	United Nations Program on HIV/AIDS
UNDP	United Nations Development Program
WHO	World Health Organization
VCT	Voluntary Counselling and Testing

Chapter 1
Introduction

This chapter introduces the theme of the research. It explains the rationale behind the focus on microfinance for women in the first section. The research problem is discussed in Section 2, while Section 3 presents the research objectives and questions. The outline of the dissertation is given in Section 4.

1.1 Justification

There has been an ongoing debate on poverty during the last few decades. Poverty exists everywhere in the world. The UNDP annual report from 2006 states that 2.5 billion people live on less than 2 USD per day and account for only 5% of the global income, while the richest 10% account for 54% of global income. Furthermore, an estimated 800 million people will still be trapped in poverty and by 2015 600 million will be left starving, most of them living in sub-Saharan Africa and South Asia (Von Braun, 2007).

There are many poor countries, especially in sub-Saharan Africa. Despite the fact that some progress in reducing poverty has been made over the last few years, the share of the poor in sub-Saharan Africa remains above 40% compared to Asia and the Pacific, where the share of the poor fell from 30% in 1990 to 9% in 2004 (Ravallion *et al.*, 2007). In such a context, the main objective should be to continue looking for solutions that can lift the poor out of poverty and for scientific communities and policy-makers who can help make that happen. This study deals with the question of poverty and the search for strategies to mitigate its effects on households' livelihoods.

The reduction of poverty is the first of the Millennium Development Goals (MDG) that were adopted in 2000 by 189 countries. The countries that have made the greatest progress in poverty reduction have been those with the strongest economic growth rates. In other words, there is a positive relationship between economic growth and poverty reduction. However, one should remember that despite its positive effects on poverty reduction, economic growth also has its limits in reaching the extremely poor and hungry people, especially in a context of high inequality in terms of access to resources.

Economic growth results not only from better policies and a favourable global environment, but especially from the active involvement of adult people. Unfortunately, due to the lack of or the difficult access to resources, many people are unable to undertake activities and contribute to national development. In such a case, microfinance as a credit institution is seen as one of the relevant tools that can provide small loans for poor people who have no access to a formal bank.

Microfinance institutions enable the poor to undertake income-generating activities and to improve their livelihoods. Microfinance also helps the poor to cope with the shocks and uncertainties that they may experience.

Microfinance has been recognised as a significant means of economic development in recent decades, especially during the microcredit summit held in Washington DC in February 1997. In addition, the United Nations General Assembly nominated 2005 as the International Year of Microcredit in order to boost microcredit and microfinance programmes around the world. Since then, microfinance has attracted more attention from governments, NGOs, researchers and civil servants.

Worldwide, women are more likely to be poor than men. Of the approximately 985 million people living in extreme poverty in developing countries, an estimated 70% are women (World Bank, 2007). Women are poorer than men because they often lack access to economic resources and opportunities, education and support services, and do not have access to land. Nevertheless, women contribute to the physical work in farm production and support the livelihood of the farm household in many countries (Ellis, 2000). In Africa, women now constitute the majority of smallholder farmers, providing most of the labour and managing farms on a daily basis (Saito, 1994). Women increasingly take charge of farm activities because of the migration of men from rural areas to cities or abroad, in search of paid employment. War, sickness and death from HIV/AIDS of the rural male population also explain the increase in women's workload. This trend of the growing dominance of women in agricultural production has been termed the 'feminisation of agriculture' (FAO, 1999; FAO, 2005; Hart, 1994; Cornhiel, 2006). Feminisation of agriculture makes it more necessary to take action to enhance women's ability to carry out their agricultural and non-agricultural activities and their other household tasks. As mentioned above, microfinance can address these needs by enabling women to generate income and improve their economic power.

In the last two decades, the HIV epidemic has been raging throughout the world. In 2007, the number of people living with HIV/AIDS (adults and children) was estimated at 33.2 million. More than 25 million people have died of AIDS since 1981. Sub-Saharan Africa is the most affected region in the world with an estimated 22.5 million people living with the disease (UNAIDS, 2007; WHO, 2006). Poor people are more vulnerable to HIV infection. Stillwaggon (2006) positions the epidemic in an environment of poverty in which HIV/AIDS and other poverty-fuelled diseases thrive. Niehof and Price (2008: 141) say that the evidence on the epidemic's impacts 'reveals the existence of a devastating triad comprised of poverty, HIV/AIDS and food insecurity that mutually reinforce one another'. Therefore, HIV/AIDS is a developmental concern. HIV/AIDS can worsen existing poverty and impoverish the non-poor due to the use of both their human and financial resources in trying to cope with the disease. In addition to its physical and psychological effects, HIV/

AIDS also has significant effects on the demographic composition of the population and the social and economic structures of populations (Nombo, 2007).

HIV/AIDS can also endanger the functioning of Microfinance Institutions (MFIs) because of its effects on women loanees affected by the disease. The reallocation of women's household labour to caring for sick household members reduces the labour available for other activities. This loss of women's labour may lead to loss of productivity and decrease in income, which may result in the depletion of savings, the diversion of loans to meet the demand for cash and inability to meet repayment schedules as well as high default rates (Donahue *et al.*, 2001). All these factors may threaten MFI portfolios and the sustainability of MFIs.

In terms of HIV prevalence, Côte d'Ivoire is the most affected West-African country (UNAIDS, 2004). In 2007, the figures for Côte d'Ivoire indicated that 400,000 out of the estimated 750,000 people living with HIV and AIDS are women. In addition, 74,000 are children aged 0 to 14, and there are also 45,000 orphans (UNAIDS, 2007).

This study was carried out within the framework of the AWLAE (African Women Leaders in Agriculture and Environment) Project. AWLAE aims at creating a critical mass of African women leaders that will be capable of positively changing the policies, programmes and practices that affect the livelihood of women farmers in rural Africa. This should result in making women more empowered and self-confident to participate in the economic, social and political development of African countries in general and in the state of Côte d'Ivoire in particular. The project addresses the theme of the role of women in food systems and the effects of HIV/AIDS on rural livelihoods. The objective is to search for strategies that can reverse the negative effects of HIV/AIDS on food security and poverty. This study on microfinance will hopefully contribute to realising the important objectives of the AWLAE project.

1.2 Research problem

Most of the economies of sub-Saharan Africa depend on agriculture. The agricultural sector is an important source of livelihood for an estimated 86% of the rural population (World Bank, 2008). It provides opportunities for private investments and is one of the pillars of food security through crop production. Furthermore, it provides income for farmers earned from cash crops that can be used for buying foods. The agricultural sector in Côte d'Ivoire is no exception. It has played the role of an engine in the developmental process since the political independence of the country. The economy of the country is heavily based on agriculture, which represents about 38% of GDP and 70% of export revenue (World Bank, 2005).

Women in Côte d'Ivoire contribute to both food crop production and cash crop production. They also dominate the informal sector. However, just like in other

countries, Ivorian women have achieved little improvement in agricultural productivity and the country is not yet self-sufficient in food production. Women's incomes are low as a consequence of low productivity, which has to do with the lack of resources available to acquire modern inputs or launch new income-generating activities. It is in this context that the state of Côte d'Ivoire is committed to supporting women financially through microfinance. Therefore, microfinance programmes have been promoted since the early 1990s in order to help women to improve their livelihood and that of their families and to positively contribute to the economic growth of the country. New microfinance institutions have been launched throughout the country, especially in rural areas where many poor people live. Some old institutions have been restructured and received subsidies from the state and donors to better serve their clients. This was the case with COOPEC (Saving and Credit Cooperative), which received a special fund (AFISEF) for women borrowers and was supported by the Canadian Agency for International Development. In addition, the state has created the National Committee for Microfinance (CNM) to organise and monitor the microfinance sector. Microfinance institutions have been gradually promoted throughout the country. For example, compared to the northern region where MFI programmes were first implemented, the eastern region which includes our study area has only recently experienced MFI programmes. In short, the Abengourou region which used to be a very prosperous region of the country is currently the first region to experience the implementation of MFIs. Despite the proliferation of MFI programmes and the fact that it has been more than a decade since MFI programmes were first implemented in the country, little empirical research has considered the effectiveness of providing loans for the rural population in general and Abengourou rural women in particular. Moreover, little is known about women's needs regarding their access to and use of credit and their business activities. In addition, little is known about gender relations within the household in relation to women's access to and the use of microfinance services. Despite the spread of HIV and AIDS in the country, little research has been conducted on the extent to which HIV and AIDS affect female borrowers and MFI programmes in Côte d'Ivoire.

There are some insufficiencies and weaknesses in microfinance studies, which have to be addressed in order to find out how microfinance can be made more effective in its mission to provide financial services that meet the needs of the rural population especially women. Most of the studies have revealed that women in general need financial services to carry out their activities more efficiently and to improve their standard of living. They also recognised the necessity for microfinance programmes to meet women's needs (see Chapter 3). Yet, it is not clear how this can be achieved, because few studies use a gender perspective to investigate intra-household resources allocation in relation to women's economic activities and access to financial programmes. Another shortcoming in microfinance studies is the approach used to deal with this subject which does not take into account the health status of the beneficiaries of microcredit services. Health is an important factor

which may influence the effectiveness of microfinance institutions. For example, borrowers with good health can efficiently invest the money they borrowed, whereas sick borrowers are more likely to use their credit for medical expenditure without carrying out an income-generating activity. So, in order to enhance the effectiveness of microfinance for women, and to justify the presence of microfinance institutions in rural areas, there is a need to address the following questions: (1) How do women decide on specific economic activities? (2) How do women finance these activities? (3) What conditions do microfinance programmes impose regarding the activities to be financed and the amount of money to be made available for those activities? (4) How do MFIs improve women's position? (5) What is the relationship between the health status of female borrowers (HIV/AIDS) and the effectiveness of microfinance institutions?

Many studies in microfinance are quite descriptive (qualitative) and sometimes anecdotal (Kabeer, 2001). Moreover, economic studies on the subject often lack a gender perspective or just focus on financial sustainability and the economic profitability of the new activities for which the loan was provided. Economic studies tend to gloss over women's domestic work, which is actually as important as their economic activities. In rural Africa, the production of food for household consumption, giving care to household members and educating children, are also productive economic responsibilities that should be taken into consideration when promoting new activities. Food production for household consumption, though defined as unpaid work, has an opportunity cost that can be evaluated (Ellis, 2000). Women's unpaid domestic work limits the time they could otherwise invest in economic activities (Mayoux, 1998). This may also explain the low income of women in rural areas. This study has the ambition to combine both the standard economic aspects of microfinance for women, such as the conditions for obtaining credit, the profitability of MFIs and the profits of borrowers, and social aspects like changes in women's status and decision-making power and control over loans. Therefore, the emphasis will be laid on women's activities and the gendered intra-household relationships. By doing so, the study will help identify women's needs and how microfinance programmes can address them in the Abengourou region of Côte d'Ivoire.

Studies have also stressed that microfinance was more successful in Asian countries than in African (Schuler and Hashemi, 1994; Hashemi *et al.*, 1996; Pitt and Khandker, 1996; 1998), though little is known about the reasons for this. However, if microfinance has been more effective in Asia, one has to be cautious about making generalisations about other continents, notably Africa. As indicated by Hulme and Mosley (1996), most MFIs choose to replicate the methods used by the first wave of microfinance institutions rather than innovating and adapting to their own conditions and environment. This is because: (a) the microfinance movement is relatively new in Africa and there are few statistics and empirical studies; and (b) the promotion of microfinance in Africa seems to be largely based on the models implemented in

Asia and Latin America, without adjusting for African socio-cultural and political contexts and the needs of African clients. The effects of microfinance on women may differ across countries and even within the same country or region. Therefore, an empirical study in Côte d'Ivoire is necessary and highly relevant for investigating the validity and applicability of MFI programmes, for understanding the gender effects involved and for testing the hypothesis that MFI credit is benefiting women in rural Abengourou.

The objective of this study of microfinance is to use different approaches, which are the combination of credit and gender perspective, and the relationship between credit and health. Specifically, it addresses an important social and economic issue, namely the role of MFIs in alleviating poverty and enhancing women's livelihoods, and increasing their empowerment in a context of high HIV/AIDS prevalence. It will shed light on the potential effects of HIV and AIDS on the ability of women to carry out their activities and ensure household livelihood, and the role of MFIs. The outcomes of this study will provide knowledge on the effectiveness of microfinance programmes for women and how they can be improved to better meet women's needs in rural areas in Côte d'Ivoire.

1.3 Research objectives and questions

1.3.1 Research objective

This study aims at gaining insights into rural women's needs in terms of support for economic activities and empowerment and the way in which MFIs address these needs in Côte d'Ivoire. Specifically, the study aims at assessing whether microfinance services provided for women in Côte d'Ivoire fit their needs in terms of improving their incomes, productivity, and decision-making power. Special attention will be paid to women who are affected by HIV and AIDS to analyse the relationship between being affected and access to and use of MFI credit.

1.3.2 Research questions

In relation to the research objectives, this study will try to answer the following research questions.

1. What are women's needs for credit in rural areas?

The rationale behind this issue is that in rural as well as urban areas men and women have different needs, as a result of their gender roles and gender inequality in the control over resources (Moser, 1993). This may also be true with regard to microfinance, where men and women may have different needs in terms of financial services due to the differences between the types of activities they carry out. Men are

generally engaged in cash crop production, which is more costly, whereas women are the main producers of food crops for household consumption, with the surplus – if any – brought to the market. As discussed above, credit as a financial asset is an important way of helping rural women generate their livelihood and achieve empowerment. For that matter, to get information about what women's needs for credit are, the following questions are asked:

1.1 What types of business enterprises are women engaged in?
1.2 What types of financial and non-financial services are required by women?

2. How do women access MFI credit in rural areas?

This research question aims at shedding light on two sometimes competing objectives in the microfinance industry. On the one hand, MFIs want to help poor people, especially poor women, by providing them with financial services. On the other hand, MFIs have to be sustainable. To understand the behaviour of the MFIs and their significance for women, the following questions are to be asked:

2.1 What are the factors that affect women's access to MFI credit?
2.2 What types of female activities are financed by MFIs?
2.3 To what extent are MFI contracts profitable for women?

3. What are the effects of participation in microfinance programmes on women's practical and strategic gender needs?

The third research question represents the core of this study as it helps to determine how effective MFIs are in reaching the poor and meeting their needs. Practical gender needs are those related to men's and women's socially accepted roles (provision of food, water, health, income and childcare). Strategic gender needs arise from women's subordinate position to men (Moser, 1993).

Studies have found that microfinance is seen as a means to alleviate poverty, because financial services that are given to the poor may enable them to build up assets, develop their economic activities, smooth their consumption and reduce their vulnerability to external shocks (drought, famine, illness, flood, etc.). By doing so, MFIs can empower poor people, particularly poor women, and strengthen economic and social structures (Morduch, 1999; Morduch *et al.*, 2003; Rahman, 2004; Mayoux, 1999; ADB, 2000; Van Maanen, 2004; Greeley, 2003). The following questions are used to assess the effects of MFI programmes on women.

3.1 To what extent does MFI credit affect women's income, assets and productivity?
3.2 To what extent does women's access to and use of financial services influence their human and social capital?
3.3 To what extent do microfinance programmes strengthen women's decision-making power?

4. What is the relationship between microfinance programmes and women coping with HIV/AIDS?

This question aims at assessing the effects of HIV and AIDS on affected women and MFIs. AIDS can endanger the functioning and the effectiveness of MFIs through its impacts on female borrowers affected by the disease. This happens in so far as the affected women may lose their labour, productivity and income. The fall in income may result in the depletion of their savings, and high default and exit rates. Despite these negative effects of HIV and AIDS, some studies have shown that microfinance can play an important role in the prevention and mitigation of the effects of the epidemic (Kraal *et al.*, 2000). MFIs can provide information about the prevention of the disease to loanees through their groups or cooperatives. Microfinance institutions can mitigate the disease by giving financial services to affected women so that they can have access to medical treatment and generate their livelihood. The study of the following sub questions will help to assess the effects of HIV/AIDS on affected women and MFIs.

4.1 What conditions must HIV/AIDS-affected women satisfy to obtain MFI credit?
4.2 What economic and social effects does HIV/AIDS have on female borrowers?
4.3 How does MFI credit provided for HIV/AIDS-affected women influence their income?
4.4 To what extent and how do illness and death affect women's use and repayment of loans, and the functioning of MFIs?

1.4 Overview of the thesis

This thesis includes eight chapters. Chapter 2 presents background information on Côte d'Ivoire. It looks at the socio-demographic, political and economic context in which the study was carried out. The microfinance sector in Côte d'Ivoire and the state's effort to promote this sector are presented and analysed. Furthermore, the situation of the HIV epidemic and the strategies adopted to mitigate its impacts on the country and its people are discussed.

Chapter 3 presents the conceptual and theoretical framework through a review of the relevant literature linked to microfinance and HIV/AIDS. The main concepts discussed include poverty, livelihood, gender needs and women's rural activities and empowerment. The latter is seen in terms of their power of participation in decision-making in the household and their access to and control of microfinance credit. The relationship between HIV/AIDS and microfinance as documented in studies is also presented.

Chapter 4 gives details on the research design and methodology used to collect primary and secondary data. It describes the study area, and discusses in detail the research design and methods used in data collection. Problems encountered in data

collection are presented. The chapter ends by providing details on how the research questions will be answered and the hypothesis tested.

Chapter 5 focuses on how, especially in rural areas, women's livelihood activities are financed by microfinance institutions. The chapter starts with a description of household characteristics followed by a presentation of the livelihood activities carried out by women in order to highlight the type of financial services they require. Details on the financial services delivered by microfinance institutions, the conditions and rules applying to access to credit and the use of credit in rural areas are given and discussed.

In Chapter 6 the impacts of microfinance on women's livelihood activities, assets and empowerment are discussed. The chapter addresses the issue of the efficacy of MFIs in rural areas. First the chapter focuses on the relationships between men and women within the household which may result in women's empowerment. In this study women's empowerment is considered as a critical variable for the effectiveness of MFIs. The second section deals with factors that can determine the demand for MFI credit by women for improving their access to credit. The third section deals with the analysis of the returns on investment to show whether borrowing from MFIs and investing in income-generating activities is profitable for women. The section explores the factors that may affect the return on investment, and analyses women's ability to repay MFI loans. Section 4 presents the core of the chapter. It analyses the impact of MFIs on a set of outcomes including women's income, the assets of women and of the households, human and social capital. The chapter ends with an analysis of the effect of MFI on women's decision-making powers.

Chapter 7 analyses the effects of HIV and AIDS at the individual and household level as well as for microfinance institutions. This analysis includes their effects on women's livelihood activities, human capital, income, and loan repayment.

Chapter 8 provides a synthesis of the main finding and discusses the implications for policies and interventions. In addition the limits of the study and areas for further research are presented.

Chapter 2
Côte d'Ivoire, its microfinance sector and the HIV/AIDS problem

This chapter gives a description of the study country, presents the microfinance sector and highlights the HIV epidemic. The chapter starts with the country profile including information about socio-demographic characteristics, and political and economic aspects of the country. The second section deals with the analysis of the microfinance sector. It presents the structure and the functioning of the sector and shows the involvement of the state to improve the capacity building of microfinance institutions. The last section analyses the situation of HIV and AIDS in Côte d'Ivoire and the commitment of the state to the reduction of the adverse impacts of the epidemic on the population.

2.1 Country profile

2.1.1 Socio-demographic context

Côte d'Ivoire is located in West Africa, bordered by Burkina Faso and Mali to the North, Guinea and Liberia to the West, Ghana to the East and the North Atlantic Ocean to the South. It covers 322,460 square kilometres including 318,000 square kilometres of land and 4,460 square kilometres of water (Figure 2.1). The climate in Côte d'Ivoire is humid equatorial in the South and tropical in the North, which is

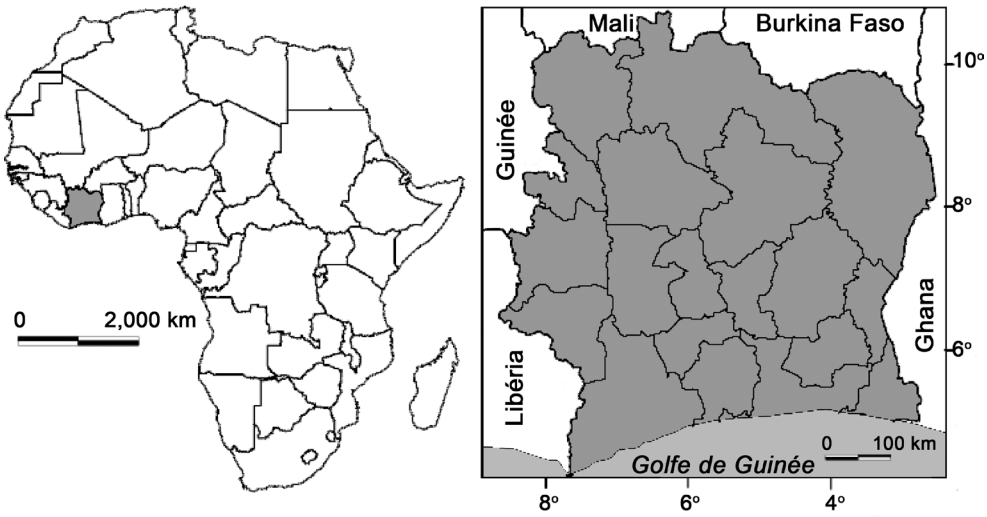

Figure 2.1. Map of Côte d'Ivoire.

favourable for farming. It includes two main seasons: the heavy rainfall season occurs from May to September (1100 millimetres annually) and the major dry season from December to April. According to estimates from the National Institute of Statistics (INS), the population of Côte d'Ivoire was about 20,227,876 inhabitants in 2007 with a population growth rate estimated at 3.5% per year. This population is characterised by 49% of females and 51% of males despite the higher life expectancy of women (53.4 years) compared to that of men (49.9 years). Most people in Côte d'Ivoire live in rural areas (51.9% versus 48.1% in 2007). However, the urban population is increasing from year to year while the rural population is decreasing as a result of rural exodus. The age distribution of the population is characterised by 40.3% of children (0-14 years), 57.3% of adults (14-64 years) and 2.2% of the elderly (INS, 2008).

Côte d'Ivoire comprises more than sixty ethnic groups divided into four large groups. The largest group are the Akan who are localised in the South, Centre and East of the country. The population of this study belongs to this group. The second group are the Mandé divided into Mandé of the North who are living in the North-West and the Mandé of the South living in the West and South-West. The Krou is the third group located in the South-West. The Gour in the North and North-East constitute the fourth group. The official language in Côte d'Ivoire is French. Contrary to most African countries such as Mali, Senegal, Kenya, Togo, Ghana etc., Côte d'Ivoire does not have an indigenous *lingua franca*. This lack of common local language is a weakness for the country because language as a means of communication can also be a factor of peace. It keeps people together and consolidates their feeling of brotherhood. Schaffner (1999) argues that language is a factor to be considered together with social and economic factors in any examination of the social conditions and institutions that prevent the achievement of comprehensive peace. Despite the fact that French is spoken by most Ivorians, it cannot fulfil this role, because not all Ivorian inhabitants, especially not those living in rural areas, can speak the language. There are three main religions in Côte d'Ivoire. More than one third of the population are Muslim (38%); 22% are Catholic and 5.5% are Protestant. The majority of the Muslims live in the Northern part of the country while the Catholics and Protestants are located in the Southern and Western regions. Besides these three groups, there are indigenous people (17%) who do not belong to any of the major religions. The rest of the population (17%) shares the religions and sects mentioned above.

2.1.2 Political situation and administrative organisation

Since its independence on the 7th of August, 1960, Côte d'Ivoire has become the most economically prosperous country in the West-African region due to the contribution of the agricultural sector and its political stability. The economic growth rate was continuously increasing. However, from 1999 to 2002, the country has experienced a number of military coups and political crises which led to its partition into two zones: the North occupied by the rebels and the South under control of the government.

This situation led to negative effects on the economic growth rate which decreased by -0.4% from 2000 to 2004.The crisis also impoverished the majority of the population, especially those living in the zones controlled by the rebels. There have been many attempts to resolve these crises peacefully, all of them relatively unsuccessful until the signing of a peace agreement in March 2007. Hopefully, this will lead to the stability of the country.

With regard to the administrative organisation, Côte d'Ivoire is composed of 19 regions, 58 departments, 323 sub-prefectures and more than 8,500 villages. Each region has many departments subdivided into sub-prefectures. With the government policy of decentralisation the departments were erected in 56 general councils and 718 municipalities. Yamoussoukro has been the political capital of Côte d'Ivoire since 1983, but most government offices and embassies are still located in Abidjan which is the economic and administrative capital.

2.1.3 The socio-economic situation of Côte d'Ivoire

The agricultural sector with its related activities is considered fundamental for economic growth and a leading driver for development of the country. It currently represents 28% of GDP and employs roughly 68% of the total population (OCDE, 2008). Côte d'Ivoire is the world's leading producer of cocoa with 1,300,000 tons on average per year, kola (75,000 tons), and the sixth world producer of coffee (130,000 tons). The country is also one of the world's biggest producers of cotton.

Despite its importance, the growth rate of the agriculture sector is decreasing (see Table 2.1). It has slipped from 2.7% in 2000-2005 to 1.5% in 2006 (ADB, 2007). This can be explained by the bad weather conditions during these last years and the fall in the international price of export products. As a consequence, many farmers were discouraged from producing commodities such as coffee, which is time-consuming to produce. Nevertheless, the contribution of the agricultural sector is improving over time despite some fluctuations in the quantity produced. To support the agricultural sector, many projects and structures have been set up by the government with the financial support of international donors. Despite this high production, the country went through an economic crisis as a result of the low price of coffee and cocoa on the global market. Farmers' incomes and tax revenues withheld from export crop turnover have decreased. The crisis led to the Structural Adjustment Policy (SAP), imposed and sustained by the World Bank and the IMF. Under the SAP, the agricultural services were restructured and privatised. This policy led to the creation of ANADER (National Agency for Supporting Rural Development). The mission of ANADER is to train, inform, and support agricultural producers to make them more professional, productive and to give rise to a dynamic rural sector. To realise this, ANADER's strategy is to place two agricultural counsellors in every village of the country in order to get close to farmers.

Table 2.1. Food crop production (tons) in Côte d'Ivoire.

	1998	1999	2000	2001	2002	2003	Mean
Rice	938,000	976,000	1,036,000	1,055,000	976,000	847,000	971,333
Yam	2,921,000	2,944,000	2,950,000	2,938,000	2,874,000	2,674,000	2,883,000
Cassava	1,692,000	1,681,000	1,691,000	1,688,000	1,576,000	1,682,000	1,682,000
Plantain	1,410,000	1,402,000	1,418,000	1,410,000	1,395,000	1,322,000	1,392,833
Maize	605,000	657,000	631,000	615,000	587,000	523,000	600,600
Sorghum	32,000	30,000	30,000	31,000	30,000	24,000	29,500
Millet	80,000	76,000	75,000	73,000	69,000	55,000	71,333

Source: FAO database, (1998-2003).

The second biggest sector is industry (22% of the GDP). This sector was affected by the political crisis experienced by the country. For example, between 2000 and 2003, the average growth rate of activities within the sector was below zero (– 7%) (see Figure 2.2). Since 2006, the growth rate of activities within the sector has been increasing. The third biggest sector is the services industry. The share of GDP of this sector was about 50% in 2007.

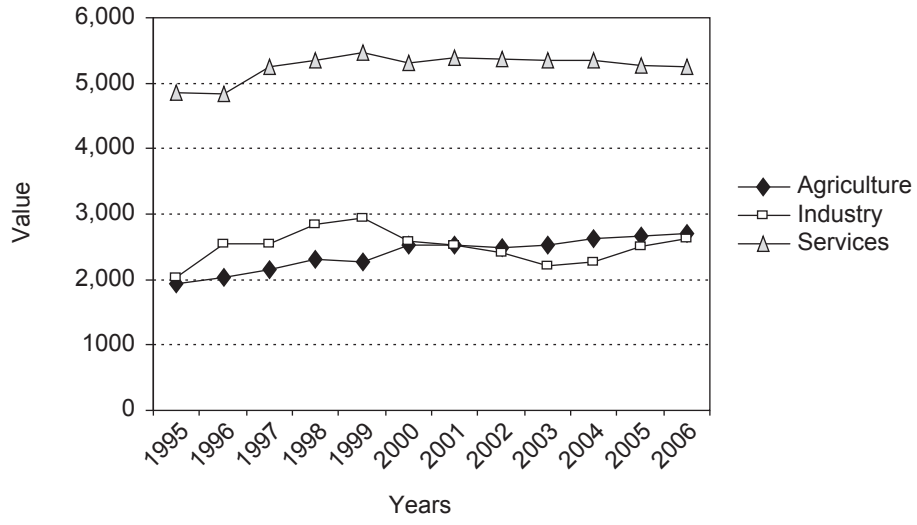

Figure 2.2. Evolution of the sectors of agriculture, industry and services. Source: ADB, Economic and Social Statistics Division, 2007.

2.2 Analysis of the microfinance sector in Côte d'Ivoire

After more than one decade of existence, microfinance institutions in Côte d'Ivoire have achieved substantial growth due to financial and technical support from the state and international donors. From 1995 to 2005, the number of MFIs in the country grew from 3 to 74, including a total of 194 agencies. The total amount of savings in 2005 was about 57.8 billion FCFA and the total amount of credit was 20.9 billion FCFA. At the regional level, the financial system of Côte d'Ivoire is one of the most important in the West-African monetary Union. Despite these results, the MFI sector seems to fail in positively helping the economically active poor to carry on their income-generating activities. The expected demand for credit at the national level and during the period 2007-2015 is estimated at 2,744 billion FCFA while the savings are about 267 billion FCFA. These figures clearly indicate a high need for credit, which cannot be met by current savings. In this section, an overview of MFIs is given by presenting their characteristics and the response of the state to promote and strengthen the sector.

2.2.1 Structure of the financial sector in Côte d'Ivoire

The financial sector is composed of formal banks, insurance companies and microfinance institutions. Formal banks are the most important in the country and the West-African regions, representing 80% of the national financial market. However, these banks serve only some big enterprises in the secondary and tertiary sector. The agricultural sector and the informal sectors are therefore marginalised because these sectors are not cost-effective. This inability of formal banks to serve an important part of the population led to the promotion of financial institutions (both formal and non-formal). These institutions aim at getting close to the urban and rural populations that lack financial resources to generate their livelihood. Aware of the important role the microfinance sector can play in economic growth and development, the state of Côte d'Ivoire has decided to be more involved in this sector. Some microfinance institutions have been supported by the State to better serve the poor. The state is also trying to organise the sector.

Microfinance institutions (MFIs) are defined as semi-informal institutions that provide financial services (loans, savings facilities, and facilitating payment services, money transfers and micro-insurance) to people who do not have access to formal banks. In Côte d'Ivoire, the microfinance sector has been formalised by Law 96-562 of 22nd of July 1996 regulating the saving and credit institutions. This section presents the supply and demand of microfinance services in order to highlight the extent to which there still is a need for financial services and how the gap between savings and credit can be bridged to increase people's access to MFI credit. The situation of microfinance in rural areas is also analysed in this section.

Supply of financial services

Based on their functioning and the services provided, three categories of microfinance institutions can be considered in Côte d'Ivoire: Saving and Credit Institutions (SCI), Direct Credit Institutions (DCI) and Microfinance Programmes (MP). The Savings and Credit Institutions are defined as financial institutions which provide credit services and saving facilities. These institutions can be supported by international donors and/or the state or can be autonomous, i.e. not receiving any financial support. This group which represents the majority of MFIs in the country comprises saving and credit cooperatives and shareholders. COOPEC and CMEC are the two most important MFIs in this group, financing 90% of the activities of the sector. These two MFIs are the focus of this study. Since 1995, the number of saving and credit institutions has been growing (see Figure 2.3). However, there was a decrease in 2003 and 2004 mainly due to the closure of MFIs agencies in most cities and villages in the North as a consequence of the war in 2002. The second type of MFI is Direct Credit Institutions (DCI) generally supported by national or international partners. They provide exclusively credits. This category is composed of most financial associations, microfinance societies and Social Funds[1]. The latter is a particularity of Côte d'Ivoire. Microfinance Programmes are the third type of MFIs. This group

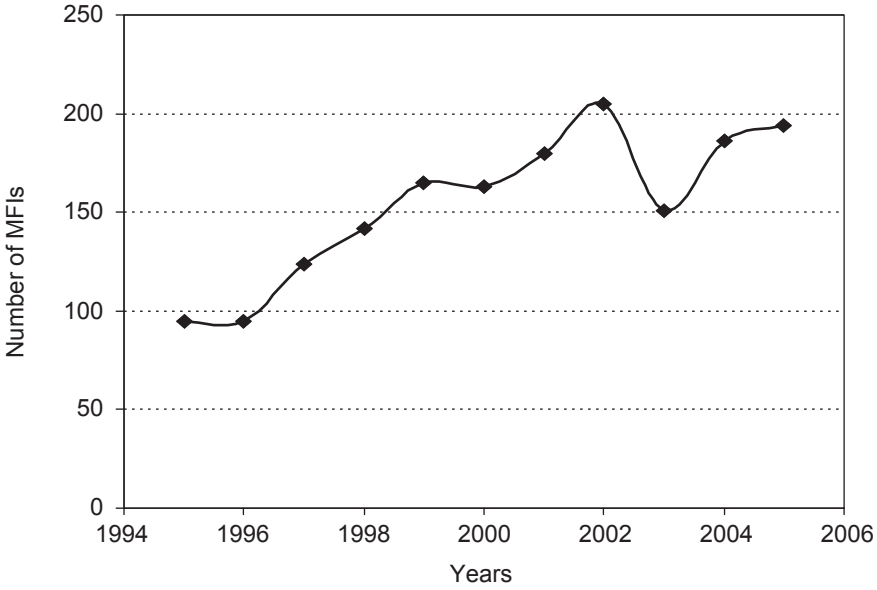

Figure 2.3. Evolution of the number of MFIs.

[1] Social Funds: Money provided by the state for young people and women to support their income-generating activities. This project failed because the money has been diverted from the purpose for which it was provided. For example, some young people used it to travel abroad.

comprises NGOs operating in microfinance industries. These types can collect funds from the state or other donors and provide direct credit or provide saving facilities to the beneficiaries. They are the interface between donors and clients. This group includes the Ministry of Agriculture and the Ministry of Women and Households. It is noteworthy that this type has increased due to the increase in the financial needs of the population in the post-war phase the country is experiencing.

Savings facilities and credit are the main services provided by the majority of MFIs in Côte d'Ivoire. Savings represent the main resource of MFIs. In 2005, 97% of the resources of MFIs were collected through savings. COOPEC is the most important MFI in terms of savings mobilisation and credit supply compared to the other MFIs. For example, while the percentage of the amount of savings from the other MFIs ranged from 1% to 2%, COOPEC itself held about 90% of total savings. The gap between COOPEC and the other credit institutions led to the imbalance in the MF market. This situation is risky for the dynamism of the sector because of reduced competition among the MFIs. As a consequence, there was a decrease in credit provision after 2002 (Table 2.2). This reduction in credit was due to the increase in bad loans and the simultaneous supply of middle-term and long-term loans by COOPEC. As a direct consequence, access to credit is now conditional on having savings, the rate of which has now increased from 10% to 33% of the amount of loan required by the borrowers. Therefore, people (even economically active ones) who do not have any savings are excluded from credit. It is also important to point out that some financial services such as micro-insurance, money transfer and micro-leasing have not expanded within the country whereas there is still a need for these services.

In 2005, MFIs released a total amount of 18.8 billion FCFA of credit. The trade sector has acquired the largest share with 30%, while the percentages of credit for agriculture, transport and handicraft activities were respectively 10.1%, 5.7% and 13.5%. As it appeared, the agricultural sector was served less well by the MFIs (compared to trade and transport), whereas this sector is very important for the economy of the

Table 2.2. Evolution of savings and credit structure (billion FCFA).

	2002		2003		2004		2005	
	Banks	MFIs	Banks	MFIs	Banks	MFIs	Banks	MFIs
Savings	1,230	39	1,425	42	1,260	51	1,318	58
Credit	1,217	141	1,278	18	1,518	25	1,570	21
Number of agencies	160	205	140	153	151	186	NA	194

Source: DGTCP/DIF/SDIMEC.

country. This is because agriculture is recognised as a risky activity due to volatile factors such as the climate and the price of agricultural produce.

The provision of microfinance credit is gender- and urban-biased. Likewise, selection in terms of the location of the borrowers was practiced. In short, men had more access to credit than women. In 2005, 62% of MFI clients were individual men, 34% individual women and 4% other types of clients such as group loanees. The majority of the borrowers were living in urban areas. The urban population is more likely to have access to credit than the rural population.

Situation of microfinance institutions in rural areas

In Côte d'Ivoire the majority of the population lives in rural areas. The rural population relies on agricultural activities to generate their livelihood and to contribute to the development of the country. The development of the agricultural sector is enhanced by the use of new technologies, modern inputs and mechanisation. This process implies the need for financial resources which the rural population may not always have.

In rural Côte d'Ivoire, access to credit by the rural population remains a real constraint for the support and improvement of rural activities because of the absence of MFIs in many villages. In the study region, for example, only 16 villages out of 97 had MFIs. The main factors explaining this situation have to do with lack of infrastructure, the type of activities, and the low level of human capital. In terms of infrastructure, the road network is inadequate and there is a lack of electricity. For MFIs these factors increase the transaction costs. Rural agricultural activities are considered risky, and it is difficult to predict the outcomes that can be gained from these activities. This is because agricultural activities depend on climate conditions (floods, droughts, etc.) and price variation of agricultural goods. Concerning human capital, most people in rural areas are illiterate or less educated and need the support of MFIs to build their capacity for loan management. This also results in an increase in the transaction costs linked to the provision of loans. Also, experience from rural areas shows that the provision of loans for the agricultural sector was not successful in terms of loan repayment. In many cases, loans were not repaid.

From this analysis, it appears that despite their rapid growth throughout the country, MFIs are experiencing some difficulties resulting in negative outcomes and decreasing funds for credit. Therefore, MFIs in Côte d'Ivoire need some support, notably from the state, in order to reach the thousands of people who still require financial services.

2.2.2 State response to promote the microfinance sector

Although the analysis above has shown some success in the microfinance industry in Côte d'Ivoire, it is clear that the sector still encounters difficulties in serving the majority of the Ivorian population. The microfinance sector needs to be better structured and organised to increase their outreach. To do so, the state has set up the National Strategy of Microfinance (NSM) in line with the objectives of the Consultative Group for Assistance of the Poor (CGAP) and the Strategy of Poverty Reduction Document (SPRD). The NSM covers the period 2007-2015. It aims at promoting the microfinance sector and micro-enterprises, expanding financial services in both rural and urban areas in order to reduce poverty. In doing so the state intends to make the microfinance sector more professional, sustainable and able to reach the majority of the poor within the country. The state of Côte d'Ivoire has therefore created some structures, among those the National Commission of Microfinance (CNM) and the Directorate of Microfinance (DM). The CNM has the mission to reinforce the institutional and operational capacity-building of MFIs. It monitors the MFIs in order to secure the sector. The CNM also evaluates and implements the national microfinance policies. The Directorate of Microfinance insures the supervision and the protection of MFIs in the country through the monitoring of the sector. In addition to the CNM and the DM, the National Committee of Agreement (CNC), the Structure of Promotion and the Inter-professional Association of Decentralised Financing Systems are also involved in the organisation of the sector. The latter one is composed of the microfinance institutions in Côte d'Ivoire and aims at providing the capacity-building of MFIs and financial services to respond to the needs of the population. International donors and formal banks are also participating in the promotion of microfinance institutions.

2.3 HIV/AIDS in Côte d'Ivoire

The health situation in Côte d'Ivoire is basically characterised by a low life expectancy at birth which is 48.6 years and gives the country a ranking of 136th out of 179 countries (UNDP, 2008). HIV infection is the main cause of mortality among adult men and the second cause among adult women in the country. The death rate due to AIDS is about 65/1000 and the HIV prevalence rate is 7.1% (WHO, 2006). This epidemic has negative impacts not only on the Ivorian population but also on the communities, villages and economic growth and development. This section presents the situation of the epidemic in Côte d'Ivoire and the response of the state to tackling the epidemic in order to mitigate its effects and to improve the health of the population in the country.

2.3.1 Epidemiology of HIV/AIDS in Côte d'Ivoire

Twenty years ago, the first case of HIV/AIDS was diagnosed in Côte d'Ivoire. Since then, the number of HIV-infected people has increased. From 500 cases in 1987, the number of people living with HIV and AIDS was about 62,000 in 2000. However, a study on the indicators of HIV and AIDS conducted in 2005 showed that the national prevalence for adults of 15 to 49 years had declined from 9.7% in 2001 to 7% in 2003 and 4.7% in 2005 (EIS, 2005). About 570,000 people (530,000 adults and 40,000 children) are living with HVI and AIDS. As in most countries, adults in the 30-34 year age bracket are the most affected by the disease (UNAIDS, 2004). There is also a gender inequality in HIV prevalence. In general, women in Côte d'Ivoire are the most affected population (Figure 2.4). In 2005, the HIV prevalence among women was 6.4% while it was 2.9% for men (EIS, 2005). This situation applies to both urban and rural areas and in each region of the country. In 2001, the HIV prevalence among pregnant women at the national level was 9.5% in urban areas and 5.6% in rural areas respectively. In the Abengourou region the prevalence rate was 14.6% (PNLS/RETROCI, 2001). These results confirm the feminisation of HIV/AIDS in the country. The high prevalence among pregnant women led to HIV infection of children, due to mother-to-child transmission during delivery. HIV prevalence in the country also shows some differences between regions and between urban and rural areas. The Central-East region of which Abengourou is part and the South regions of the country are the most affected, including the capital city of Abidjan, with respective prevalence rates as shown in Table 2.3.

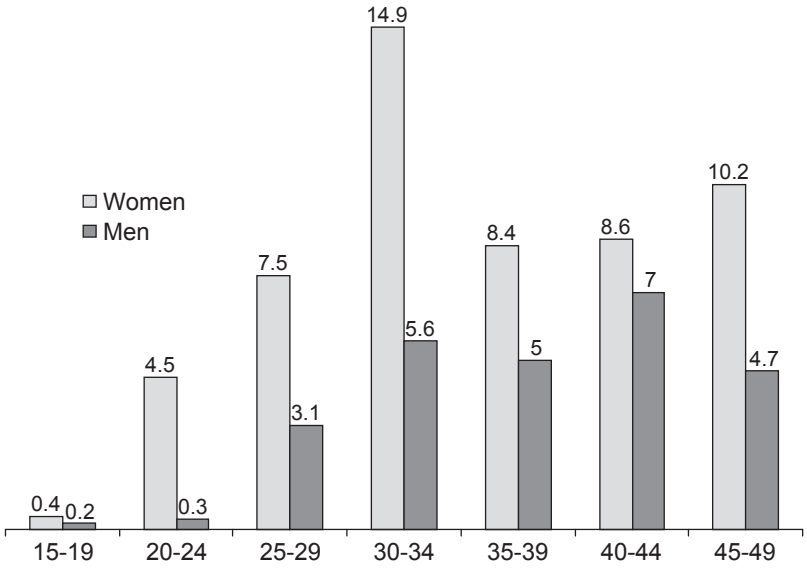

Figure 2.4. HIV/AIDS by gender and by age group. Source: EIS survey, 2005

Table 2.3. HIV/AIDS prevalence rate in percentages by gender, region and location in 2005.

	Women	Men	Total
Region			
Centre	5.1	4.4	4.8
Centre-Eastern	8.6	2.7	5.8
Centre-Northern	4.2	2.8	3.6
Centre-Western	5.5	1.8	3.8
Northern	4.2	2.1	3.2
North-Eastern	4.4	1.9	3.3
North-Western	2.7	0.7	1.7
Western	4.6	2.4	3.5
Southern	8.0	2.7	5.5
South-Western	5.0	3.4	4.2
Abidjan city	8.6	3.5	6.1
Total	6.4	2.9	4.7
Residence			
Urban	7.4	3.2	5.3
Rural	5.5	2.5	4.0

Source: EIS survey, 2005.

The main factors which determine the spread of the HIV epidemic in the country are linked to the general situation of poverty, unemployment of the young population, and risky practices such as prostitution among young women as a consequence of poverty. There are also negative cultural factors (e.g. female excision, piercing), stigmatisation and discrimination against people living with HIV and AIDS, and non-utilisation of condoms during sexual intercourse. The limited access to information about HIV and AIDS especially in rural areas led to the spread of the disease. In rural areas, the presence of single seasonal workers adds to the spread of the disease. Many people who do not believe in the existence of AIDS turn to traditional healers who generally link the causes of illness to another person (witchcraft) or a supernatural spirit (Nombo, 2007). In the context of war as experienced in Côte d'Ivoire, rape and sexual violence against women, population migration from war regions (region under the domination of rebels) to the regions supposed to be more secure because they are controlled by the government, are factors which add to the expansion of the HIV epidemic. In addition to the factors described above, Ivorian women are more affected than men because of the violence against women, the illiteracy of women and the lack of information on sexuality and the risk of transmission of the disease especially among young women. Women are also more likely to be unable to negotiate for safe sexual intercourse due to their subordination to men.

2.3.2 State response to the HIV/AIDS pandemic

The establishment of the Ministry of fight against HIV/AIDS and the National Council of the Fight against HIV/AIDS (NCFA) was the state response to the HIV/AIDS pandemic. The main objective is to strengthen care and community response, to prevent the spread of the epidemic and to mitigate the impact of AIDS in Côte d'Ivoire. The council drew up and implemented the first National Strategic Plan (NSP) during the period 2002-2004, which was extended to 2005, in the context of political unrest, as guidance for all actors participating in the mitigation of the disease. The strategic plan focused on the prevention, clinical management for people living with HIV and AIDS, and capacity-building for the management of HIV/AIDS control programmes. This plan has had some positive impact, despite several insufficiencies. For example, in the prevention plan, the campaign of sensitisation led to increased awareness about the HIV/AIDS pandemic among the population. In 2006, the second National Strategic Plan (NSP) 2006-2010 was developed by the National Council, taking into account the results of the first plan. The NSP 2006-2010 aims at reducing the prevalence rate from 4.7% to 3.5% and alleviating the negative socio-economic impacts of AIDS on the population. As guidance for all activities around the prevention of HIV and mitigation of AIDS, the plan 2006-2010 intended to involve all the actors willing to participate in the national response to the disease. To do so, the plan used the 'Three ones' key principles recommended by UNAIDS in 2004, in addition to priorities defined in the first national strategic plan. The 'Three ones' principles are guiding principles for national authorities and their partners involved in the fight against AIDS. These principles are: one agreed HIV/AIDS Action Framework that provides the basis for coordinating the work of all partners; one National AIDS Coordinating Authority, with a broad-based multi-sector mandate; and one agreed country level Monitoring and Evaluation System. The five year National Strategic Plan 2006-2010 highlights priorities including reducing the HIV/AIDS and STD (sexually transmitted disease) incidence among young childbearing women, sex workers, migrants and truck drivers, new orphans and vulnerable children. It emphasised strategies for condom promotion, management of psychosocial and medical care for persons living with HIV and AIDS, and improvement of their socio-economic empowerment through community mobilisation and promotion of income-generating micro-finance projects. The last objective is analysed in this study.

The implementation and success of the NSP 2006-2010 involved many stakeholders, notably ministries, development partners, donors (bilateral and multilateral), and civil society (NGOs, private sectors). In addition to the NCFA, many committees were set up by the government to provide efficient coordination at different levels (at the government level through the Ministry of fight against HIV/AIDS, at the regional level with the decentralised committees, and at the sector level). The National Council of Fight against HIV/AIDS defines and validates the national policies and strategies in the fight against HIV/AIDS in the country. It also mobilises

the resources needed to mitigate the disease. The Ministry of fight against HIV/AIDS is the technical secretariat of the National Council of Fight against HIV/AIDS and serves as the executive arm of the Council. In addition, it ensures advocacy, resource mobilisation, and monitoring and evaluation of all interventions in the fight against the disease.

The engagement of the state of Côte d'Ivoire in the fight against HIV/AIDS through the execution of the first plan 2002-2004 (extended to 2005) led to some positive actions. Many activities for the prevention of HIV/AIDS infection were carried out via sensitisation campaigns among the population and people living with HIV/AIDS. The prevalence rate dropped from 7% in 2003 to 4.7% in 2005 (EIS, 2005). A survey conducted in 2005 on the indicators of HIV/AIDS in Côte d'Ivoire showed an improvement in knowledge about the disease in terms of prevention. For example, 60% of women and 74% of men are aware of the importance of the utilisation of condoms as a means to prevent HIV infection. Also 44% of women and 43% of men know that an infected pregnant woman can reduce the risk of the transmission of the disease from mother to child by using special drugs during the pregnancy.

Although the first plan achieved some improvement in HIV prevention among the population, many actions remained insufficient especially in rural areas, and among people living with HIV/AIDS, the youth and so on. This is because the number of new infected people is increasing while the resources are limited and cannot keep up with this progression. Many people living with HIV/AIDS still have no access to care and treatment. Also HIV/AIDS is still a taboo in households and communities because infected people are stigmatised. As a consequence, the pandemic is taking the lives of many Ivorians. In such a context, there is a challenge not only for the government, but for all participants in the fight against AIDS. The challenge is to combine all the resources, knowledge, and willingness to reduce the socio-economic impacts and the spread of the disease throughout the country. The National Strategic Plan 2006-2010 is one of the main plans expected to bring positive impacts in the fight against the AIDS pandemic in the country.

2.4 Conclusion

This chapter has provided background information on the socio-demographic, political and economic context in which the study was carried out. It has analysed the microfinance sector and the situation of the HIV epidemic in Côte d'Ivoire. The analysis showed that the development of Côte d'Ivoire is based on the agricultural sector which employs the majority of the population living in rural areas. However, this sector needs financial support to improve the livelihood of the rural population and to enhance its contribution to the economy of the country.

Since its implementation, the microfinance industry has grown rapidly throughout the country. Despite this relative success, MFIs have failed to reach many people especially those involved in the agricultural sector. The difficulties encountered by MFIs in providing financial services for the Ivorian population explain the commitment of the state and international donors to support and organise the sector.

The health status of the Ivorian population is threatened by the HIV/AIDS pandemic which shows the highest prevalence of all West African countries. HIV/AIDS has a negative impact not only on the Ivorian population but also on the communities, villages and economic growth and development. The mitigation of the negative effects of HIV and AIDS resulted in the engagement of the state and all stakeholders in the fight against the disease through the implementation of the National Strategic Plan.

Chapter 3

Literature review and conceptual framework

This chapter presents an overview of the microfinance field and how it can be connected to poverty, a matter that has become a significant developmental issue around the world and particularly in Africa. The chapter discusses how microfinance programmes can support women in their struggle for livelihoods and well-being of their households. The issue of HIV/AIDS in relation to women and microfinance is also examined because of the negative effects HIV and AIDS can have on women and on the functioning of MFIs. The chapter ends with a summary of the theoretical model and a presentation of the hypotheses of the study.

3.1 Microfinance and poverty

This section seeks to analyse the theoretical approaches towards microfinance. Indeed, the study of the efficacy of microfinance institutions requires an analysis of the extent to which the provision of loans to poor people who have no access to a formal bank can enable them to improve their livelihoods in a sustainable way.

Before starting with the literature review, there is a need to discuss briefly the terms access and participation with regard to credit. Some researchers make a distinction between access to credit and participation in a credit programme. According to them, an individual or household has access to credit from a particular source if he or she can borrow from that source. However, this individual only participates if indeed borrowing from that source of credit (Diagne and Zeller, 2001). Following this definition, an individual or household can have access to credit but chose not to participate, i.e., does not borrow. In this study women access to and participation in MFI credit are used interchangeably. Participation could be considered as the effective access to credit. In short, women who have access to MFI credit are those who are both eligible for obtaining credit and who effectively borrow.

In developing countries, especially in African, poverty is predominantly rural in character. Most of the poor live in rural areas, where agricultural production is the key activity (UNDP, 1997; ADB, 2000). Rural households in general and women in particular face difficulties in generating income from agriculture due to the low level of productivity, which has to do with the lack of resources for buying adequate inputs. These constraints prevent the poor from achieving food security and earning a livelihood free of hunger.

Poverty reduction has become a major issue in developmental policies. To inform policy, income earned by individuals has been used as an indicator to assess whether they are poor or not (Van Maanen, 2004; Thorbecke and Nissanke, 2005). Nevertheless,

the use of income as the main indicator has been criticised, as it does not take into account all dimensions of poverty. Now it is increasingly realised that poverty is a multidimensional concept. The first dimension is income. According to the income approach, poverty is defined as the lack of income to provide for the basic needs of life: food, shelter, water, education, sanitation, and health care or lack of resources, such as land for agricultural purposes. Capabilities form the second dimension. The capability approach considers poverty to be the absence of skills and abilities to earn a livelihood (UNDP, 1997). In addition, the political dimension (no access to political decision-making, no legal protection) and the socio-cultural dimension (lack of respect for human dignity, no social acceptance) can be distinguished. Hence, income only is too limited an indicator of poverty. It does not reflect all the dimensions of poverty.

In rural areas, men and women need financial support to invest in agricultural production and non-agricultural income-generating activities such as small trade, food processing, handicraft activities, etc. They may also need credit for consumption, especially during lean periods. In spite of this fact poor households generally have limited access to formal banks to borrow from. This is because: (a) poor households are not able to provide the collateral required by the banks as they do not own land or cannot prove legal ownership; (b) the scale of transactions related to their activities is small and therefore results in high transaction costs (Moll, 2003).

Contrary to formal banks, microfinance institutions (MFIs) normally provide comprehensive packages, including small loans, saving facilities, payment services, money transfers and in some cases insurance, to poor and low-income households that have no access to formal banks. MFIs also provide training and information about how productive business activities should be run. By doing so, microfinance is seen as a means to alleviate poverty. By giving financial services to the poor, microfinance may enable them to build up assets, launch new income-generating activities or develop their economic activities, participate in a free market economy, smooth their consumption and reduce their vulnerability to risks and external shocks like drought, famine, illness, and floods that may come unexpectedly. MFIs can empower poor people, particularly poor women, and strengthen economic and social structures (Morduch, 1999; Rahman, 2004; Mayoux, 1999; ADB, 2000; Van Maanen 2004; Greeley, 2003). This explains the commitment of governments, international donors and non-governmental organisations (NGOs) in developing and developed countries to support and implement MF programmes (Simanowitz, 2004; Mayoux, 1999; Hulme, 2000).

The Grameen Bank of Bangladesh, founded by Professor Yunus during the 1980s, was the first to provide small collateral-free loans to groups of poor people. Professor Yunus realised that poor people, especially poor women, had skills to produce goods but had insufficient money to purchase the essential raw materials. Group lending

is a mechanism that essentially allows poor borrowers to act as guarantors for each other. In this way, they can have access to a loan without needing any collateral. Loan repayment is done publicly in weekly instalments. In case of default of one member, all the members are responsible and may be denied future loans. The Grameen contract has been recognised for its incorporation of social mechanisms. Instead of the physical collateral that is required by a formal bank, joint liability is used as collateral in the Grameen model and monthly instalments required by formal banks are replaced by flexible instalments depending on the type of business. The joint liability condition is the most celebrated feature of the Grameen contract and that is why microfinance is so closely associated with the idea of group lending (Armendáriz and Morduch, 2005). Group lending also has the advantage of reducing transactions costs, one of the factors that prevent the poor from having access to a formal bank. The specific and innovative lending model of the Grameen bank has led to its successful growth, so that it has been duplicated around the world, mainly in developing countries in Asia, America and Africa. However, the applicability of the Grameen model may not be appropriate for all countries, due to their different socio-cultural and macro-economic contexts.

Women have been the primary target of microfinance in most countries. According to the Microcredit Summit Campaign Report (2005) in a sample of 3100 programmes, 83.5% of the clients are women, as are 95% of Grameen's clients (Armendáriz and Morduch, 2005). Women are targeted for many reasons. The first is related to poverty. Women are considered to be poorer than men, particularly in developing countries. There are 1 billion women out of 1.5 billion people living on less than one US dollar per day (MSC, 1999; ADB, 2000). Women are poor because often they do not participate in the labour market *and* because even if they do, any assets they have are controlled by men. Despite their involvement in the agricultural sector as well as their predominance in the informal sector, many women in rural areas still achieve low productivity as they lack resources. So, providing financial services for women may enable them to carry out income-generating activities, increase their productivity and income and achieve welfare for their households. Evidence suggests that loans to women result in meeting social goals like improving household food consumption, health and education. Khandker (2003) found a positive correlation between the amount of money borrowed by women and household food and non-food expenditure. A 100% increase in the volume of borrowing by women would lead to a 5% increase in per capita household non-food expenditure and 1% increase in per capita food expenditures. In the case of borrowing by men, a 100% increase in the volume of borrowing would lead to a 2% increase in non-food expenditure and insignificant change in food expenditure. A food and cash deliveries programme directed at women in Mexico led to a 10% decrease in poverty, while school enrolment increased by 4%, food expenditures by 11%, and there was a significant improvement in adult health (Skoufias, 2001).

The second reason for lending money to women is financial. Women generally seem to be more credit-worthy than men because they have a better repayment record. Hulme (1991) found 92% repayment for women borrowers versus 83% for men. Khandker *et al*. (1995) found that 15.3% of male borrowers against 1.3% of women had difficulties in repaying their loans. In line with this, it is accepted that giving loans to women may be profit-maximising for MFIs, and even for banks, because their repayment rate is high. Women are recognised for their dynamism, hard work, skills and entrepreneurial spirit. In a study conducted in a fishing community in Indonesia, Niehof (2007) found that women are successfully engaged in the fishery sector. They earn good money, are considered better than men at making profits and they contribute significantly to the household income. Moreover, women use money for the benefit of the household especially their children, whereas men are perceived as being more tempted to use their earnings to satisfy their own needs instead of investing it in business or using it to improve their household's welfare. Armendáriz and Morduch (2005) explained that women tend to be less mobile and more at home than men. This is an advantage for MFIs because it becomes easier and less costly for MFI managers to monitor them. Also for group borrowing it is important that the female members work in each others' proximity.

The general enthusiasm about microfinance should not obscure the fact that despite its importance, the effects of microfinance on poverty remain on the whole a controversial issue. There are doubts about whether microfinance really benefits women, since there are studies that report negative effects. Hulme and Mosley (1996) revealed that microfinance interventions were ineffective in reducing poverty among the very poor. Chua *et al*. (2000) found that the lending outreach of MFIs to poor borrowers is limited and then argued that this limited participation of the poor is proof that the programme failed to alleviate poverty. The study conducted by Diagne (1998) in Malawi showed that microfinance programmes resulted in a decrease in households' net crop income and food consumption. Access to credit had led farmers to respond to an increase in input prices by borrowing rather than changing their farming strategies. In his study, Rahman (1999) found that women used their savings and household assets and that they diverted money from consumption needs or incurred new loans to pay instalments. According to Armendáriz and Roome, (2008), the exclusion of men from access to subsidised finance might create friction, and backlash effects that diminish the supportive role women play for their spouses and wider household members in the provision of health and education. They call it the women-disempowering effect. Goetz and Gupta (1996) also indicated that borrowers diverted their money for consumption to repay their loans. Other research yielded similar findings (Kabeer, 2001; Mayoux, 1999, Johnson and Kidder, 1999; Buckley, 1997; White and Robinson, 2000). In some cases, the MFI programmes do not reach the poor as much as the relatively wealthy (Coleman, 2006). In addition, women borrowers may be subject to group pressure, resulting in intimidation and violence against them (Karim, 2001). Finally,

a loan becomes a debt, and the poor have no source of income to repay their loans (Rogaly, 1996). Accordingly, Amin and Ropa, (2003) concluded that the vulnerable poor borrowers of MFIs were further impoverished.

The negative effects of microfinance have been explained by several reasons, including the inability of microfinance to address all dimensions of poverty (human, economic, political, and social-cultural) as discussed above. To put it differently, microfinance focuses on only a part of the economic aspect of poverty (access to credit, and income earning). It does not address other economic aspects of poverty, such as access to land and human capital and labour allocation, nor the problem of the imbalance between the supply and demand for the goods produced with the loan. Doing so is not sufficient to solve all the other deficiencies, such as the incapability of the poor to access credit, health services, education, political decision-making and social capital, and have protection against violence (Van Maanen, 2004). That is why analysing poverty in this way can result in negative effects on the poor. The negative effects may also have to do with wrongly investing the credit because women have little or no control over the use of their loans. For example, Rahman (1999) found that Grameen Bank borrowers used their savings and household assets to pay weekly instalments.

However, other studies have found positive effects on poverty alleviation. According to Pitt and Khandker (1998) microfinance programmes contribute to an increase in women's independent income and a net increase in household consumption. They also found that the marginal impact of microfinance on consumption was 18% for women and 11% for men and that there was a strong effect on schooling of girls due to women's participation in MFIs. Sebstad and Chen (1996) found an increase of 25 to 40% in enterprise earnings and household income as a result of access to loans. Hulme and Mosley (1996) and Mosley (2001) found that the incomes of poor borrowers had increased more than the incomes of the control group (non-borrowers). Chua *et al*. (2000) concluded that microfinance services helped clients build up all kinds of assets, and also enabled clients to diversify their sources of income. To summarise, studies suggested that lending to women does improve household incomes and leads to other benefits like increased likelihood diversification, more market activity, more education and better health (Todd, 1996; Morduch and Haley, 2002; Mosley and Rock, 2004; Zaman, 2004).

Poverty lending and financial sustainability are two important issues in the MFI industry as they can influence the effectiveness of MFIs. Initially, the microfinance industry emerged in order to provide loans to the poor, who have no access to formal banks and who would otherwise not be able to increase their income. This view of microfinance is referred to as the poverty lending approach. Its major goal is to reduce poverty by reaching the poorest segment of the population. Providing loans to the poor is made possible by subsidies given to MFIs by donors in order to help

MFIs to support credit transaction costs and functioning of the institutions linked to the provision of loans. Although the advocates of this approach admit the importance of financial sustainability of MFIs, they still argue that if MFIs programmes cannot reach the poor, the sustainability issue becomes irrelevant or insignificant. In this case, microfinance will not realise its mission.

On the other hand, there are people who defend the sustainability approach. According to them the main goal of MFIs is to provide sustainable financial services to people who do not have access to a formal bank, but not necessarily to the poorest of the community (Rahman, 2004). Sustainability in the microfinance industry is defined on two closely related levels. The first level is operational sustainability and refers to the ability of MFIs to generate enough revenue to cover operation costs. The second level, financial sustainability, refers to the ability of MFIs to operate without any subsidies from donors. The rationale behind sustainability is the fact that the subsidies received by MFIs from donors may eventually cease to be available. Therefore, the objective of MFIs is to reach high repayment rates from clients, high interest rates and reduce transactions costs related to the services. The realisation of these purposes relies on: compulsory saving by borrowers as a major condition of having access to credit; screening the borrowers; the borrower's willingness to repay their loans; and the enforcement of the contract between lenders and borrowers. In order to safeguard their sustainability MFIs may select clients who have proven to be trustworthy and provide a high repayment rate. However, these clients may not be the neediest.

In addition, to increase sustainability MFIs attempt to diversify their loan portfolios. Many MFIs shifted from providing only agricultural loans to loans for a variety of purposes, especially for trade. This is because traders can earn money in a short period of time while farmers have to wait for the harvest of their crops to make money. In addition, agricultural activities are seen as risky and the amount of income from farm production is difficult to predict. As a consequence, loans for agriculture dropped from 50% to 30% of the portfolio (CGAP, 2006). In order to improve the repayment rate, MFIs may impose stringent conditions on their borrowers that hamper their economic investments and, ultimately, repayment. The search for financial sustainability has led donors to promote institutional capacity-building. As a result, of the MFIs who are financially sustainable very few serve the poor section of the population (Rahman, 2004). Poverty lending and financial sustainability, seen as social and financial goals of microfinance, are indicators that can reveal the efficiency of MFIs.

Efficiency of MFIs refers to the ability of using scarce resources most effectively to reach thousands of customers, deliver quality services, and close the biggest gaps between the supply of and demand for basic financial products for the poor. In other words, MFIs are efficient when they can use the least amount of capital to provide

the greatest number of loans, reach many poor (who have no access to formal banks) and deliver a range of financial services (Balkenhol, 2006). So, understanding the way MFIs function will help to analyse their effectiveness in supporting poor households, in particular poor women, to meet their financial needs. Therefore, the conditions of having access to loans in terms of saving, interest rate, and types of activities to be financed, need to be analysed. In addition, the way MFI credit is used is discussed. These analyses will help to formulate the hypotheses of this study in order to meet the research objectives.

3.2 Livelihood approaches and microfinance

This section discusses how the livelihood framework can be connected to microfinance. The literature shows that few livelihood studies have focused on saving and credit arrangements. It was pointed out by Hotze and Hospes (2004) in response to Ellis (1998; 1999) that MFIs were the only meaningful providers of credit in African rural areas, while Bryceson (2000) urged that attention be paid to rotating saving and credit associations (ROSCAs) in Africa. For example, in rural areas in Africa informal financial institutions such as ROSCAs, private moneylenders, landlords, shopkeepers, friends and family are the most important sources of credit for poor people to generate their livelihood. This study will deal with the relationship between MFI credit and female livelihood.

Livelihood has been defined and interpreted in different ways depending on the focus and objectives of the research. However, these definitions are complementary rather than contrasting. Livelihood was defined by Chambers and Conway (1992) as the capabilities, assets (stores, resources, claims) and access to assets, and activities required for a means of living. This definition has been used by several researchers studying rural livelihoods (Carswell, 1997; Hussein and Nelson, 1998; Scones, 1998). Ellis (2000: 10) defined livelihood as comprising the assets (natural, physical, human, financial, and social capital), the activities, and the access to these (mediated by institutions and social relations) that together determine the living gained by the individual or household. Hotze and Hospes (2004) point out that all these definitions somehow refer to activities of people with regard to the management of means and opportunities that were basically directed towards the protection or the improvement of material living conditions. From these livelihood definitions, three main components emerge: assets, strategies, which have to do with the capabilities of people, and outcomes, the result of the strategies adopted or adapted by the individual or household.

The concept of livelihood has been broadened to include concepts such as sustainable livelihood, livelihood vulnerability and livelihood diversification. Sustainability is defined as the ability to cope with and recover from stress and shocks, while maintaining or enhancing capabilities and assets, and providing opportunities for

the next generations (Chambers and Conway, 1992). Sustainability here refers to a dynamic and steady process, in which individuals struggle to secure and ensure not only their own living standard, but also that of their progeny. Sustainable livelihood systems have a sufficiently robust and stable base of assets and resources and are able to recover and bounce back when the household experiences crisis or stress (Niehof, 2004; Niehof and Price, 2001). Livelihood vulnerability arises when households have neither enough assets nor the capabilities to create or to access them. As pointed out by Niehof (2004), such households have problems in providing for their members' basic needs. They are unable to create a surplus, cannot cope with a crisis and are often chronically in debt.

The livelihood approach is founded on a belief that people require a range of assets which they have access to and use to build their livelihood. Livelihood and microfinance are interrelated in different ways. First, the concept of livelihood is now widely used in many studies on poverty and rural development (Scoones *et al.*, 1996; Chambers, 1997, Goldman *et al.*, 2000; Ellis, 2000; Farrington, 2001). Microfinance as a social institution is recognised as a means to reach the poor in order to help them in their struggle for survival and gaining their livelihood. Second, access to credit, one of the components of financial assets, can help households to start new or expand existing activities. Third, the concept of livelihood is considered a good starting point for the analysis of saving arrangements and credit mechanisms. In other words, information on livelihood strategies can help us understand the decisions individuals and households make with regard to saving and credit (Zoetelief, 2004). The livelihood approach can also be used for assessing how microfinance programmes provided for women help or constrain them in generating their income, respond to their consumption needs and improve their welfare.

Diversification is generally recognised as an important strategy for reducing livelihood vulnerability. Ellis (2000: 15) defined livelihood diversification as 'the process by which rural families construct an increasingly diverse portfolio of activities and assets in order to survive and to improve their standards of living.' This definition clearly shows that in seeking well-being, households multiply their sources of income. Therefore, diversification can be a strategy to maintain or increase livelihood sustainability. These capital endowments are described below and the relation between activities of MFIs and livelihood capital is represented in the arrows connecting boxes a, b and c in the model of Figure 3.1.

3.2.1 Livelihood capital

Livelihood capital is the wide range of individual, household and community assets poor people utilise to cope with different levels of vulnerability associated with poverty (Gifford, 2004). They represent an essential component of and a starting point for livelihood analysis as they correspond to what the poor have, rather than what

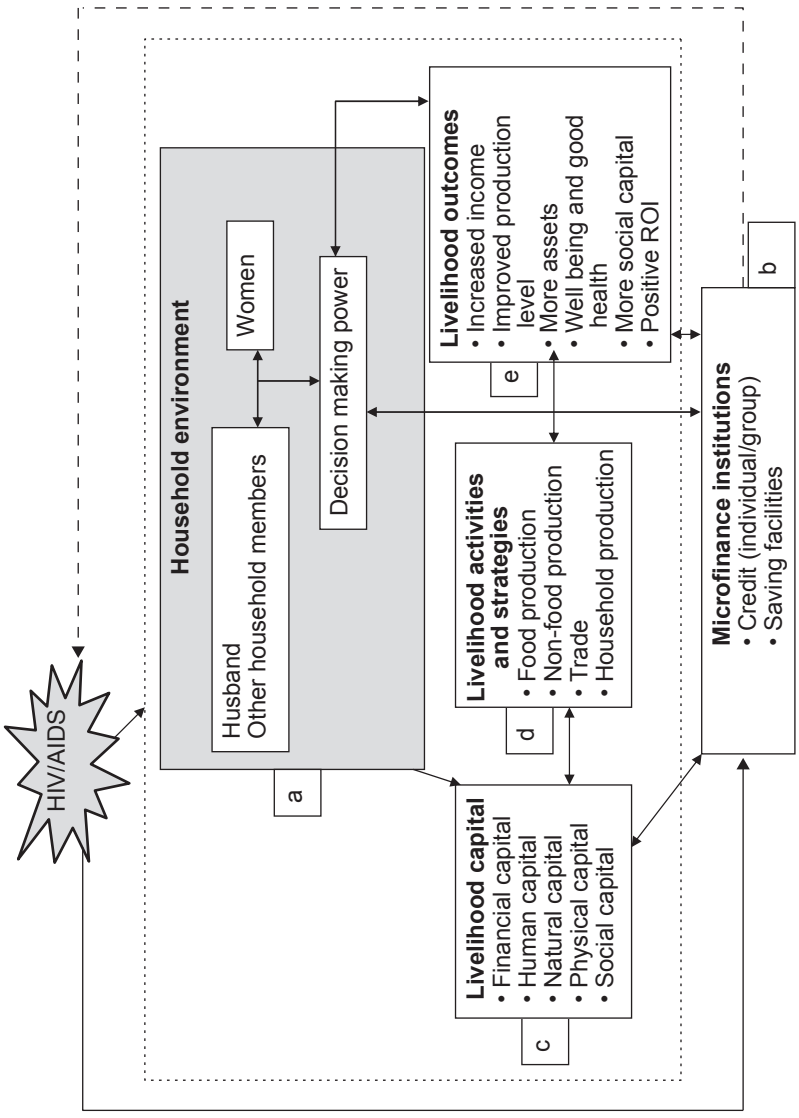

Figure 3.1. Framework of the interaction between women's livelihood, microfinance and HIV/AIDS.

they do not have (Moser, 1998). And what individuals or households have reflects their capacity to meet their needs and to respond to shock and stress. Accordingly, assets are the basic factors of production, consumption and investment that are owned, controlled and accessed by the household. Different categories of assets have been identified based on the context and the focus of the research. In her study on the asset vulnerability framework, Moser (1998) considered five elements (labour, human capital, productive assets, intra-household relations, and social capital) as household assets. Others have distinguished categories like investments, stores and claims (Swift, 1989), or productive capital, non-productive capital, human capital, income and claims (Maxwell and Smith, 1992). Scoones (1998) classified assets into natural, physical, human, financial and social capital. Although this list is far from exhaustive, Scoones' classification encompasses the other categories. In the case of this study, it fits the contextual framework of microfinance, since financial capital is the asset that comprises access to loans that are provided by microfinance institutions.

Natural capital

Natural capital refers to natural resources such as land, water, forest, and other biological resources utilised by individuals or households to meet their needs for survival. In rural areas, land is one of the most important production factors. Women often have no access to it because they have no rights to land, especially in patrilineal kinship systems. Occasionally widows may be allowed to keep their late husbands' land. In matrilineal systems, a woman can inherit from her dead husband only if she becomes part of the husband's lineage. In connection to microfinance land can serve as collateral for lending. Women's lack of access to land deprives them of this collateral. Even when women get a loan, their access to land will determine the type of activities they will carry out (agricultural production, trade or other types of income-generating activities). The kinship system in the study area is matrilineal, but women cannot access land directly. Their sons have access to land through their maternal uncles.

Human capital

Human capital refers to the labour available to households and it is related to the education level, skills and health status of people that together enable them to pursue different livelihood strategies and achieve their livelihood outcomes. Labour is a very important factor for the household and it determines its capability to generate a livelihood. Likewise, the way labour is utilised depends on the range of livelihood assets available to the household or the individual. Human capital is enhanced by investment in education and training, the quality of health services, and skills acquired through experience (Ellis, 2000). MFIs not only provide loans, they also provide training in loan management and information on issues such as HIV/AIDS. By doing so, MFIs contribute to the capacity building of their clients to generate their

livelihoods and boost their ability to pay back their loans. Also by providing loans to women in the rural area, MFIs enable them to financially support the education of their children. Therefore, we hypothesise that the human capital of the members of households where women have obtained MFI credit is higher than that of members of households without MFI credit. In particular, more children attend school and more money is spent on the health care of all household members (Hypothesis 5, boxes b and c in Figure 3.1).

Physical capital

Economically, physical capital comprises producer goods, such as equipment and machines. It also includes agricultural infrastructures like irrigation canals and infrastructures such as roads, electricity, and clean water supply. These assets are important for the support of livelihood and the development of both rural and urban communities. Physical capital can sometimes be used as collateral. In addition, adequate physical infrastructures like roads may encourage MFIs to expand their outreach.

Financial capital

Financial capital refers to the stocks of cash or kind (such as livestock) that can be accessed by individuals or households in order to purchase either production or consumption goods. The provision of credit and credit-related services are included in this category. Credit as a key component of microfinance in rural areas is an essential asset, which can help individuals and households to maintain or improve their living. At the micro level, access and use of loans gives an opportunity to the poor to expand or start new business activities and generate income in order to respond to the needs of their households. Microfinance may also facilitate the adoption of new practices that lead to higher productivity. Microfinance that provides financial capital through credit is the focus of this study. The purpose is to shed light on the role it can play in socio-economic development and the extent to which MFIs programmes are effective in serving women in rural areas. Thus, we assume that women who have obtained MFI credit have higher income and value of assets and they are more productive than women who have no access to credit (Hypotheses 2a, 2b. and 2c, boxes b, c and e in Figure 3.1.

Social capital

Social capital refers to the social networks, associations and relations, in which people participate, and from which they can derive support that contributes to their livelihoods. Social capital is an important asset, especially for the poor. It can help both them and the communities to lessen or increase the opportunities to respond to shocks such as death or illness in the family. Social capital can also function as an

informal safety net by ensuring survival during periods of intense insecurity, and can compensate for a lack of other types of capital (labour group compensating for limited human capital within the household) (Nombo, 2007). According to Moser (1998), social capital is based on reciprocity and is a dynamic factor. Reciprocity here means that when individuals provide a service to others or act for the benefit of others, they expect that this will be returned in the future, when they might need it themselves. For the poor, especially poor women, the reciprocity principle implies that they might have little social capital because their resources to reciprocate are limited (Nombo, 2007). The dynamics depend on the circumstances and the stock of assets held by individuals or households. When households cope successfully, they can support others, but when they face the depletion of their assets, they cease to support the community. The social networks of individuals and the importance of the group as main components of social capital relate to the meaning of microfinance in relation to poverty (Singh, 2003; Ismawan, 2000). Networks can be either formal or informal. In case of formal social networks the individuals involved have explicitly agreed on objectives, rules and procedures. Informal and formal networks are needed to facilitate the access to MFIs. The group lending, promoted by the Grameen bank, is based on informal social networks. Some MFIs in their functioning are more likely to be seen as formal networks. This is the case with the cooperatives of credit and savings that are the focus of this study. Microfinance can also help build social capital. As an intervention based on social intermediation, which provides savings facilities and credit, poor people can build assets, enabling them to enlarge their social capital. Connecting the importance of social capital to MFIs, we assume that MFI female borrowers have more social capital than women without MFI credit (Hypothesis 2d, boxes b, c and e in Figure 3.1.

3.2.2 Livelihood strategies and outcomes

The concept of livelihood strategy refers to the ways in which individuals or households draw on and combine assets at their disposal to generate their livelihood. Households over time adopt and adapt[2] their livelihood strategies, depending on their asset portfolio, needs, experiences, skills and opportunities. Hence, livelihood strategies are dynamic as they have to respond to changing situations that households experience (Ellis, 2000). Moreover as stated by Rakodi (2002), the analysis of livelihood strategies is important in understanding the situation of the poor – how they manage their lives, how they cope or improve their well-being. Livelihood strategies are supported by the different types of capital described above and produce livelihood outcomes.

[2] Households or individuals adopt a type of strategy when the assets they own can enable them to implement that strategy. When households face a new situation where assets are not enough, they may adjust the strategy to the available assets. That specific strategy may not be the one they originally wanted to practice.

Livelihood strategies are composed of production, consumption and investment activities. These activities can be on-farm, off-farm and non-farm. In African rural areas most of the economies are based on agriculture, with households being engaged in food and cash crop production and animal husbandry. Livelihood strategies have been classified in different ways. Scoones (1998) distinguished three categories of livelihood strategies: agricultural intensification, diversification, and migration. Agricultural intensification is defined as applying technology and innovative management in traditional agricultural practice in order to increase productivity. Diversification has to do with generating income from off-farm activities and non-farm rural employment to complement income from agriculture. The term diversification for survival is used when farmers diversify because they are so poor that they lack resources and assets other than their own labour (Niehof, 2004). Migration is adopted by rural households for whom sending members to an urban area or abroad may bring in remittances that are crucial for the survival of the ones left at home. Zoomers (1999) distinguishes security strategies, when livelihood is insecure; compensatory strategies, in case of unexpected shocks; accumulation strategies, directed at the long term and aimed at the prevention of pressure and shocks; and consolidation strategies that aim at stabilising well-being. In Côte d'Ivoire, diversification and intensification strategies are adopted by women and men and encouraged by the government. For example, to promote rice production, the state has supported rice intensification through irrigation systems and the use of modern inputs. However, this practice is gendered and men are more likely to adopt intensification in rice cultivation than women (Binaté, 1996). This results from the fact that in general, the new techniques introduced in farming systems are not appropriate for women and also because the programmes target men.

Microfinance can play an important role in livelihood intensification and livelihood diversification. MFIs can provide savings facilities and loans to enable the rural population and women in particular in acquiring and using modern inputs to improve the productivity. Access to credit may help the poor to diversify their activities so as to respond to unexpected shocks and maintain or improve the living standard of the household.

Livelihood outcomes are the result of the livelihood strategies that households adopt or adapt by undertaking activities. Outcomes may result in changes in the standard of living of households (well-being, empowerment of women, more assets) and represent the means to assess the extent to which households can fight for survival, stabilise their standard of living, or improve and sustain their livelihood. Outcomes are generally linked to household income and have many sources: agricultural income that includes on-farm production (household production of food); off-farm and livestock income; non-agricultural rentals linked to property income; and domestic and international remittances (Adams and He, 1995). When access to credit results in increasing household or women's income, it supports asset building.

3.3 Gender needs, rural activities, and microfinance

In the preceding sections, livelihood has been presented as a combination of assets and activities used by households to generate their living standards and to meet their needs. This section aims at understanding what these needs are and how households satisfy them in their everyday life. To put it briefly, what are the types of activities that can be undertaken when MFI credit is provided for women in rural areas?

Gender represents an important issue because within both society and households men and women have different needs as a result of their gender roles. There is also gender inequality in the control over resources (Moser, 1993). Moser (1989; 1993) defined two types of women's needs: practical gender needs (PGN) and strategic gender needs (SGN). The first refers to the needs that result from the concrete conditions women experience in society in terms of reproductive work (childbearing and care of children, cooking, cleaning, fetching firewood, carrying water, etc.), productive work (production of food and cash crops, food processing, craft work), and community activities. If practical needs are met, they enhance household welfare. The second addresses fundamental relationships between men and women regarding the sexual division of labour, decision-making power and control over resources, subordination of women to men and political rights. They are also related to women's lack of resources, low level of education, and vulnerability to poverty compared to that of men (Molyneux, 1985). Empowerment basically meets women's strategic gender needs and has to do with women's bargaining power. The latter, depending on their fallback position, is defined as the outside options that determine how well-off the person would be if cooperation failed (Agarwal, 1997). The fallback position, also termed threat point, determines the bargaining power of an individual within the household. It is reinforced by factors such as income, women's private ownership of and control over assets, and access to resources from the state, NGOs, and village communities (Agarwal, 1994, 1997). Meeting women's strategic needs can help them to meet their practical needs, achieve greater equality, change their existing roles and challenge their subordinate position. MFIs can strengthen women's fallback position and bargaining power and thus can address both their practical and strategic gender needs (Moser 1993; Goetz and Gupta, 1996; Mayoux, 1999; ADB, 2000). However, little is known about how that goal can be achieved in practice. So, understanding women's needs, especially by considering their business activities, may be a way to make microfinance programmes more effective for women.

Women have always played an important role in rural development worldwide, particularly in the agricultural sector. In developing countries women represent 70% of the agricultural labour force and produce on average 80% of the food (Kabeer, 1994). Traditionally, in many sub-Saharan Africa regions, in agriculture there has been a strict division of labour by gender. Women are engaged in agricultural food production to ensure food security within the household and to earn income with

the surpluses, while men tend to be more involved in cash crops for the market (Mayoux, 1999; Ellis, 2000). In addition to their agricultural activities and wage-generating activities, women's everyday life is devoted to domestic production such as child care, fetching water and fuel wood, preparing meals for the household (Haddad and Alderman, 1997). However, studies have indicated changes in gender roles because of factors such as war and male labour migration. Also HIV-related illness and death are known to reduce labour as well as change its allocation within farming households (Karuhanga, 2008). As a result, women acquire headship and take over men's roles. In particular, farm production previously defined as male, is now performed by women, resulting in the feminisation of agriculture. In addition, rural women are active in non-agricultural activities such as petty trade, sewing, food processing and handicrafts (Berger, 1989; Johnson, 1999). All these responsibilities have heavily increased women's labour time within households compared to that of men (Ellis, 2000; Saito *et al.*, 1994). The involvement of women in agricultural production and non-agricultural activities does not significantly improve their income or empower them, because of lack of productive assets. Microfinance can help women to meet their household responsibilities. By doing so, microfinance can also bring changes in women's status within the household and their communities, though many studies have found that the expected positive effects of microfinance are not always achieved (see above). One of the reasons is women's lack of control over the loans or the diversion of the loan from the purpose for which it was provided. Ali (2005) reported that when women borrowed money, it was often used by their husbands or sons, who may spend it for their own purposes. This has to do with power relationships and the way resources are distributed within the household.

Being engaged in agricultural or trade activities increases the value of women's assets. However, women may generate money in a shorter period of time through trade than through agricultural activities. Additionally, MFIs are more likely to provide loans for trade than for agriculture. Therefore, we hypothesise that, women who have obtained MFI credit carry out trade activities more than women without MFI credit and trade activities are more profitable than farm activities (Hypothesis 1c, boxes b and d and Hypothesis 3, boxes b and e in Figure 3.1 respectively).

3.4 Intra-household resource allocation and decision-making power

In the process of making a living, men and women show evidence of power relations between them in terms of resource allocation and decision-making. Insight into intra-household resource allocation is needed to understand women's roles and their capability to improve their livelihood and that of their households and to take advantage of and profit from MFIs.

Household resource allocation or decision-making has been examined by the New Household Economics (NHE) approach. Developed by Becker (1965), the NHE considers the household as a single decision-making unit and a unit of production and consumption that seeks to minimise costs of production and maximise the joint objective utility function of all its members by pooling and combining household resources. By doing so, the household behaves as if it has one set of preferences (Haddad and Alderman, 1997). This means that all household members share the same preference function. To put it differently, a single decision-maker (the household head, usually a man) is assumed to act for the welfare of the entire household (Quisumbing and De la Brière, 2000). Such unitary models have been used to analyse household-related phenomena such as household market demand, household production and consumption, labour supply, education, health and so on and so forth (Akram-Lodhi, 1997). However, unitary models have been criticised for their lack of a gender perspective. For example, the models cannot explain how men and women within the household behave or make decisions in terms of the access to and the use of household resources and time allocation (Ellis, 2000). This is because these approaches are such that they do not shed light on the relations within the household between men and women. They are constructed under the assumptions of the household consisting of a nuclear family (husband, wife, and children), pooling of household resources, a joint utility function, the possibility of the substitution of household labour and the household as a single entity (Akram-Lodhi, 2005; Moser, 1993). The unitary model starts from the premise that a benevolent dictator determines household behaviour, and fails to explore adequately the full domain of distributive behaviour and the most important factors influencing this behaviour (Holvoet, 2005). In practice, household members have different tastes and preferences that cannot be represented by one individual. According to Moser (1993), men and women have different positions within the household and different control over resources. Therefore, they not only play different and changing roles in society but also often have different needs. Moreover, the single household utility obscures the likelihood of conflict and inequality in household decision-making. As pointed out by Sen (1990), the household mode of interaction involves both cooperation and conflict.

A number of alternative models have been suggested to take intra-household relationships between men and women into consideration. Contrary to the unitary model, the collective models explicitly allow for different decision-makers, diverging preferences and conflict within the household. Household members are conscious of the fact that, through cooperation, their overall well-being might increase, but they not necessarily agree on the division of the gain (Holvoet, N., 2005). These models are termed differently, ranging from the Nash-bargaining model (Manser and Brown, 1980; McElroy and Horney, 1981), to (partly) non-cooperative models (Becker, 1973; Chen and Woolley, 2001), separate sphere bargaining (Lundberg and Pollak, 1993; Lundberg and Pollack, 2003; Lundberg *et al.*, 1997) and the collective

model. The latter has received recent attention (Chiappori, 1992; Browning and Chiappori, 1998; Browning *et al.*, 2006). The Nash-bargaining model considers that household members pursue their own interest given their relative positions within the household. According to Agarwal (1997), the bargaining approach to studying the household provides a useful framework for the analysis of gender relations and of how gender asymmetries are constructed and lead to conflicts. She argues that bargaining models would suggest that policies and resources be directed differently by considering the gender of the target group. The Nash-bargaining model presents the utility function as conflictual and dependent on the fallback position or the threat point of individual household members (i.e. the utility level that is guaranteed if no agreement or bargain is achieved). The threat point for an individual plays a crucial role in determining the allocative outcome. According to this model, the stronger the household member's fallback position, the more power he or she has in decision-making. In the collective model, an individual's power is represented by the 'sharing rule', which allows household members to acquire their own private goods on the market by taking into consideration the household's total expenditure. Once again household members with a big share will increase their utility. The threat point and the sharing rule generally depend on factors such as income, age, education level, socially prescribed gender roles, and other extra-environmental parameters that do not enter the individual preferences. In many societies men are more likely to have control over the intra-household allocation of resources and tasks. Studies have analysed the relationship between income generation, economic empowerment and bargaining position within the household. In particular, income earning is supposed to increase women's bargaining position by increasing their power in household decision-making (Hashemi, Schuler and Rileym, 1996; Odebode, 2004).

With regard to microfinance, women's power gain in decision-making within the household may increase their chance to obtain MFI credit. Furthermore, by giving financial support to women's activities, microfinance may help them to increase their income, strengthen their fallback position, hence their bargaining power and their say in household decision-making. To put it shortly, women's increasing role in the household economy due to MFI will lead to their empowerment. In line with this, Holvoet (2005) found that membership in women's groups shifts overall decision-making patterns from norm-guided behaviour and male decision-making to more joint and female decision-making. Armendáriz and Roome (2008), found that, providing women with MFI loans can result in higher income in the hands of women which might be used in health improvement and education of women and their households and eventually empowers women. They call it the women empowering effect.

However, studies have also argued that income earning does not always lead to the improvement of women's bargaining power in the household. For example, Gonzales de la Rocha (1994) and Laier (1997) argued that this situation may happen when

women do not have control over household resources and their wages for cultural and ideological reasons, i.e. that women are subordinated to their husbands. In her study Odebode (2004) found that some women with high access to capital had low decision-making ability and a weak intra-household position. Likewise, Garikipati (2008) found that lending to women is likely to strengthen the household's ability to cope with vulnerability across income groups but that the women themselves, especially the poorest ones, are not likely to see consistent improvements in their household status. Evidence from Bangladesh suggests that microfinance does not increase women's bargaining power entirely because on average women borrowers surrender nearly 40% of their control over the investment decisions they make to their husbands. More alarmingly, over 90% of the returns these women realise from their investments are handled by their husbands (Goetz and Gupta, 1996).

From the above, it appeared that income gained by women does not always lead to their empowerment. This result shows that factors other than income may have an influence on women's decision-making power within the household. In line with this, Odebode (2004) suggested that socio-cultural norms, especially in African societies are factors that can affect intra-household relationships between men and women. Divergence in outcomes with respect to women's empowerment may also be explained by the method of evaluation. In this study, we assume that there can be a two-way relationship between women's decision-making power and MFI credit: first, we argue that women's empowerment can increase their chance of obtaining MFI credit and, second, microfinance can improve women's intra-household decision-making power. This is summarised in Hypothesis 1b and Hypothesis 4, boxes a and b, in Figure 3.1. The econometrical methods used to assess the two-way relationship between women's empowerment and MFI credit is explained in Chapter 6.

3.5 Credit status of women in rural areas

Three categories of credit sources characterise the financial markets, especially in developing countries: formal institutions (state or private banks), semi-formal institutions, namely MFIs (credit cooperatives, and NGOs engaged in financial services), and informal institutions composed of traditional moneylenders, trade-specific lenders, pawnbrokers, commission agents, landlords, relatives, friends, and local groups such as Rotating Savings and Credit Associations (ROSCAs). Many women in developing countries make use of ROSCAs, a significant traditional financial service, established by women to support women (Ardener and Burman, 1995). Despite the high interest rate applied by some of these informal institutions (e.g. moneylenders), women generally prefer borrowing from informal financial sources because of their convenience in terms of rapid provision of loans compared to the long and difficult procedures of formal institutions; in addition, unlike formal institutions they do not require collateral (Berger, 1989). Yet, the services offered by the informal institutions remain insufficient as their supply of services is limited

and they provide loans to specific clients, which has to do with a selection bias. In other words, these informal institutions are far from perfect, constrained by local resources, and often very costly as in the case of moneylenders who charge high interest rates (Armendáriz and Morduch, 2005). Therefore, many women still have no access to them and have to rely on the services of MFIs, if available at all.

Evidence has shown that women's access to and use of credit is still limited because not all poor women can borrow money (Mayoux, 1999; Johnson, 2000; Berger, 1989; Quisumbing and De la Brière, 2000; Ellis, 2000; Moser, 1993). Although women have been targeted, they are still less served by MFI credit than men and even when they are, their share is smaller than that of men (Mayoux, 1999).

Two categories of factors limiting the provision of microfinance credit to women have been identified and discussed in the literature: factors related to MFIs and those linked to the characteristics of women borrowers. Concerning the factors related to MFIs, collateral requirement, credit market imperfection[3] and market segmentation[4] are the main factors that prevent women from getting credit (Johnson, 2003; Berger, 1989; Scott, 2000; Buckley, 1997; Quisumbing and De la Brière, 2000). In addition, the rules and regulations of some financial institutions may not be appropriate to women's needs, e.g. when targeting specific activities dominated by men. In such a situation women cannot borrow from these institutions. Also, there is a preference among some MFIs for large-scale borrowers rather than small-scale borrowers, due to the high transaction costs related to the latter (Schreiner, 2001; Hoff and Stiglitz, 1993). Some MFIs are unable to offer savings facilities to their clients, which is one of the main conditions to obtain credit. This gives few opportunities to women to save their money and accordingly reduces their chance to use financial services.

Regarding the characteristics related to women, economic and socio-cultural factors are presented as the main reasons that limit women's use of financial services. Economically, women are engaged in activities that yield very low incomes, which may render them unable to repay their loan. Thus, they become credit risk-averse and are unwilling to borrow money (Berger, 1989; Johnson, 1999). Also, women's involvement in unpaid domestic work and food crop production for household consumption significantly reduces their participation in the market (Ellis, 2000; Moser, 1993; Mayoux, 1999; Quisumbing and De la Brière, 2000). The socio-cultural

[3] There is an information asymmetry between lenders and borrowers. In practice the lender generally has no information about the characteristics of borrowers, and the willingness of the borrowers to repay their loans. So, in order to reduce the default risk, the lender tries to acquire information about the borrowers (screening problem), takes measures to ensure that borrowers will take action to make the repayment more likely (incentive problem) and uses enforcement actions to increase the likelihood of repayment by borrowers (Hoff and Stiglitz, 1993).

[4] Market segmentation as a result of the specialization of market intermediaries in financial services and types of clients as any intermediary by itself is not able to provide all the multiple services for clients.

factors are mainly related to the subordination of women to men. Socially, men have the power to control all the resources, the property and household income. This situation may prevent women from participating in microfinance. Cultural barriers that forbid women to carry out some types of traditionally male activities and for which loans are available, also hinder their ability to get credit (Berger, 1989). In this study, we hypothesise that women who have taken MFI credit have more savings than those without MFI credit (Hypothesis 1a, box b).

3.6 Control over loan use

Studies have shown that when women are provided with microfinance credit, they may not have full control of their money (Sebstad and Chen, 1996). Women borrowers cannot always decide on the use of the loan (Ali, 2005). Accordingly, loans may be used for different purposes than that for which they were provided. It has been indicated that men often control women's loans and use them for their personal needs, instead of investing them, or using them for household welfare (Rahman, 1999; Muhumuza, 1997; Ackerly, 1995). In some cases women's loans are controlled by male family members (Goetz and Gupta, 1996). Nevertheless, some studies have found that the loss of women's control over loans may be compensated for by an increase in their status and bargaining power within the household. This is because they are seen as 'financial mediators' or 'money collectors' (Goetz and Gupta, 1996; Todd, 1996). Evidence has also shown that women's control over a loan may be influenced by the gender division of labour, depending on whether men and women work together on the same plot or separately. So, when men and women work on the same farm (complementary division of labour), men have more control of resources (Goetz and Gupta, 1996). And when men and women have individual plots (a case more common in rural Africa), women may separately control their resources. Thus, women are more likely to have the entire power or control over their loans (Mayoux, 1999). Furthermore, it is sometimes difficult to ensure that loans are used for purely productive purposes. This results from the fact that women are involved in diverse activities, which may be carried out simultaneously or seasonally (Berger, 1989). Therefore, money borrowed by women for a specific purpose may be diverted and used for other purposes (Adams and Pischke, 1992; Scott, 2000; Simanowitz, 2004). In emergencies, women are more likely to use their loans for household consumption purposes instead of investing them in production (Rahman, 1999). Loans from different sources may also be used for repayment of the previous credit in order to obtain new loans (Rahman, 1999). The repayment scheme related to, among other things, the contract enforcement applied by MFIs may prevent women benefiting from microfinance programmes and thus may affect the effectiveness of MFIs. The use of loans can also be influenced by unpredictable events such as drought, famine, war, illness and death. In these cases, women as well as men may use their loans to contend with the situation (Hypothesis 4, boxes a and b, in Figure 3.1).

The literature overview above shows that within the households, women have some real constraints not only to obtain microfinance credit, but also to productively invest and be able to increase their income and benefit from the money they have borrowed. These constraints related to women's decision-making power are crucial and need to be better investigated. In particular, there is a need to understand how decisions are made within the household and how microfinance can help women to increase their income and thus strengthen their fallback position.

3.7 HIV/AIDS and microfinance

HIV and AIDS can significantly affect households and women in particular. In some of the literature, a distinction is made between HIV/AIDS affected and afflicted households. According to Barnett and Blaikie (1992) afflicted households experienced the direct impact of HIV/AIDS, because household members are ill or have died as a result of the disease. While in affected households, the impact is more indirect through loss of resources or taking in orphans. But the difference is relative. In this study we speak about affected households, meaning households that experience the direct effects (illness and death of household members) and/or indirect effects of AIDS. Following UNAIDS terminology guidelines, the term HIV-positive person or person living with HIV and HIV-affected person or household are the same. In addition to the physical and psychological effects of HIV and AIDS, studies have indicated that the most immediate effect of AIDS on households is on the household productive labour force, particularly in terms of availability and allocation of labour time (White and Robinson, 2000; Barnet and Whiteside, 2002; Nombo, 2007). The illness of household members results in the loss of labour time available for productive activities. The reallocation of women's household labour to care for sick household members also reduces the labour available in the household. So, HIV and AIDS can have negative effects on MFIs through its impact on women of affected households, who were provided with MFI credit. In short, the HIV epidemic may endanger the functioning and effectiveness of MFIs.

Nonetheless, microfinance can also play an important role in the prevention and mitigation of the effects of HIV and AIDS (Kraal *et al.*, 2000). MFIs can provide training for the prevention of the disease to loanees through their groups or cooperatives. Microfinance institutions can mitigate the effects of HIV-related illness by giving financial services to HIV-positive women to get medical treatment. However, as pointed out, most microfinance institutions are now more concerned about their sustainability goal than about helping the poor, specifically the very poor living in a context of high HIV prevalence. This raises some questions. For example, how can MFIs get information about the health status of their clients? If women are HIV-positive, will MFIs be willing to provide them with loans? How can MFIs combine the goal of achieving their self-sufficiency, and giving credit to women in order to

enable them to respond to the disease and its effects in a context of HIV and AIDS? What are the potential effects of HIV-related illness on the functioning of MFIs?

These concerns have to be investigated in further research. For the purpose of this study, the effects of HIV and AIDS on women loanees and their households, and the effects on the MFIs are studied. To do so, we hypothesise that HIV-positive women have lower human and economic capital than women who are not affected. In addition, women living with HIV who were provided with MFI credit have earned more income than affected non-borrowers (Hypotheses 6 and 7). HIV/AIDS is directly connected to boxes a, b and c in Figure 3.1.

3.8 Overview of the hypotheses

From the analysis above it becomes clear that the MFIs have both positive and negative effects on women borrowers, depending on the type of study, the country, the region and the environment. Weighing the evidence has led to the formulation of a set of hypotheses. All the hypotheses are stated in their alternative form and will be tested against their null hypotheses of no difference or no change.

Hypothesis 1: Women with MFI credit differ from women without MFI credit in the following respects:
- they have more savings (*Section 3.5*);
- they have more power in decision-making within household (*Section 3.4*);
- more trade activities are undertaken (*Section 3.3*).

Hypothesis 2: Women who engage in trade activities have a higher return on investment and are able to repay their loan (*Section 3.3*).

Hypothesis 3: Women who have obtained MFI credit have:
- higher income (*Section 3.2.1*);
- higher value of assets (financial, physical and natural capital) (*Section 3.2.1*);
- higher productivity in farming (*Section 3.2.1*);
- more social capital (*Section 3.2.1*).

Hypothesis 4: Microfinance credit will have a positive impact on the realisation of women's strategic and practical gender needs: women who have obtained MFI credit have more power in household decision-making than before taking credit (*Sections 3.4 and 3.6*).

Hypothesis 5: The human capital of the members of the households of women who have access to MFIs credit will be higher, compared to the human capital of household members of women who do not have access to MFIs credit. In households

of women who have access to MFIs credit as compared to households without credit (*Section 3.2.1*):

- more children attend school;
- more money is spent on the health care of all members;
- members' health is generally better.

Hypothesis 6: Compared to households of women who are not affected by HIV/AIDS, affected households have lower human, economic and social capital (*Section 3.7*):

- more money is spent on the health of household members;
- the level of resources, income in particular, is lower;
- they have less social capital;
- fewer children attend school.

Hypothesis 7: HIV/AIDS-affected women who have obtained MFI credit are unable to repay their loans (*Section 3.7*).

3.9 Conceptual framework

The linkages investigated in this study are summarised in Figure 3.1. The figure shows first how women's livelihood activities shape their need for MFI services in the household environment and how – in turn – these services may influence livelihood outcomes. Second, it indicates the relationship between household level decision-making and women's bargaining power. Third, the figure shows that the HIV epidemic is an external factor, which can have effects on both rural livelihoods and the functioning of MFIs through the household environment. It also shows how MFIs can mitigate the effects of HIV and AIDS.

The foregoing section showed that households or women need basic assets such as financial capital (credit and financial services), human capital (education, skills), natural capital (access to land), physical capital (infrastructures) and social capital (networks, associations) to generate their livelihood through their activities (box c). In this study, women's activities consist of agricultural production (food production and cash crops), trade and household production. Diverse strategies can be used to carry out these activities in order to improve livelihood outcomes (box d). Outcomes are materialised in the form of changes in household income and assets as well as women's and household's well-being, including health status (box e).

However, women are among the poorest population and often lack the necessary resources to carry out their activities. Therefore, microfinance institutions are needed to support women's income generating activities and building of assets by providing savings facilities and credit (box b). By doing so, women can finance productive activities that will allow income growth, providing they have control over the loan.

Livelihood generation by women is not always straightforward because within the household there can be conflicts of interest between women and their husbands or relatives that can result in women's empowerment (decision-making power) or disempowerment (box a in Figure 3.1). In this study we consider women's empowerment as the power obtained by women within the household that enables them to make household decisions and to have more freedom in making their own decisions. For example, the power which is applied when the women have to decide what type of activities to undertake and what strategy they can use to carry out these activities. Women's empowerment may occur when they acquire more income to improve their fallback position. It also depends on socio-cultural norms which in most societies result in little power for women in decision-making. If women have more power within the household, they can control and use their resources, and choose the desired strategies to generate outcomes (boxes a, c, d and e). More importantly, more power in decision-making achieved by women can help them to have access to MFI credit and greater control over the loan provided there are no other binding constraints (boxes a and b).

The feedback effects also have to be considered in this process, meaning that, MFI credit can increase women's bargaining power by increasing the income earned from their livelihood activities. With their income, women can build their assets, expand or diversify their activities to improve their living standard, protect themselves and their households against unexpected events (boxes b, a, e in Figure 3.1). Hence, there is a two-way relationship between women's decision-making power and access to and benefits from MFI credit.

Unfortunately, the household sphere is exposed to external vulnerability factors, such as illness. Indeed, when AIDS enters a household, it has direct effects that are characterised by the depletion of women's livelihood assets, as they are used to meet medical needs. HIV and AIDS also affect women's activities through the loss of labour. Therefore, their income may decrease and, finally, affected women borrowers may not be able to make a profit and repay their loans. This in turn may hamper the functioning of the MFI and reduce the number of affected women who can obtain MFI credit. In a positive scenario, in a situation of high levels of HIV prevalence microfinance institutions can help mitigate the effects of AIDS on women's livelihoods, and they can help prevent the spread of HIV infection by training loan beneficiaries. Figure 3.1 shows that the HIV/AIDS context is assumed to have an impact on women and households, microfinance institutions, as well as on the interfaces between households, microfinance institutions and livelihood outcomes (boxes a, b and e in the figure). These relationships will be considered in the empirical Chapters 6 and 7.

Chapter 4
Research design and methodology

The purpose of this chapter is to give details on where and how the study was conducted. It describes the rationale behind the choice of study area, research design, data collection, sampling procedures, and data processing.

4.1 Study area

This study was conducted in Abengourou located in the Central Eastern region of Côte d'Ivoire, named 'la region du moyen Comoé'. The choice of Abengourou region was based on socio-economic and structural factors, relevant to the purpose of this study. Abengourou region occupies a surface area of 5,200 km². Administratively, the region consists of eight sub-prefectures[5] (Abengourou, Bettié, Niablé, Ebilassokro, Zaranou, Amélékia, Aniassué, and Yakassé-Feyassé), and 96 villages.

The climate is sub-equatorial, hot and humid, and is characterised by four very distinct seasons: a long rainy season from mid-March to mid-July, a short dry season from mid-July until the end of August, a short rainy season from September to November and a long dry season from December to March. The vegetation is dense forest, which is diminishing due to the dual effects of deforestation and the formation of massive new coffee and cocoa plantations.

The population of the Abengourou region is about 288,200 inhabitants with a density of 55 inhabitants per square kilometre. This population consists of native Agni (50% of the total population), and 50% of foreign and in-country (INS, 2008) migrants (Baoulé, Abron, Sénoufo, Malinké); 53% are male, whereas 47% are female. Economically, during the eighties, the Abengourou region was the leading producer of coffee and cocoa, which are the main export products of the country. This also explains the high proportion of immigrants. The region is still one of the main agricultural production regions, with coffee, cocoa and staple crops as the core products. Women are the main producers of staple crops (cassava, maize, plantain, peanut) and horticultural crops (peanut, eggplant, hot pepper, okra, tomato, etc.), while men are engaged in cash crops production (coffee and cocoa in general).

Microfinance institutions (MFIs) are present and contribute to the development of the region. The National Union of Credit and Saving Cooperatives of Côte d'Ivoire (UNACOOPEC-CI or simply COOPEC), and the Mutual Savings and Credit Network (RCMEC or CMEC) have been selected for inclusion in this study. This is because

[5] Sub-prefecture represents the local government office at village level. But not all villages have a sub-prefecture. In the latter case, the local government in one village can supervise many other villages.

they are the most important microfinance institutions in the country and are the sole microfinance institutions in the study region. Their complete balance sheet represents more than 90% of the activity of the MFI sector. However, in terms of the market share of credits and savings, COOPEC dominates the area of microfinance in Côte d'Ivoire. It represents more than 80% of the private credit takers and manages about 90% of private savings. CMEC and COOPEC also show some differences in terms of their functioning and the types of services they provide. COOPEC has set up a special credit programme for women, called Women Access to Financial Services (AFISEF), which gives technical and managerial support to female borrowers. COOPEC also used to get subsidies from the state and other donors. In contrast to the COOPEC, the services provided by CMEC for women are limited to credit. However, CMEC provides group lending, in addition to individual loans, and it is self-financed, meaning that the institution never received any subsidy for its functioning. However, it did receive technical and material support from state and donors.

With regard to HIV/AIDS, the Abengourou region is one of the most affected areas with an estimated prevalence of 5.8%, which is high compared to the national average (4.7%). One of the reasons for the relatively high prevalence is the substantial migration in the region, especially during the period of commercialisation of coffee and cocoa, which may have added to the spread of the disease.

The research was conducted from July 2006 to December 2006 in five villages in the Abengourou region (Appronpron-Afewa, Ebilassokro, Zaranou, Sankadiokro and Amélékia), selected according to the following two criteria. The first criterion is directly linked to the presence of MFIs, as this study aims to investigate their efficacy in providing loans for women in rural areas. The implementation of MFIs in the Abengourou rural area started in 2001 specifically in Appronpron, with CMEC, and COOPEC was implemented in 2004. Therefore, only a few villages have benefited from MFI programmes. For example, COOPEC is located in only four villages, while CMEC is present in 12 villages. Despite the fact that CMEC deals with a larger number of villages as compared to COOPEC, the number of women who received credit from CMEC is small. So, to respond to the statistical requirements, three villages of the 12 with CMEC were selected and two villages of the four with COOPEC. It is noteworthy that the study villages are different in terms of institutions. That means there was no competition between the two MFIs across the villages selected because where COOPEC is present, CMEC is not. The selected villages differ in location (Figure 4.1), but share the same characteristics in terms of the types of agricultural and non-agricultural activities. The second criterion was the diversity of women's farm and non-farm activities. In each selected village, women are particularly involved in agricultural activities, i.e. diverse food crop production. They are also engaged in trade of agricultural products and non-agricultural goods.

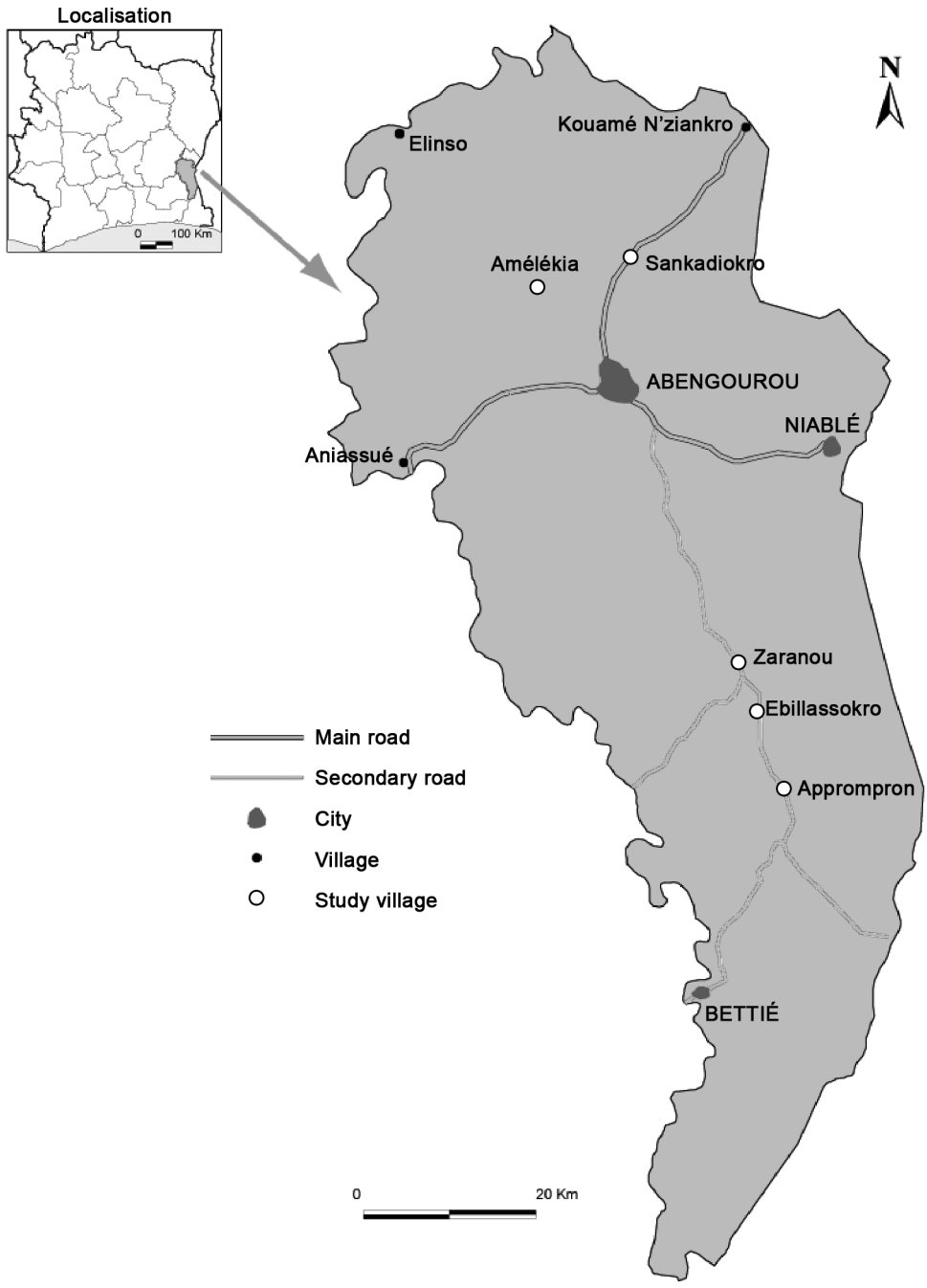

Figure 4.1. Map of the study area.

4.2 Research design and methods

This study aims at assessing the effectiveness and the capability of microfinance institutions to financially support women in rural areas. It seeks to assess whether MFIs can provide adequate loans to women in order to enable them to carry out income-generating activities. To achieve this objective, a cross-sectional survey among women has been conducted. This research method focuses on a large number of observations necessary for quantitative data analysis. Survey research is relatively cheap and fast, and enables the study of different relationships between the provision of loans to women and their effects on income among other issues. Also, the type of activities women carry out in the region, socio-economic factors, and the women's loan repayment are going to be assessed. Because of the large number of observations spread over the research area, the results obtained can be generalised to the entire region.

However, the cross-sectional study design allows for information collected at only one point in time, prohibiting the analysis of longitudinal effects. In addition to the survey, qualitative research has been conducted to understand some sociological or cultural issues, such as women's decision-making power, and their control over the use of loans. With regard to the HIV epidemic, the survey method helps assess the effects of AIDS on women loanees and MFIs' procedures. Although the survey method was used to study the case of HIV/AIDS-affected women, the number of observations was limited. The small number of observations is due to the difficulties in finding HIV/AIDS-affected women as most of them would like to hide their identity for fear of being rejected by their family as well as society. As a consequence, the results obtained will simply give an idea about the relationship between HIV/AIDS and MFI for this particular group of women. This means that the results cannot be generalised to the entire region of Abengourou, which is a limitation for the study of HIV/AIDS in relation to MFIs. To understand the functioning and regulations of microfinance institutions in providing financial services, and given the small numbers of selected institutions, the case study method has been used during in-depth interviews with the local MFI managers.

The observations in this study were women who had borrowed money from microfinance institutions because the study aims at analysing the effectiveness of MFIs in providing loans to women. The study focused on the household which represents the place where members interact and generate their livelihood, and where intra-household relationships may have influenced the women's capability to make a profit from the money borrowed. To assess the effects of MFIs' loans on women's livelihoods, the study also included female non-borrowers, who may or may not have had access to credit. These women were considered as the control group.

To take into consideration the effects of HIV and AIDS on women borrowers, HIV/AIDS-affected female borrowers and HIV/AIDS-affected women without loans, were included as well. In this study, HIV/AIDS-affected women come from Abengourou city, while non-HIV/AIDS-affected women are from villages. This difference between the two groups of women (affected and not affected) in terms of location is linked to sample selection due to some difficulties encountered during the fieldwork that are explained in the following sections (See details in Table 4.1). Finally, microfinance institutions (COOPEC and CMEC) formed a different type of research unit, studied in order to understand their functioning, sustainability, and the extent to which they have achieved the poverty alleviation goal.

4.3 Data collection methods

Primary quantitative and qualitative data have been collected to answer the research questions. A combination of quantitative and qualitative data collection methods can give a more comprehensive understanding of the studied topic. The data collection methods comprised different stages including the orientation phase, the selection and training of interviewers for the household survey, the survey itself, secondary data collection and solving problems encountered.

4.3.1 Primary data collection

Orientation

The objective of the orientation phase was to collect information about the microfinance industry in the country and about the provision of loans to women in the rural area. Information on HIV prevalence around the country was also on the agenda. The analysis of these two issues was necessary to select the villages for the study. This stage involved secondary data collection, visits and discussions with people working on these subjects. The orientation started with a field reconnaissance trip to Côte d'Ivoire in April 2005, which was helpful for writing the research proposal. During the reconnaissance visit, the first meeting and discussions were held with microfinance headquarter officials, notably executive managers, in order to gain knowledge about the MFIs in rural areas and get the authorisation to meet and collaborate with their agents there. Different visits were paid to services relating to HIV/AIDS. In Côte d'Ivoire, many services work on the mitigation of HIV/AIDS on different levels. On the state level this comprises the Ministry of fight against HIV/AIDS, NGOs and RETROCI. The latter service is a representative international agency engaged in the mitigation of the HIV epidemic. This section comprises the questionnaire, sampling, training of interviewers and data collection.

Household survey

A written questionnaire was used to collect empirical data through face-to-face interviews. It is noteworthy that this method is suitable in African rural areas, where most of the respondents are illiterate. To develop the questionnaire, focus group discussions (FGD), and in-depth interviews with key informants, were first conducted. The draft questionnaire was pre-tested and adjusted to improve its quality, clarity and the relevance of some questions. The final questionnaire was administered to the study sample defined below.

Sampling

Multi-stage sampling was used to select the study sample. The first step was the village sampling and the second step was the study unit sampling within the villages. Based on the conditions discussed above, we selected three villages (Appronpron, Sankadiokro and Amélékia) from a list of twelve, where CMEC MFIs work. For COOPEC, two out of four villages were selected (Zaranou and Ebilassokro). The reason for selecting only three villages out of twelve where CMEC is present is primarily that before the fieldwork period some CMEC institutions were not functioning well due to increased non-repayment of the previous loans. As a result, these institutions stopped providing loans to villagers and in some villages the institution was temporarily closed. At COOPEC two out of the four MFIs were newly set up in these villages, so the period of loan provision was too short to conduct the survey. COOPEC Abengourou was also chosen to provide the case of credit programmes for HIV/AIDS-affected women. Initially, the study population was expected to be selected from villages. However, during the reconnaissance phase it turned out that it was difficult to find HIV/AIDS-affected borrowers from the list of women borrowers provided by MFIs. This is because female borrowers' health status is not among the criteria of MFIs for providing loans. Moreover, HIV/AIDS is a taboo issue, which made it almost impossible to get accurate information. Fortunately, in Abengourou city, an association of women living with HIV/AIDS, named CERAB (Cercle des Amis d'Abengourou), was found. CERAB is one of the NGOs of people living with HIV/AIDS officially known in the Abengourou region. Some members of this group got loans from a donor organisation (Belgium Project) and the management of loans in the project was coordinated by COOPEC Abengourou. So, these women constituted our sample for the HIV/AIDS issue. The Belgium Health Project (PSB) is a bilateral project between Côte d'Ivoire and Belgium that aims at improving the health system in the country especially in the Abengourou region. With regard to HIV/AIDS, the project contributed to the financing of community micro-projects and income-generating activities to prevent and mitigate the spread of the disease. In addition, the PSB project provides financial support to people living with HIV and AIDS to meet their needs. It is in this context that CERAB as an NGO has received credit for its members. CERAB plays an important role in prevention of the disease

by encouraging the women first to do the HIV-test. As a consequence, the HIV/AIDS-affected women were able to carry out income-generating activities and obtain money. Many women, in particular pregnant women, not only know their HIV status but are morally supported by other affected women.

The selection of the study units was accomplished using a systematic sampling frame, consisting of choosing individuals systematically (every third or fifth) from the study population. This technique was used to obtain a representative sample from the large number of MFI clients. As the study focused on credit, we used a list of women who had borrowed money from MFIs. From the list we selected every third woman until we reached the required number. The same procedure was used with COOPEC clients. For CMEC clients, the number of female borrowers was limited so that all women on the list were selected.

The study sample comprised all women with the following characteristics:

- Adult women who had borrowed money from MFIs (COOPEC or CMEC)in rural areas and who undertook agricultural or non-agricultural activities selected as explained above.
- Adult women without MFI credit, but who undertook agricultural or non-agricultural activities (control group). This group was selected by asking whether the women have never borrowed money from CMEC or COOPEC but carried out agricultural or non-agricultural activities.

We made a preliminary list of women responding to this criterion during the information meeting. Then from this first list, the final list was randomly selected.

- Adult HIV/AIDS-affected women who had obtained money from PSI and carried out agricultural or non-agricultural activities.
- Adult HIV/AIDS affected women without credit, but who undertook agricultural or non-agricultural activities. The group of HIV-affected women borrowers and non-borrowers was selected by using the list provided by the head of CERAB. Due to the limited number of CERAB members, we simply selected all women from the list and made two subgroups: one group of HIV-affected women with credit and one group of HIV-affected women without credit. The study also concerned microfinance institutions providing credit to women in rural areas (villages) at least in the previous two to three years (as the term of credit is about three to 18 months). For the HIV/AIDS issue, COOPEC in the city of Abengourou was selected.

The study units have been selected from each of the above-defined populations in the following way. A total number of 185 women who received credit from MFIs were selected (90 women taking credit from CMEC and 95 women from COOPEC); 209 adult women who had not borrowed money and who carried out agricultural or non-agricultural activities; 24 HIV/AIDS-affected women who received PSI credit;

22 HIV/AIDS-affected women with no credit. Furthermore, two MFIs (COOPEC and CMEC), were selected from five villages. The PSB microfinance programme was selected for the HIV/AIDS loanees. In total, 440 women and two MFIs served as study units (see Table 4.1). The non-affected cases will be considered in Chapter 6. Chapter 7 deals with the affected cases, which will be compared with the non-affected cases in a regression including the total sample.

Training of interviewers

Prior to data gathering, eight enumerators were selected and trained. The enumerators were professional employees of ANADER (National Rural Development Agency), a semi-public institution engaged in rural development projects. These agents work in rural areas, especially in training farmers and teaching them agricultural technologies. Authorisation to work with the agents was obtained from the regional director of ANADER in Abengourou. The enumerators were selected because of their experience in data collection in rural areas and their knowledge of village practices as most of them had been working with male and female farmers for five to ten years. They were also available during the field work period. An important thing to be mentioned is that all the enumerators spoke the local language Agni, which eased the communication between the interviewer and the interviewee. Two training rounds were conducted, the first with the draft questionnaire to identify possible misunderstanding of the questions, and the second with the final questionnaire. This enabled the enumerators to understand the objectives of the research, the rationale behind every question in the questionnaire and the expectations of the researcher.

The different themes developed in the questionnaire included: socio-demographic characteristics of women and household members; savings and credit; women and household's livelihood activities; well-being; women and household members' health status (see Appendix 1 for the questionnaire). In addition, qualitative data was collected through direct interviews with MFI agents concerning their perceptions and their management of risks related to HIV/AIDS affected loanees.

Table 4.1. Summary of sample sizes by credit and HIV/AIDS status.

Credit	HIV/AIDS status		Total
	Affected	Non-affected	
Yes	24	185	209
No	22	209	231
Total	46	394	440

Focus group discussion

Focus group discussions (FGD) were conducted with three groups of women involved in this study: those who had obtained credit (FGD1), those without credit (FGD2), and HIV/AIDS-affected women with and without credit (FGD3). FGD is a method used to collect qualitative data from a small group of people. It was used in this study to get insightful information about women's perceptions of several issues relating to MFIs, such as utility and effectiveness. The FGDs were organised in four out of five villages (Ebilassokro and Zaranou for COOPEC borrowers; Amélékia and Appronpron-Afewa for CMEC). In the fifth village the FGD had to be cancelled because of time constraints.

The list of non-HIV/AIDS affected female borrowers from COOPEC and CMEC was used to identify the participants of the group of borrowers. In order to have insightful information from different points of view, we selected women who were able to pay back their loans, those who had a delay on their instalment, and the defaulters. Women who did not take credit (the control group) were randomly selected from the list used for the survey. We intentionally planned the meetings in-between the survey to become familiar with the women, especially the female borrowers, and to gain their confidence. This was done because credit is a really sensitive subject in rural areas, especially when borrowers have difficulties paying back their loans. Most of the borrowers wanted to hide their identity. To respect their confidentiality, the participants were given an informal or verbal invitation by the interviewers and the author, and were assured that their identities would be kept secret. At the beginning we selected ten participants per group, taking into account potential fall-out due to women's time constraints. By the end, each group was composed of six to ten participants.

The same procedure as described above was adopted in the group of HIV/AIDS-affected women with and without credit (FGD3). The advantage in this case was that the group used to meet every week at the maternity clinic. This made the invitation of participants relatively easy. No limit was imposed on the number of participants, which in general varied from eight to ten.

In each non-HIV-affected group, the following subjects were discussed: women's perception of credit (both individual and group lending) in terms of its utility and effectiveness; major activities for which loans are provided; importance of MFIs; use of loans and income; women's perception about the amount of money provided and loan repayment, and, in particular, why women who have obtained credit have difficulties paying back their loan. Also on the agenda were questions about household labour allocation, decision-making power, the use of assets by women, and the extent to which women were informed about the availability of credit and how they could access it. A specific question was asked of women without credit to

discover why they did not take credit and what in general makes women reluctant to try and obtain credit.

For HIV/AIDS-affected women the discussion focused on, among other issues, the perceived effects of the disease on livelihood activities, income and access to loans; the way women were seen and treated in their community as people living with HIV and AIDS, the influence of this on their relationships with household members and on the meaning and importance of undertaking income-generating activities. Topics like the importance of group support in general and a network for people living with HIV and AIDS in particular, were discussed as well. Those who got PSB credit were asked to explain their main objectives when receiving the loan and whether they had any suggestions to improve the programme for the persons responsible.

4.3.2 Secondary data

Secondary data was collected from diverse documentary sources to give information on the characteristics of the study region in terms of the presence and the role of microfinance institutions, their main activities and the extent to which women were involved in them, and HIV/AIDS-prevalence in that specific region. Demographic, geographic and socio-economic data on the study region were collected from the National Statistics Institute (INS), whereas data on the national microfinance industry were gathered from the Ministry of Economy and Finance, the National Directorate of Microfinance, and directorate of national microfinance institutions (UNACOOPEC, RCMEC). Data on HIV/AIDS have been collected from the Ministry of fight against HIV/AIDS, RETROCI-CI, and from HIV/AIDS-related NGOs, including associations of people living with HIV/AIDS.

4.3.3 Problems encountered in data collection

In the study area, people in general were secretive according to the focus group participants. Women who had obtained credit did not want others to know that they got loans. They also did not want household members, especially their husbands to be informed, as the latter could use the women's loans for their own purposes. With such behaviour, despite the list of borrowers provided by MFIs agents, it was sometimes difficult to find MFI borrowers, particularly when they were still in debt to the MFI. In most cases the key informant was able to find them, but failed in a few cases when women borrowers left the village after having obtained loans. Because of all these factors, it was quite difficult to form the focus discussion groups of women with access to credit.

Data collection difficulties were also encountered with HIV/AIDS-affected women, because it was not possible to meet these women at home as in most cases family members were not informed about their HIV status. The only place to meet affected

women was in the clinic where they organised weekly meetings. So, to interview an HIV/AIDS-affected woman, she first had to attend the meeting, otherwise it was not possible to find her. Also during our field work period, there was a management problem in one of the projects the group was carrying out. This had a negative effect on the functioning of the group. For example, the weekly meeting was not held for some weeks, which discouraged some group members from attending meetings later on. Consequently, the process of data collection was slowed down.

4.4 Operationalisation and data processing

To investigate women's needs for credit, and the rules and conditions of MFIs for women to access it, the following data was collected: socio-demographic characteristics of women and their households (age, marital status, family size, education level, employment, ethnic group, religion); women's income-generating activities comprising agricultural production (maize, coffee, cocoa, peanut, cassava, yam, plantain, vegetables, livestock) and non-agricultural activities (trade of agricultural goods and non-agricultural goods); women's and other household members' assets (livestock, equipment, consumer goods, electric household appliances); savings and credits of women and their households and the type of credit (individual or group loans); transaction costs paid by each borrower and the collateral provided; data on women's social capital, their income (income earned from activities and remittances), and household consumption. In order to analyse the relationship between women's practical and strategic gender needs and MFIs, data on women's decision-making power with regard to the use of loans, income, household expenditures, children education and the repayment of loans were also gathered. Questions about HIV/AIDS-related illness such as tuberculosis, diarrhoea, typhoid or meningitis were asked to assess women's and other household members' health status.

The collected data was used to test the hypotheses formulated in Chapter 3 (Table 4.2). To compare women borrowers to non-borrowers in terms of savings, economic activities and decision-making power (Hypothesis 1) savings were estimated by adding the total amount of money saved and declared by the respondent. Agricultural activities were assessed by farm size and the quantity of each good produced by the respondent. Social capital information was constructed by asking questions about: (a) whether the respondent had received any assistance when experiencing illness in the household; (b) if the respondent had received money from someone for the treatment of the disease.

The total amount of income earned by each research unit and its sources as indicated by the respondent were used to test whether women who obtained MFI credit had higher income and value of assets than women without MFI credit. We also analyse whether MFI credit has increased productivity in farming and social capital (Hypothesis 2). Assets were estimated by adding the value of each asset acquired

Table 4.2. Summary of the hypotheses and the operationalisation of variables.

Hypotheses	Variables		Indicators
	Dependent	Independent	
H1	Savings Decision-making power Activities Membership in a group	Credit	Total amount of money saved Value of land, house, livestock, equipment, electrical household appliances, consumer goods. Quantity of agricultural and trade goods. Amount of money received Number of visits
H2	Income Assets Productivity Social capital	Trade activities Agricultural activities	Total amount of money earned from activities Quantity of crop produced per hectare Value of assets
H3	Loan profitability	Trade activities Agricultural activities	Return on investment
H4	Empowerment	Credit	Decision-making power Proportion repaid of repayment schedule
H5	Education, health	Credit	Number of children at school, amount of money spent on health care. Number of sick persons in the household
H6	Education, income, social capital, health status	HIV/AIDS	School attendance by children, amount of money used in medical treatment, organisation, network
H7	Loan repayment	HIV/AIDS	Proportion repaid of repayment schedule

by the respondents and their household members. To compare the profitability of trade and farm activities (Hypothesis 3), we calculated the return on investment of trade and farm activities using the net income earned by women from each activity and the total costs paid to carry out the activity.

To assess whether women borrowers were more empowered than non-borrowers, the respondents' role in household decision-making on several issues was used as

an indicator. The issues for which this was asked included: borrowing; use of loans, consumer goods, women's income, and household income; school education of boys and girls; household equipment expenditures and women's participation in community obligations before and after obtaining MFI credit (Hypothesis 4).

The number of children attending school, the total amount of money spent on healthcare of the respondent and the health status of women's household members were the indicators used to test whether the human capital of the members of the households where women had obtained MFI credit was higher than the human capital of household members where they had no credit (Hypothesis 5). The same indicators used for Hypothesis 5 were applied to analyse the effects of HIV/AIDS. In addition, the value of the income owned by women was used as an indicator (Hypothesis 6). The reported repayment rate was also used to analyse the effects of HIV/AIDS on MFIs (Hypothesis 7).

Data entry was conducted using Epi Info, statistical software. The data was then transferred to SPSS (Statistical Packages for Social Sciences) and STATA. These programmes were used for the analysis.

Chapter 5
Financing women's livelihood activities in rural areas

This chapter considers how microfinance institutions finance the activities carried out by women in rural areas. Household or individual characteristics and the types of livelihood activities as well as the rules of MFIs are among the factors that may explain the provision of loans by MFIs in the region. Therefore, this chapter starts with a description of the demographic characteristics of the households, including age and sex of the household head, household composition and size, the education level of household members, ethnicity and religion. The second section deals with the different livelihood activities carried out by the households in the sample. The financing of rural activities is the core topic of this study. In general, men and women in rural areas need financial services to invest in their livelihood activities. Thus, the third section will discuss and analyse how the rural population, especially rural Agni women, is able to respond to its financial needs in order to generate their livelihood. The chapter concludes with an analysis of the type of financial services provided by the MFIs, the socio-demographic characteristics of female borrowers, the sources of credit, the conditions for accessing MFI credit, and the use of MFI credit by female borrowers. Women's views on the usefulness and functioning of MFI credit, as expressed in the focus group discussions, are presented in the last section as well.

5.1 Household socio-demographic characteristics

5.1.1 Age and sex

This study involves a total number of 440 female respondents and households comprising adults, elderly and children. Adults are defined as household members aged from 15 to 64 years, the elderly are defined as people aged 65 plus, and children as aged between 0 and 14 years old. From the results, the distribution of age shows that there are 59.2% adults, 35.9% children and only 4.9% elderly, yielding a dependency ratio of 68.9. This picture is not significantly different from that at the national level: 60% adults, 43% children and 4.0% elderly. With the relatively high proportion of children (36%) and very few elderly, we may conclude that the population in the study area is quite young. Within this population, there is an uneven sex distribution of household members in the age group 15-64, where there are more adult women than adult men. In the groups of children and the elderly, the sex distribution is almost even (see Table 5.1).

Table 5.1. Distribution of household members by sex and age.

Characteristics	Male		Female		Total	
	N	%	N	%	N	%
Children (0-14)	465	50.6	453	49.4	918	35.9
Adults (15-64)	634	41.9	878	58.1	1,512	59.2
Elderly (>=65)	62	49.6	63	50.4	125	4.9
Total	1,161	45.4	1,394	54.6	2,555	100.0

Source: Household survey (2006).

The average age of household heads is 50.7 years old and the ages range from 19 to 90. Among household heads, there are 71% adults and 29% elderly. The majority of respondents (91%) are adult women. Their average age is 38 years, ranging from 19 to 77. The average age of the 9.0% elderly women in the sample is 67.

5.1.2 Household composition and size

Household members are defined as those who share the same daily fare in the house. Taking into account migration, as indicated by Niehof (2004), migrants do not participate in the daily activities of their household of origin but they may contribute to its resources through remittances. Following this definition, household members who were temporarily absent (less than one year) during the period of the interview but who were actively contributing to the household income were included as members. They can be the husband, son, daughter or another relative of the respondent. The results in Table 5.2 indicate that the majority of households are headed by men. There are 65% of male household heads and 35% of female household heads in the total sample. Among all female respondents, 22.9% are female household heads. They can be single, married or widowed. At the national level, male household heads and female household heads represent 82% and 18%, respectively. The relatively large proportion of female household heads in the study area can be explained by the relatively large proportion of single women (21%), widows (9.5%) and divorced women (7.3%). It also shows the responsibility of rural women at the household level and the need for them to engage in income-generating activities to meet household needs. Accordingly, it points out the need for financial services for these women in order to sustain their activities and support their families.

Most female respondents are married women (60.5%) and 34.1% of them belong to polygamous households. The proportion of polygamous households is 30% at the national level. Polygamy means that a woman's husband has more than one

Table 5.2. Household composition.

Characteristics	Total sample (N=440)
Household head (%)	
Male	65.1
Female	34.9
Average age (years)	
Household head	50.7
Female respondents	40.2
Marital status of women (%)	
Single	20.9
Married	60.5
Divorced, separate	9.1
Widows	9.5
Co-spouses	34.1
Household size (mean)	6.1[a]
Adults (15-65)	3.4
Children (0-14)	2.1
Elderly(>=65)	0.4

[a] The average household size is different from the sum of the average numbers of adults, children and elderly. This is because of some missing data on household members' age.
Source: Research results based on the household survey, 2006.

spouse. In general, this practice is socially approved in Islamic society dominated by the Malinké group. But in the study region the Agni also practices polygamy. For these women the fact that their husbands have more than one spouse also gives them the opportunity to share household tasks and to have more time to spend on their own activities. However, despite these advantages, most women prefer not to share their husband with another wife, as most of the time polygamy is a source of conflict within the household.

The average size of a household as indicated in Table 5.2 is 6.1. The maximum household size is 12 persons. This number is not significantly different from the national average household size which is 5.5 (5.2 in urban areas and 5.7 in rural areas) (EIS, 2005). In each household, on average, there are more adults than children (3.4 against 2.1). This implies that on average there is at least one adult who can take care of one child.

5.1.3 Education level of household members

Education is an important indicator of human capital. In Côte d'Ivoire, the development of education is part of the state developmental policy. Therefore, efforts have been made to increase school attendance and literacy of children and adults. Each year an important part of the national budget (20-40%) is allocated to this sector (INS, 2008). Public investment in the sector of education has led to an improvement in the level of education at the national level, resulting in 59.2% of adults and 69.4% of the youth being literate (EIS, 2005). However, the illiteracy rate is still high (55.7% for women and 44.3% for men). The high illiteracy rate of women has to do with the low school enrolment rate of girls in the country, mainly in rural areas. For example, in the Islamic North most girls do not attend school for religious reasons that assign domestic tasks to women. In order to increase the Net Enrolment Rate (NER) of females, the state and NGOs have launched some educational programmes in favour of girls: school fees for girls were reduced to zero in primary school in most villages, and school materials are given for free. At the household level, NGO campaigns aim at encouraging parents to send their children, especially their daughters, to school.

In the study area most people have attended primary school (68%) while 11% has reached the secondary level (Table 5.3). The high percentage of literate people is due to the implementation of compulsory education in most of the regions of the country. Especially in the study region, primary schools are present in almost every village. Every child over five years old has to attend school. However, despite the political willingness to send every 6-year old child to school, some children are still not attending school. In the study area, 13.8% of primary school age children were not going to school while 86.2% were at primary level. Among this latter group of children, 52.6% are boys and 47.4% are girls. The results also indicate that the share of females at secondary level is less than that of males (45.9% against 54.1%). From the sample of female respondents, 45.2% of women are literate and their level of education is limited to primary school. Only 0.2% of women have completed

Table 5.3. Level of education of household members aged six and above.

Characteristics	Male		Female		Total		Respondents	
	N	(%)	N	%	N	%	N	%
Illiterate	225	31.2	497	68.8	722	28.3	241	54.8
Primary	794	50.8	769	49.2	1,563	61.1	198	45.0
Secondary	146	54.1	124	45.9	270	10.6	1	0.2

Source: Household survey (2006).

secondary education. There are several reasons for the low level of education among women in rural areas. Early marriage is an important factor in preventing a girl from attending secondary school in many societies in Côte d'Ivoire, including the study area. Another obstacle is the lack of secondary schools in rural areas. If there is no secondary high school in the village, pupils who pass primary level have to go to the city. Since parents have to finance all the costs related to the attendance of their children at secondary school without any support from the state, sending children to secondary school is costly. Parents may try to find the necessary money for their sons, but are less motivated to do so for their daughters. Daughters in the household are expected to stay with their mothers and help them with domestic tasks.

5.1.4 Ethnicity and religion

There are four main ethnic groups in the study region. The first group is Agni-Baoulé, also called Akan. At the national level, the Akan represent 34% of the total population. The Agni people are the native inhabitants of the study zone. The second and third largest groups are the Dioula-Sénoufo and the Koulango-Abron-Lobi. These groups are in-country migrants, respectively coming from the North and the North-East. The fourth one includes foreigners, mainly from Burkina Faso, Benin and Togo.

Concerning religion, the majority of the people in the sample are Catholics (63.6%), while 18.9% are Muslims and 8.4% are Protestants. However, it is important to acknowledge that in some Agni villages the population is predominantly Muslim (Table 5.4).

Table 5.4. Respondent distribution by religion and ethnic group.

Variables	Total sample (N=440)
Ethnic groups (%)	
Agni	73.2
In-country migrants	19.5
Foreign	7.3
Religion (%)	
Catholic	63.6
Muslim	18.9
Protestant	8.4
Others	9.1

Source: Research results based on the household survey, 2006.

5.2 Gender and rural livelihoods activities

Livelihood as defined by Ellis (2000: 10) 'comprises the assets (natural, physical, financial and social capital), activities, and the access to these (mediated by institutions and social relations) that together determine the living gained by the individual or household.' Following this definition, livelihood activities are seen as aiming at obtaining assets in order to meet basic needs or to improve the standard of living. In this section attention will be drawn to the types of activities and to the question of how rural households, especially women in the study area, engage in these activities to generate their livelihood.

5.2.1 Land access

In rural areas, land is a crucial resource for agricultural production. It represents the main factor of production. Land ownership is the major asset that discriminates the rural better-off from the rural poor (Ellis, 2000). In most societies, access to land is gender-biased. Men generally have better access to land than women and are more often involved in cash crop production. The picture is not different in the Abengourou region. In the Agni society a matrilineal kinship system prevails. However, that does not mean that women can directly inherit land. Property is passed on through maternal descendants but only through men; a male passes his property on to his nephew(s), the oldest son of his sister(s). In this regard, land is male property that is inherited from the maternal uncle. In such a context, women by themselves have no direct access to land. Single women have no access to land because they are supposed to leave their family to join their husband's family when they get married. Married women, in most cases, use their husband's land to produce their goods (Tujague, 2001). Widowed women have no rights concerning the use of their husband's land because they are not part of the lineage of their husband. A widow can only access her late husband's land when she is adopted in the lineage of the husband. In addition, the development of cash crop production, such as coffee and cocoa, has led to land pressure and the need to individualise land ownership rights. Individualised land ownership rights are a source of conflict between the landowner's nephews and the landowner's sons. This situation makes access to land difficult for some men in the region (for example, those who do not have maternal uncles).

Individuals or households who do not inherit land can have access to land through rental contracts. That can happen in different ways. The rental contract can consist of the sharecropping system, meaning that an individual who owns the land agrees to lend part of his land to another person, the sharecropper, on condition that the owner receives part of the yields. In addition, the borrower is required to grow annual crops in order to ensure that the landowner can have his land back when needed, thereby maintaining control of his land. Only rarely can perennial crops be

grown. An individual can also access land by renting part of it. In this case a fixed amount of money has to be paid. Women do this to gain access to land, mainly to grow cassava, maize, yam and peanuts. Access to land can also be gained through buying land, which women do occasionally as well. In this case the buyer becomes the owner of the land and there are no restrictions regarding the type of crop to grow. It is noteworthy that land sales are not supported by any written contract, which is why they become a source of conflict between the son of the landowner and the buyer after the death of the owner.

In the study area, 80.7% of household members have access to land and 58.7% of landowners are husbands, 26.8% are fathers and grandparents. Only 6.8% of women are landowners. Inheritance and gifts are the principal modes of gaining access to land in the study region as most of the landowners have inherited or have been given the land (78%). 22% of the land owners have purchased their land by paying cash or by using credit.

Land access is a real constraint to women in rural areas. This may influence the types of rural livelihood activities carried out by women. Because few women are landowners, they are more likely to limit themselves to growing food crops rather than cash crops, especially perennial crops such as coffee and cocoa. Women may also shift from agricultural activities to activities such as trade, handicrafts and food processing, which are not directly connected to land.

5.2.2 Agricultural activities

Farming activities are the backbone of rural livelihood in most societies and the Abengourou region is no exception to this. In the study area, agriculture is the main activity carried out by men and women. In the total sample, 54.5% of women are farmers and 45.5% are traders.

In this study crop production is categorised into two types: food crops such as maize, peanuts, cassava, yam and plantain as well as horticultural products including tomato, pepper and eggplant, and cash crops, mainly represented by coffee and cocoa. The latter crops are generally produced by men. In the study region, only 20% of women are involved in the production of these two crops. This is because coffee and cocoa are perennial crops that require a large size of land, which most women do not have access to. In the study area, the average size of land for coffee and cocoa is 2.3 and 3 hectares respectively. Despite their low yield compared to food crops such as cassava and yam or plantain, coffee and cocoa generate enough money for farmers. The main reason for the income difference between the two categories of crops is the high market prices of coffee and cocoa. For example, one kilogramme of cocoa is sold on average at 350 FCFA while one kilogramme of cassava is 30 FCFA on average.

The food crops are generally produced by women; 80% of women are engaged in food crops production. They are normally used for household consumption, especially yam and plantain. Indeed these two crops characterise the main consumption food of the Agni in the Abengourou region. In some cases, women produce these crops to earn income. The average farm size of food crops is small compared to the size of coffee and cocoa plantations. It varies between 0.4 and 0.8 hectares.

Abengourou is one of the regions that contribute to the country's food self-sufficiency in cassava and banana, and women are very active in this sector. In the Abengourou region, cassava is an important source of rural income because the vegetation and soils in the region are suitable for cassava production. As a result, the yield per hectare is high and ranges from 13 to 17 tons when using the traditional farming system, and 37 tons with modern farming (PROSTAB/ANADER, 2006). In terms of income, it gives an average gross annual profit of 612,500 FCFA per hectare. The figure is almost the same for banana and yam. Indeed, among the food crops, cassava, yam and plantain generate more money for women than coffee, cocoa and horticultural goods. According to the results of our study, the average gross incomes earned by women from cassava, yam and plantain are 93,281 FCFA (179,386 FCFA/ha), 136,704 FCFA (173,704 FCFA/ha) and 64,285 FCFA (98,900 FCFA/ha) respectively. However, the incomes gained by women from these crops are low compared to the average income at the national level. This is because of low yields. For example, the normal average yields of cassava and yam are 17,000 kg/ha, and 15,000 kg/ha, respectively (PROSTAB/ANADER, 2006). In the study area the yields are less, except for plantain (see Table 5.5). The same applies to coffee and cocoa, of which normal average yields are 475 kg/ha and 500 kg/ha, while in the study area they are 427.1 kg/ha and 403.3 kg/ha, respectively. The low productivity may be explained by factors such as the lack of modern inputs or labour constraints or bad weather during the fieldwork which indicates the need for financial services. In Abengourou, there is an unequal labour allocation between men and women within the household. Women in general contribute their labour to their husband's cash crop farm. They are also in charge of the production of household consumption goods. When women produce for the household, they are more likely to get help from family members as the outcome is for the whole household. However, when a woman decides to carry on her own business, for example if she wants to produce cassava, she cannot count on family labour. Then she has to hire labour for the tasks she cannot accomplish by herself. In such a context, MFI credit for women is needed in order to be able to pay for the inputs and enhance the level of production.

To increase their income, in rural Abengourou, women do not limit themselves to one crop but diversify. In general diversification is mainly connected to the share of off-farm income-generating activities. As noted by Niehof (2004), on-farm diversification exists and is also important in livelihood processes. On-farm diversification in this study means that in the farming system, women combine the production of more

Table 5.5. Farm activities, yield and income of women.

	Average farm size (hectare)	Yield (kg/ha)	Std. deviation	Average income (FCFA)[1]	Average income per ha (FCFA)
Coffee	1.03	427.1 (475)[2]	210.6	101,553	98,595
Cocoa	2.71	403.3 (800)	208.2	367,132	135,473
Cassava	0.52	10,507.9 (17,000)	4,277.9	93,281	179,386
Yam	0.79	6,935.2 (15,000)	3,332.0	136,704	173,043
Plantain	0.65	6,040.2 (5,000)	3,692.8	64,285	98,900
Maize	0.89	928.6 (2,500)	485.8	50,714	56,982
Peanut	0.40	1,053.9 (770)	665.9	40,282	100,705

[1] 1 FCFA = 0.0015 euro.
[2] The statistics in brackets represent the average yields in the region in kg/ha (ANADER, 2006).
Source: Research results based on the household survey, 2006.

than one crop. According to the results, some women produce about two to three or even four different crops. This is realised by mixed cropping[6] or separate cropping at different plots. In the mixed cropping system, women can grow maize, pepper and eggplant and tomato in addition to yam. Those who are growing coffee and cocoa can also produce yam or maize on different plots. In the sample, 35.7% of women involved in agricultural production produce two crops, and 12.8% and 3.0% cultivate three and four crops, respectively. This variation in the farming system is the women's response to their double role of feeding household members and generating income to satisfy their own needs. It is important to acknowledge that farm activities in general and on-farm diversification in particular not only depend on financial resources but also on access to land.

5.2.3 Trade activities

Alongside farming activities, trade is the second rural activity in which Abengourou women engage. Trade activities belong to the informal sector and are mainly conducted by women in rural as well as urban areas. In the study sample, 45.5% of women are traders of agricultural and non-agricultural goods. The common trade activities in the study area are trade of farm produce, food vending, and miscellaneous trade. The latter consists of the trade of clothes, jewellery, charcoal, fish, drink, traditional soap, and so on. Most women are active in miscellaneous trade (28.2%).

[6] Mixed cropping implies that more than one crop is produced in the same plot. For example, on one hectare the farmer may grow yam, maize, eggplant, etc.

Women prefer to sell these goods because there is a continuous supply of them (which is not the case with agricultural products) and trade of these goods allows them to earn money in a relatively short period of time. The trade of farm goods, in which 17.3% of women are engaged, comprises trade of yam, banana, cassava and horticultural goods especially eggplant, pepper, and tomato. These goods can be sold in local markets or brought to Abengourou or to Abidjan, the capital city. When women market their goods in the city or in the capital they can increase their profit margins more than when they stay in the village where prices are in general very low. The choice of market place depends on the scale of the activity, which is connected to women's financial capability. The latter can be enhanced by microfinance institutions. As we shall see, in general women who have access to credit tend to be involved in trade. Microfinance institutions prefer to provide loans for trade activities rather than for farm activities, because farm activities are considered risky and money earned from agriculture is unpredictable. Also farmers have to wait for several months (on average four months) before they can harvest and earn income from a particular crop. Trade activities can earn money for women in a short period of time and can therefore enable women loanees to pay back on time, especially when their business activities are successful.

5.3 Financing women's livelihood activities

This section aims to give insight into how women, who are involved in rural activities as described above, finance these activities. In short, what are the sources of financing women's activities in rural areas?

5.3.1 Supply of financial services

The two main microfinance institutions selected in this study (COOPEC and CMEC), offer different types of credit in both urban and rural areas. These financial institutions are presented in this section to learn more about their products and also to assess the proportion of women that have borrowed money from each type of credit facility.

Description of COOPEC and CMEC

UNACOOPEC-CI (National Union of Saving and Credit Cooperatives), abbreviated to COOPEC, is a microfinance institution network which provides credit and saving facilities to its members. COOPEC was set up in 1976 in Kouto, in the rural north part of Côte d'Ivoire as Savings and Credit Banks (CREP). After many changes, it became UNACOOPEC in 2006. The main objectives of COOPEC are to promote and protect the savings of its members, to provide credit, to encourage the solidarity and the cooperation between shareholders, and to provide comprehensive packages to its members. To reach these objectives, COOPEC has a structure that comprises a General Assembly; an Administration Council; a Credit Commission; an Ethical

and Control Council and a Technical Committee. With 161 agencies throughout the country COOPEC is the biggest MFI in Côte d'Ivoire. However, these agencies are unevenly distributed. Most of their institutions are concentrated in the capital Abidjan and its surroundings cities (40.4%). In the study area, COOPEC serves only five villages (Affalikro, Béttié, Ebilassokro, Niablé and Zaranou) out of 97 (Table 5.6a).

RCMEC-CI is the abbreviation of 'Réseau des Caisses Mutuelles d'Epargne et de Crédit de Côte d'Ivoire', meaning Network of Savings and Credit Banks of Côte d'Ivoire. CMEC is relatively new compared to COOPEC. The first agency of CMEC was set up in Katiola (in the centre of the country) in 1995. Since then, the number of agencies has increased, presently totalling 88 agencies within the country. CMEC represents the second biggest MFI in the country. The east and central regions of the country have more CMEC agencies with respectively 42% and 22%. This confirms once again that MFIs are not evenly distributed within the country (Table 5.6b). CMEC has almost the same structure as COOPEC with a General Assembly, a Regional Council, an Administration Council, and the Committee of Control.

Type of microfinance services

Two main categories of credit are offered by CMEC: group credit and individual credit. The group credits comprise what is called 'prêts usagers' and the traditional group loans. The 'prêts usagers' are particular loans provided to a group of women

Table 5.6a. Geographical distribution of MFIs (COOPEC).

	East-Abidjan	West	Centre	North	West-Central	West-Abidjan	Total
Number	36	13	25	22	36	29	161
Percentage	22.4	8.1	15.5	13.6	22.4	18.0	100.0

Source: Research results based on the household survey, 2006.

Table 5.6b. Geographical distribution of MFIs (CMEC).

	South	West-Central	Centre	East	Total
Number	16	13	22	37	88
Percentage	18.2	14.8	25.0	42.0	100.0

Source: Research results based on the household survey, 2006.

who are not necessarily members of CMEC. The group is composed of three, five or seven women. Each woman is required to have a compulsory savings account containing at least 10% of the amount of the loan to be provided. In addition, the borrowers have to pay a 10% interest rate on the loan, independent of the period of the loan, and they must provide a guarantee which may be given by the chief of the village or neighbourhood. The group loans in CMEC are different from the 'prêts usagers' in terms of the amount of savings (minimally 25% of the total amount of credit) and the interest rate, which is higher (18%) compared to the interest rate on the 'prêts usagers.' In addition, in the case of a group loan, the members of the group must be shareholders of CMEC. As we can see, the type of group loans in the study area differs from what is usually described in the literature. For example, Armendáriz (2005) explained group loans as the arrangements made by individuals without collateral, who get together and form groups in order to obtain money from MFIs. Here the savings as collateral are replaced by 'joint liability,' meaning that despite the individual provision of loans to the group members, all members are responsible in case a member runs into serious repayment difficulties. In CMEC the savings of each borrower are used as collateral, but the principle of joint liability is also applied. This means that in case of default, all group members are responsible. However, during the focus group discussions it transpired that in practice women treat the group loan as an individual loan. The individual credit is composed of credit for agriculture, trade and consumption (school fees, funerals, equipment and consumer goods). In general, agricultural credit is used to buy farm inputs and hire farm labour. The maximum amount of loan supplied for agricultural activities and consumption is 200,000 FCFA, and 300,000 FCFA for trade activities. In the study area, 68.9% of women borrowers received individual loans and 31.1% of borrowers were provided with group loans, called 'prêts usagers', from CMEC.

Unlike CMEC, COOPEC has basically offered individual loans, not group loans, for women (Table 5.7). COOPEC offers a special individual loan for women called AFISEF, aiming at financially supporting Ivorian women to improve or build income-generating activities in urban and rural areas. It also has the mission to inform women about the availability of financial services and to provide technical packages to improve loan management and activities. In addition to credit and savings facilities, COOPEC offers money transfer services which can be used by everybody. The diversification of the types of financial services in COOPEC is the institution's strategy for attaining financial sustainability. As discussed in Chapter 4, COOPEC used to receive subsidies from the state and other donors. Now the institution is supposed to be self-reliant and no longer receives funding.

Both COOPEC and CMEC provide various kinds of training to the borrowers in their programmes, including technical advice concerning the design of the project, project management during the life of the loan, and book-keeping. The borrowers were also assisted in preparing loan applications. In addition, CMEC offers training

Table 5.7. Different types of loan by MFI.

Types of credit	COOPEC		CMEC		Total	
	N	%	N	%	N	%
Individual loan	95	100	62	68.9	157	84.9
Group loan	0	0	28	31.1	28	15.1
Total	95	100	90	100	185	100

Source: Research results based on the household survey, 2006.

in group loan management. In practice, these programmes are not always effective. One of the reasons brought up is the fact that borrowers generally fail to attend the training due to time constraints, especially in rural areas. Hence, not all borrowers in the sample were able to participate in the training. Even when they attended, their participation was irregular. As a result, the expectations of participation were hardly met. In our sample only 35% of borrowers had received training and this proportion varied between the two MFIs. COOPEC had trained 30 out of the 95 borrowers, whereas CMEC trained 34 out of 90 borrowers. The majority of women had received technical assistance in preparing their loan application (76.5%) and 11.8% had been trained in group loan management by CMEC.

COOPEC started its financial activities in the rural areas of the Abengourou region in 2004. Therefore, for most women the institution provided loans in 2005 and 2006, while, CMEC has been established in the rural areas since 2001 in Appronpron-Afewa. Most CMEC loans were provided in 2004 (46.7%) and 2005 (38.9%). The average amount of credit provided by COOPEC and CMEC is reported in Table 5.8. The size of loans offered by COOPEC is significantly higher than those provided by CMEC ($t = 7.32$; $P < 0.01$). This result can be explained by the difference in savings, which are significantly higher in COOPEC than in CMEC.

5.3.2 Credit status and characteristics of female respondents

This section is aimed at categorising women in the sample in terms of credit status, health status, age, marital status, education level, religion and ethnicity. These are important factors which may influence the credit status of women and the effectiveness of MFIs in rural areas.

Women have been distinguished according to two main variables: credit and HIV/AIDS status. As explained in the previous chapter, this study involved 185 non-affected women who have borrowed money from two MFIs: COOPEC (95 women)

Table 5.8. Mean savings and credit by MFI.

	Mean (st.dev)		t-value
	COOPEC	CMEC	
Cash Savings (FCFA)	135,904 (186,644)	44,298 (68,982)	4.24***
Loans (FCFA)	370,421 (303,405)	114,427 (137,275)	7.32***

*** $P<0.01$.

Source: Research results based on the household survey, 2006.

and CMEC (90 women). In the HIV/AIDS-affected group, 24 women got credit from the PSB credit programme. In addition, each group comprised a group of women without credit, defined as the control group. This control group was used to assess the effectiveness of MFIs by comparing the two groups in each category (credit and no credit).

The main characteristics of female borrowers and the control group are presented in Table 5.9. All female borrowers and non-borrowers were adults. Within the non-affected group, the results show that the average age of women who had borrowed from MFI is significantly higher than the average age in the control group ($t = 2.29$, $P < 0.05$). The age difference between the two groups may influence the MFI credit status of women. The majority of female borrowers were married women (60.5%) and 11.9% were widows. In the control group, these proportions were 64.1% and 7.2%, respectively. The differences between the treatment and control group were not statistically significant.

Household headship is a factor that can also explain the provision of MFI credit to women. The results indicate that 33% of female borrowers were household heads, whereas only 13.4% of women who had not borrowed money from MFIs were household heads. In the group of HIV/AIDS-affected women, these proportions were 25.0% and 22.7%, respectively. The high proportion of female household heads with credit can be explained by the fact that as household head, these women have more responsibilities and motivation to engage in income-generating activities in order to simultaneously meet the needs of their household and their own needs. In addition, the provision of loans to female household heads by MFIs responds to the aim of MFIs to financially support the neediest population. The relationship between credit and the household head status was significant (Chi-Square = 21.50, $P < 0.05$). Women who were household head were more likely to obtain credit than those who were not.

Table 5.9. Characteristics of female respondents by credit and health status.

Variables	NO HIV/AIDS				HIV/AIDS	
	COOPEC (N=95)	CMEC (N=90)	Total (N=185)	No credit (N=209)	PSB credit (N=24)	No credit (N=22)
Age of the respondent (years)	39.9	44.7	42.2	39.5	34.8	32.7
Household head (%)	27.4	38.9	33.0	13.4	25.0	22.7
Marital status (%)						
Single	22.0	15.6	18.9	22.0	20.8	27.3
Married	65.3	55.6	60.5	64.1	50.0	36.4
Divorced	3.2	14.4	8.6	6.7	29.2	13.6
Widow	9.5	14.4	11.9	7.2	-	22.7
Co-spouses (%)	13.3	54.0	33.7	37.3	16.7	45.5
Education (%)						
Illiterate	58.9	53.3	56.2	54.5	62.5	36.4
Primary school	41.1	46.7	43.8	45.5	33.3	63.6
Secondary school	0.0	0.0	0.0	0.0	4.2	0.0
Ethnic group (%)						
Agni	91.7	91.1	91.4	66.5	33.3	36.4
In country migrants	6.3	7.8	7.0	24.9	25.0	31.8
Foreign migrants	2.1	1.1	1.6	8.6	25.0	31.8
Religion (%)						
Catholic	67.4	77.8	72.4	62.7	41.7	22.7
Muslim	11.6	7.8	9.7	20.6	45.8	50.0
Protestant	7.4	6.7	7.0	7.7	12.5	22.5
Other	13.7	7.8	10.8	9.1	0.0	4.5

Source: Research results based on the household survey, 2006.

The results also show that 91.4% of women with credit were Agni women, whereas only 7.0% were in-country migrants and 1.6% foreigner. The relationship between credit and ethnicity is significant (Chi-Square = 35.71; $P < 0.01$). Native women (Agni women) were more likely to take credit than in-country migrants and foreign women. The difference in credit status may be linked to lack of savings or lack of information about loans and unwillingness to borrow money in the migrant and foreign groups. Although there were relatively many foreign women in the HIV/AIDS-affected group, the credit status of this group of women was not statistically different by ethnicity.

Education level and marital status of women in the study area are not significantly related to credit status in the non-affected group. Hence, these factors did not influence the decision of MFIs to provide loans for women in this group. In the HIV/AIDS-affected group, however, the percentage of illiterate women is significantly higher among those with credit than among those without credit (Chi-Square = 13.21; $P < 0.05$).

5.3.3 Credit status in the rural area

Sources of credit

The presence of MFIs in the Abengourou region is an opportunity for the rural population in general and rural women in particular to obtain financial services in order to carry out income-generating activities. The microfinance institutions are the most important sources of credit for rural women as this population does not have access to formal banks. In the study area, COOPEC and CMEC are the main microfinance institutions that have provided loans to women.

The proportions of female borrowers were respectively 45.5% (COOPEC) and 43.1% (CMEC) of the 185 women with MFI credit. Most of these women had taken credit for the first time. At COOPEC, for example, 65.3% of women had obtained credit for the first time whereas 24.2 and 10.5% had taken credit for the second and third time, respectively. At CMEC the respective figures were 46.7, 20, and 31.1%. These results show that many female borrowers were repeated users of MFI credit. The results also reflect the relatively easy procedure of obtaining MFIs loans as reported by female borrowers and, more importantly, it indicates loan repayment discipline. Indeed, access to credit is not only based on savings, but also on loan repayment. This means that in principle women can only apply for a second loan if the first loan has been entirely paid back. This is one of the reasons behind the decrease in the number of women having taken credit. However, the result from CMEC shows that 31.1% of female borrowers had obtained loans three times already. This may result from the fact that some women may have received credit even though they had not finished re-paying their previous loans. They may have used these loans to pay back the previous loan or to finance their activities. Such behaviour by MFIs may result in an increasing proportion of bad loans. There were 11.5% of women, especially HIV/AIDS-affected women, who got loans from the special Belgian Health Microfinance Project (PSB).

Apart from MFI credit, there are traditional sources of credit, comprising rotating savings and credit associations (ROSCA), moneylenders and relatives. Table 5.10 shows that no-one borrowed money from a bank, confirming that in rural areas especially, women do not have access to formal banks.

Table 5.10. Sources and amounts of credit taken.

Sources	N	%	Amount (FCFA)		
			Mean	Minimum	Maximum
COOPEC	95	45.4	370,421	50,000	2,000,000
CMEC	90	43.1	114,427	15,000	1,000,000
Bank	0	0.0	0.0	0.0	0.0
ROSCA	15	7.2	56,466	10,000	200,000
Money lender	1	0.5	50,000	50,000	50,000
Relatives	8	3.8	96,875	15,000	500,000
PSB	24	11.5	248,090	106,400	550,000

Source: Research results based on the household survey, 2006.

From Table 5.10, it is clear that female borrowers in the study sample had mainly obtained credit from COOPEC and CMEC, rather than from other sources. We continue by finding out about the conditions under which these women obtained access to MFI credit and how did they use it to make profits and improve their standard of living.

Conditions of access and rules of MFIs credit

Access to MFI credit in the urban and rural areas is governed by conditions and rules. MFI membership, savings and the types of activities to be financed are the main conditions of having access to MFI credit. These issues are described below.

Since they operate as savings and credit cooperatives, COOPEC and CMEC require membership as the first condition to obtain a loan. Anyone wanting to borrow money from these microfinance institutions has to be a member or shareholder. Membership is regulated by rules that the members must respect. For example, a member of COOPEC or CMEC must live or have an activity in the area where the MFI is located. He/she has the obligation to share the key objectives of the cooperative, to sign the membership contract and respect the membership rights. The rights of the member comprise the different services provided by the cooperative and the member's participation in decision-making relating to the functioning of the cooperative. Two types of members are distinguished: single persons (private persons) and legal persons (enterprises or group for example). In addition to the rights, members have duties which consist of his/her contribution to meet the objectives of the MFI, participate in the general assembly, and so on. Above all, members are required to have a savings account in the MFI. The latter condition is crucial to obtain credit.

Savings are a portion of disposable income not spent on consumption but accumulated or invested directly in capital equipment or indirectly through purchase of securities. In the rural context, savings can be defined as part of money saved in MFIs, ROSCAs, at home or elsewhere. Savings can also take the form of physical assets, such as crops, consumer goods, jewellery, and so on. Jewellery is considered family wealth in Agni society, and is kept secretly and handed over from one generation to another. Savings are an important factor in the financial market and may help access financial services, especially credit. Table 5.11 and 5.12 show a highly significant relationship between savings and credit, for both COOPEC and CMEC; in order to have MFI loans, one first needs savings. In particular, this statement is confirmed by COOPEC, where all female borrowers have savings. In addition, savings determine the amount of loan provided. For example, at COOPEC and CMEC a borrower can obtain up to three times the amount of the money saved. This is because in general, borrowers especially in rural areas have too few savings to invest in an income-generating activity. The higher Chi-Square value for COOPEC compared to CMEC indicates that the relationship between credit and savings is stronger in COOPEC than in CMEC. The results show that 20% of women with no savings in CMEC were able to obtain a loan. In both COOPEC and CMEC, savings are used as collateral. As such they guarantee the loan in case the borrower defaults. Accordingly the savings do not produce any interest for the shareholders. In the two MFIs, 80% of female borrowers used savings as collateral. In addition, land and consumer goods were also used as collateral.

When they have savings, women tend to deposit them in different places, either at formal institutions (bank, MFIs) or informally (generally at home). MFIs were the first institutions used for savings. Among the 185 female borrowers of COOPEC

Table 5.11. Relationship between credit and savings (COOPEC).

			Saving in COOPEC	
			No	Yes
Credit obtained at COOPEC	No	N	88	2
		%	100.0	2.1
	Yes	N	0	95
		%	0.0	97.9
Total		N	88	97
		%	100.0	100.0

Chi-Square = 177.16; $P<0.01$.
Source: Research results based on the household survey, 2006.

Table 5.12. Relationship between credit and savings (CMEC).

			Saving in CMEC	
			No	Yes
Credit obtained at CMEC	No	N	90	5
		%	79.6	6.9
	Yes	N	23	67
		%	20.4	93.1
Total		N	113	72
		%	100.0	100.0

Chi-Square = 93.05; $P<0.01$.
Source: Research results based on the household survey, 2006.

and CMEC all COOPEC borrowers had saved their money at COOPEC and 74.4% of CMEC borrowers saved it at CMEC. Those without savings in COOPEC were excluded from loan access. Additionally, 26.3% of COOPEC borrowers and 48.9% of CMEC borrowers kept part of their money at home. It is important to note that in the control group as well as in the treatment group, women are generally secretive about their saving status. During the interviews when women were asked whether they had savings or not, they did not give a clear answer. Some declared having savings but refused to name the amount. Some simply said that they did not know or did not have any savings. In such a context, the answers to questions about savings are likely to be less reliable. Thus, the savings of women without MFI credit were treated as missing data. Very few women kept their money in the bank (2.1%). It is important to indicate that 3.8% of female borrowers had simultaneously saved their money at COOPEC and CMEC. This may have given them more opportunities to obtain credit and to invest in more income-generating activities.

Among HIV/AIDS-affected women very few had savings. The results indicate that only two out of 24 HIV/AIDS-affected women who had received MFI credit had saved money at COOPEC; seven kept their money at home and one at the bank. This is because savings were not a key condition to obtain credit for these women. In the PSB project, women were not directly requested to have savings but they indirectly provided it. Indeed, the amount related to the transaction cost of loans and savings was deducted from the total amount of loans received by female borrowers. This procedure led to the reduction of the amount required by the borrowers and the diversion of the purpose for which the loans had been provided.

With regard to women's savings capacity, the average amount of women's savings varied within the credit institutions. It was about 137,115 FCFA at COOPEC with a minimum of 6,500 FCFA and a maximum of 1,050,000 FCFA. At CMEC the average amount of savings was 97,600 FCFA, ranging from 1,000 FCFA to 600,000 FCFA. These results indicate that women at CMEC had a weaker savings capacity than women at COOPEC. The amount of savings can make a difference to the amount of loan provided by these two MFIs as explained above. The average amount of money that women had saved at home was 75,015 FCFA. It is important to point out that women in general preferred to keep part of their money at home to be able to quickly respond to emergency needs. Keeping money at home also prevents other people from knowing about it. During the focus group discussions women explained that they did not want their husband or relatives to know that they had money, for fear that they would take and spend it.

Women in rural areas save money for many purposes (Table 5.13). For the majority of women (65.4%), the main reason to save money was to obtain credit in order to undertake income-generating activities. Furthermore, women saved money for household consumption (9.7%), and for other purposes such as paying school fees and building houses (4.3%). Another reason that emerged from the focus group discussion is the security offered by MFIs. Some women agree that keeping their money in COOPEC or CMEC is more secure than keeping it at home where the money can be stolen.

In addition to MFI membership and having savings as explained above, the type of activities carried out by the applicants for a loan is an important factor in the provision of loans, particularly in rural areas, where agriculture and trade are the key livelihood activities. Moreover, most of the rural population is involved in agricultural activities which are considered to be risky because of unpredictable natural factors.

Table 5.13. Amount and use of savings.

	COOPEC	CMEC
Average amount of saving (FCFA)	135,905	97,600
Purposes of savings (%)		
To have access to credit	78.1	65.3
Household consumption	3.1	20.8
Agricultural activities	9.4	20.8
Trade activities	74.0	34.7
Other	3.1	9.7

Source: Research results based on the household survey, 2006.

In many cases, the agricultural sector shows low productivity and low profitability. Therefore, there is a trade-off between financing agricultural activities and financing trade. To reach the sustainability objective, MFIs in general and those operating in rural areas in particular believe that providing loans for trade is less risky than lending to the agricultural sector, as it generates regular income and facilitates the repayment of loans.

The results of the cross tabulation between type of activity and access to credit in Table 5.14 and 5.15 indicates that the majority of women with access to credit were engaged in trade activities, while those without access to credit were exclusively involved in agricultural activities. For example, in COOPEC, 66.3% and 28.4% of female borrowers had obtained loans for trade and farm activities, respectively. By contrast, in CMEC 47.8% received loans for trade and 37.8% for agricultural activities. This shows that the two MFIs differ in the type of activities that are financed. COOPEC is more likely to provide loans for trade purposes than for agriculture. MFIs prefer to finance trade activities because trade seems to be more profitable than farm activities or because female borrowers engaged in farm activities had a poor record in loan repayment compared to female borrowers engaged in trade.

Table 5.14. Activities by health status and credit status.

Activities	No HIV/AIDS			HIV/AIDS	
	COOPEC	CMEC	No credit	PSB	No credit
Agriculture	28.4%	37.8%	85.6%	0.0%	0.0%
Trade	66.3%	47.8%	14.4%	100.0%	100.0%

Source: Research results based on the household survey, 2006.

Table 5.15. Engagement in trade by credit status.

Activities[1]	Credit status	
	Credit	No credit
No trade (%)	32.6	67.4
Trade (%)	69.7	30.3
Total	47.0	53.0

[1] Pearson Chi-Square = 51.57; $P<0.01$.
Source: Research results based on the household survey, 2006.

All HIV/AIDS-affected were engaged in trade activities as most of them lived in the city, where – obviously – farming is difficult.

Gender and credit status

The findings in the literature show that in general men have more access to credit than women, whereas women are considered the poorest and the neediest part of the population. It is also reported that women are the targeted population to obtain MFI credit (see Chapter 3). This section will present the situation in the study area in terms of the number of women served by MFIs, and the amount of loans being provided during the three years prior to the survey.

In the study area, the two MFIs differ in terms of loan distribution between men and women. From 2004 to 2006, COOPEC had provided more loans to women than to men, while at CMEC 153 men had borrowed money against 102 women. Despite the higher number of female borrowers in COOPEC, the total amount of loans they got was lower than the amount of loans provided for men. The average loan size was 2,012,500 FCFA for men and 1,025,000 FCFA for women. At CMEC, the mean difference in amount of loan between men and women was not significant. Most of the men obtained loans for agriculture. As we also know, in rural areas, men are more involved in cash crop production, especially coffee and cocoa production that requires much money, whereas women generally produce food crops. The difference between men and women in terms of their types of activities may explain the difference in loan size, in addition to differential access to land.

Women's views on the usefulness and functioning of MFI credit

The issue of how rural women perceive MFI credit was discussed in focus groups (see Chapter 4). Many factors explain why women do not obtain MFI credit. The first reason is lack of information about MFI services and products. For example, in FGD2, the focus group discussion with women who have never taken MFI credit, it emerged that the process of obtaining MFI credit is not well understood. During the discussion it transpired that MFI loans are perceived to be for wealthy households or wealthy women only. MFI services are also perceived as being linked to level of education. Some women believed it was necessary to be literate to get a loan. When asking a woman why she did not take MFI credit, she said: 'How can a poor and illiterate women like me think of getting credit? Credit is provided for those who can read and write'. Credit is not seen as a source of income generation by the women in the group. They believe that MFI credit is not helpful and is costly. Thus, when you borrow money and invest it, you may not be able to make a profit and pay back your loan. As reported by one lady, when you take credit from MFI, you just acquire a debt. This explains the fear of some women to demand credit and is an indication of their lack of trust in MFIs. This report confirmed the general

view that women are more likely to be risk-averse than men. The perceived lack of social capital both for group loans and individual loans is another factor that was revealed in the discussion. This is mainly to do with ethnicity. Women who have not borrowed money reported that they would not get credit because they are not Agni (the native ethnic group). They explained that native Agni women are more advantaged in borrowing money from MFIs. Concerning the group loan, it appeared that groups are more likely to be formed on the basis of ethnicity.

In the group of women with MFI credit (FGD1), the stories are different. Their views as borrowers focus more on the effectiveness of MFIs in enabling them to generate their livelihood and to make a profit from their loans. In terms of the type of credit, the borrowers expressed their preference for individual loans rather than group loans. The main reason for this is lack of discipline of group members or lack of support in case a member encounters problems in paying the instalments. Instead of supporting a member in difficulties, some group members just laughed at the worried woman. It was concluded that in the case of a group loan, there is often a lack of solidarity between the group members. The discussion also revealed a case of bad management of a group leader who did not deliver the total amount of loan provided to the members. This was a reason for one woman to quarrel with her group leader because of withholding part of the loan. In this FDG loan maturity was revealed as a constraint to take credit from MFIs as well. Women engaged in farming in particular argued that the duration of the loan is too short and does not take into account the specific nature of farming activities. Actual loan maturity does not fit the time period of their activities. One woman explained that she got a loan to grow peanuts, and after one month she was required to pay the first instalment on her loan, before she had even harvested.

5.3.4 Credit use in rural areas

The use of credit is a central question in the MFI industry, especially when looking at the effectiveness of the financial services. There is agreement that access to credit can help the poor to mitigate poverty. To achieve this, an important factor is the way borrowers use their credit. If the money borrowed is used for other purposes than the loan was intended for, the borrower may have difficulties making a profit or paying back the loan. As discussed above, MFIs provide different types of credit based on the investment plans of the borrowers. Thus, the use of credit by and large determines the type of financial services the MFIs provide to the borrowers.

The literature discussed in Chapter 3 shows that the use of credit especially by women, is subject to some constraints. When women obtained microfinance loans they may not have full control of their money (Sebstad and Chen, 1996). Accordingly, loans may be diverted and used for other purposes (Adams and Pischke, 1992; Scott, 2000; Simanowitz, 2004). This also occurs in the case of emergencies and unpredictable

events such as illness, death, and natural disaster. In the study area, loans were provided for two main purposes: investment in agriculture or in trade. However, we found that some borrowers used their loans for neither agriculture nor trade. As Table 5.16 shows, the proportion of borrowers who did not carry out any agricultural and trade activity with the money they borrowed was 9.5% and 24.4% at COOPEC and CMEC, respectively. They invested their money in building houses and human capital (school fees for children, health expenditures). Women also used their loans to strengthen their social capital (helping the husband to repay his debt or financially assisting a relative). At CMEC, the loan diversion rate was higher than at COOPEC. This has to do with the lack of monitoring of borrowers, another important concern in the functioning of MFIs. Women who do not invest their loans in productive activities are more likely to have difficulties with repayment. The non-repayment of MFI loans may endanger the functioning, the effectiveness and sustainability of the credit institutions. However, the results show that the majority of female borrowers have used their loans to produce agricultural goods or to carry out trade activities.

5.4 Conclusion

Table 5.16. Use of MFIs credit by women.

MFI	Loan not used for investment in trade or agriculture		Loan used for trade or agricultural activities		Total	
	N	%	N	%	N	%
COOPEC	9	9.5	86	90.5	95	100.0
CMEC	22	24.4	68	75.6	90	100.0
Total	31	16.8	154	83.2	185	100.0

Source: Research results based on the household survey, 2006.

Chapter 5 has presented descriptive statistics of rural households and women in the Abengourou region in general and the study area in particular. It turned out that most women respondents were literate, adult married women, and 22.9% were household heads. Access to land and the type of agricultural activities farmers carried out were gender-biased. Women have less access to land than men and are more engaged in food crop than cash crop production. Women are also involved in trade activities as a response to the land constraint and because MFIs prefer to finance trade activities. The chapter gave insight into access to credit by women to support their livelihood activities. COOPEC and CMEC are the main microfinance institutions that provide loans for women, savings and the type of activities carried

out are the most important conditions for gaining access to MFI credit. In general, women who have obtained loans are those who have saved money in the credit institutions, confirming hypothesis1a which assumed that women with MFI credit have more savings than women without MFI credit. Although some women have obtained loan from COOPEC and CMEC, women's access to MFI credit is still limited. Institutional factors such as lack of savings, and a lack of information prevent women from taking credit. In addition, the focus group discussion with non-borrowers revealed women's negative perception of credit which makes them averse to taking credit. MFIs generally provide loans for investment in income-generating activities. However, the results above indicate that in some cases, MFI female borrowers did not invest their loans in these activities. This behaviour among borrowers may have negative effects on the efficacy of microfinance institutions.

Chapter 6
Women empowerment and microfinance credit participation effects in rural areas

Chapter six aims to present the situation in Côte d'Ivoire principally in the eastern region of the country. The chapter starts with an analysis of women's position within households with respect to the power they have in household decision-making. Among borrowers' characteristics, women's empowerment is a critical factor which can play an important role in generating and making profit from their investment. It may also give them better opportunities to get financial support from MFIs which in turn may reinforce their power through, for example, the increase in their income.

While microfinance institutions are recognised as a means to financially support individual or household livelihood activities especially in rural areas, it should be noted that not all people have access to credit or take credit. In the study area, some women have received credit from COOPEC and CMEC while many others were without credit. The factors which explain this statement are analysed in the second section. Section 6.3 presents the profitability of the investment with MFI credit by women, using the return on investment method. To capture the conditional return on investment (ROI) from credit taking, an analysis of the determinants of the return on investment is carried out. Section 6.4, deals with the effects of MFI credit on women's activities with respect to the following variables: the income women generated from their activities; the assets of women and of households; farm productivity; social capital and human capital. This analysis is done by comparing the group of women who obtained MFI credit (treated group) with those without MFI credit (the control group) after controlling for selection bias. Furthermore, the section analyses whether taking MFI credit helped to empower women.

6.1 Women empowerment and MFI credit

Studies have shown that within households, power-based conflicts between men and women may arise with respect to the allocation of resources and decision-making (see Chapter 3). Therefore, the analysis of gender relations is useful in this study as it provides an understanding of the role of women and their capability to generate their livelihood and make profitable use of MFI credit. Studies have recognised that men and women have different needs and preferences. In order to satisfy their needs, men and women make decisions taking into account livelihood activities and household resource allocation. Studies have found that the process of decision-making may lead either to cooperation or conflict between household members because of the different preferences (Sen, 1990; Becker, 1973; Chen and Woolley, 2001, Manser and Brown, 1980; McElroy and Horney, 1981). According to

these authors, a household member's power is influenced by the fallback position represented by the threat point, which depends on factors such as income, age and level of education.

Within a household, woman's decision-making power to manage her livelihood is associated with her being able to choose the type of activity she wants to carry out, to freely decide whether to borrow money or not and, in particular, to have control over the money she borrows. For MFIs, such women are more reliable in terms of using the money for investment purposes without any interference from a husband or relatives. On the one hand, empowered women can therefore make more profit from MFI credit and contribute to the sustainability of the credit institution. On the other hand, women's income can be increased by MFIs through supporting their livelihood activities and thereby reinforcing their fallback position, thus enhancing their say in household decision-making.

The degree of influence in household decision-making in this study was measured by ten survey items. For each item, the information was collected on the basis of women's subjective response referring to both the situation before credit-taking and the situation after credit-taking. Specifically, data on empowerment before taking credit was collated by asking retrospective questions (see the questionnaire for details). To reduce the number of items, factor analysis was used taking into account the two situations (before and after women obtained MFI credit). Two factors were found, explaining 43% and 21% of the item variance respectively. In the same order, these percentages were 44 and 21 in the situation after MFI credit. The items that were highly loaded on the first factor concerned women's participation in decision-making in terms of the use of household consumption goods and household income, household expenditure on equipment, schooling of children, and the participation of women in community ceremonies (shaded in Table 6.1).

This factor was interpreted as a practical gender needs factor. The second factor encompassed women's decision-making in terms of borrowing money, trading goods, and the use of women's income and credit (shaded in Table 6.1). This factor was associated with women's own business activities reflecting women's strategic gender needs (see Chapter 3 for a discussion on these concepts). These two factors representing women's decision-making power are used in the next section to examine how it can influence the women's access to MFI credit and the outcomes of obtaining credit in rural areas (Table 6.2). Doing so will highlight the importance of these factors for women within their household.

Table 6.1. Factor loadings from principal component analysis on women's decision-making power before taking MFI credit.

	Factor 1 (practical gender needs)	Factor 2 (strategic gender needs)
Who makes decisions to borrow money	0.092	0.760
Who makes decisions about the trade of goods	0.082	0.778
Who makes decisions to use household consumption goods	0.803	0.132
Who makes decisions to use woman's income	0.168	0.792
Who makes decisions to use household income	0.808	0.120
Who makes decisions for schooling of boys	0.860	0.054
Who makes decisions for schooling of girls	0.848	0.055
Who makes decisions about household equipment expenses	0.771	0.185
Who makes decisions for woman's participation in community ceremonies	0.721	0.159

KMO: 0.80; explained variance: 64.70%. KMO (Kaiser-Meyer-Olkin) measures the sampling adequacy which should be greater than 0.6 for a satisfactory factor analysis to proceed. With KMO=0.80, we can say that factor analysis in this study was appropriate.
Rotation method: Varimax with Kaiser Normalisation. The Varimax rotation method assumes the independence between the factors. However, we first conducted factor analysis with oblimin rotation to check whether factors were related. We found a correlation coefficient r=0.387 which seemed a bit high. However, in order to proceed with uncorrelated factors in subsequent analyses we used the uncorrelated factor solution (Varimax).

6.2 Demand for credit in rural areas

This section deals with the factors that can affect women's demand for credit. Among these exogenous variables, special attention is given to women's decision-making power.

Most empirical studies on the demand for financial services in developing countries have mainly focused on credit, especially in rural areas, rather than savings and other financial services. This is because many poor people live in rural areas and need loans for income generation or for consumption smoothing (Zeller, 2001). These studies have investigated the factors affecting the demand for credit for both the formal and the informal financial sector. Studies have explained the low rate of credit demand by the interest rate. It is assumed that borrowers make their decision to borrow money on the basis of the interest rate. However, as explained by Nguyen

Table 6.2. Factor loadings from principal component analysis on women's decision-making power, after taking MFI credit.

	Factor 1 (practical gender needs)	Factor 2 (strategic gender needs)
Who makes decisions to borrow money	-0.049	0.696
Who makes decisions about the trade of goods	0.037	0.721
Who makes decisions to use household consumption goods	0.860	0.139
Who makes decisions to use woman's income	0.291	0.564
Who makes decisions to use household income	0.839	0.101
Who makes decisions for schooling of boys	0.888	0.165
Who makes decisions for schooling of girls	0.898	0.115
Who makes decisions about household equipment expenses	0.864	0.049
Who makes decisions for woman's participation in community ceremonies	0.723	0.131
Who makes decisions about the use of woman's credit	0.837	0.226

KMO: 0.82; explained variance: 65.61%.
Rotation Method: Varimax with Kaiser Normalisation.

et al. (2002), focusing on interest rate alone is not sufficient to explain borrowers' choices for financial intermediaries. Credit rationing through high rates of interest is not the only factor affecting the demand for credit. Borrowers' demand for credit is influenced by a number of other determinants. These factors are categorised into household or individual characteristics and features of financial institutions. Household or individual characteristics include age, sex, education, marital status, number of household members, assets, primary economic activity of the household head, and gender in particular women's decision-making power. For example, studies found that informal credit demand is positively associated with age and education, and negatively linked to a bad credit history and the number of dependent household members (Barslund and Tarp, 2008). External shocks experienced by the household can also affect the demand for a loan (Zeller, 1994; Zeller and Sharma, 2002; Nguyen *et al.*, 2002). The attributes of financial institutions that may affect an individual's decision to borrow money are, in addition to the interest rate, compulsory savings, creditworthiness and other terms of credit (Mpuga, 2008). Also, the proximity of the credit institution has a significant effect on the demand for credit (Barslund and Tarp, 2008).

6.2.1 The determinants of demand for credit

This section presents the relevant variables that affect the demand for credit by women in rural areas. The variables used in empirical models are categorised into individual and household characteristics on the one hand and institutional characteristics on the other. Individual and household characteristics include age, marital status, education level, female household headship, women's decision-making power within the household, the level of household wealth, household size and ethnicity. On the institutional side, the factors that may affect an individual's decision to borrow money include the interest rate, the requirement for collateral, savings and other conditions of the provision of loan such as the credit history of the borrowers.

Individual and household characteristics

The analysis of the variables in this section is done by considering the demand side. It looks at how individual and household characteristics can affect the borrowers' decision to take credit.

The average age of women

Age is assumed to be positively related to the demand for credit (Mpuga, 2008; Chen and Chivakul, 2008). However, following the life-cycle hypothesis, young adult individuals are likely to show a high demand for credit because they expect a higher income and a higher utility of consumption in the future. Furthermore, there is a certain age threshold beyond which the demand for credit will stop and starts declining. The elderly in particular may be less inclined to borrow. On the supply side, the MFIs may be less inclined to lend money to older women for fear of them being unable to pay back the loans. In Côte d'Ivoire, as in many other African countries, the average life expectancy is about 50 years. For MFIs, this means that providing loans to old people is risky. The decision about the amount of the loan should in particular take into account this factor. In short, the relationship between the probability of borrowing and age is expected to have an inverted U-shape (Chen and Chivakul, 2008). To take into account the nonlinear relationship between age and the probability of demand for credit, linear and quadratic terms of age (age and age square respectively) are used.

Household size

Household size can either positively or negatively affect the demand for credit. We expect household size to negatively affect taking MFI credit. Large household size increases consumption, and reduces savings and collateral. Thus the probability of large households obtaining MFI credit may decline, and loans are more likely to be

used for consumption purposes. So, women in large households are less likely to obtain MFI loans than women with small households. On the other hand, a large household may positively affect income because of the potential familial labour availability, which is an important factor of production. The use of family labour may result in lower production costs and higher net income.

Education

Education level can positively affect a loan demand. Illiterate or less educated individuals are more unlikely to apply for a loan as they find it difficult to deal with the application process. Educated people are more likely to earn higher incomes and generate savings with which they can increase their assets that can act as collateral. With their skills, educated people are more likely to diversify their business activities. To support these investments, educated people are seen as more inclined to borrow money than less educated people.

Marital status of women

Married women are expected to have a positive probability of getting MFI credit because as married women, they are more stable and financial institutions are more confident about them and see them as more reliable in repaying the loan.

Gender of household head

Women who are household heads are more likely to borrow money because of their responsibility vis-à-vis their household members. Female household heads may have more power within the household which enables them to better invest their loan without any constraint. This makes MFIs view them as more reliable and creditworthy.

Decision-making power of women within household

This refers to the variable which can determine the individual participation in credit. Within a household, a woman's decision-making power to manage her livelihood is associated with her being able to choose the type of activity she wants to carry out, to freely decide whether to borrow money or not and, in particular, to have control over the money she borrowed. For MFIs, such women are more reliable in terms of using the money for investment purposes without any interference from a husband or relatives. Thus, we expect women with more decision-making power to be more likely to obtain MFI loans and to make more profit from MFI credit. Women's decision-making power was assessed by applying factor analysis. The resulting two factors are practical gender needs and strategic gender needs used as

explanatory variables in the PSM model in Section 6.4. The power variables used are the ones before getting MFI credit.

Type of activity

In most African societies, women are more engaged in food crop production, men more in cash crop production. Because of lack of access to land, women are increasingly engaged in other economic activities, notably trade, to generate their income. The type of activity may determine the amount of loan which can be borrowed. Hence we assume that the type of activity affects the demand for credit, and that women who are engaged in trade activity are more likely to demand credit than non-trading women.

Wealth

At the levels of the household and the individual, wealth is a significant factor in decision-making about borrowing money. It represents an indicator of a household's current and future endowments and is often equated with household welfare. The sign of wealth in relation to the demand for credit is expected to be positive, because wealthy households may increase their demand for loans to invest it in more activities in order to increase their income and safeguard their wealth. With a high income, households can save more money and acquire more assets that can be used as collateral. Niehof (2004) refers to this as diversification for good reasons. For consumption purposes, there may be a negative relationship between wealth and the probability of borrowing, as with higher resources an individual or household can afford more consumption. In rural areas, poor people have an aversion to taking credit because they fear not being able to pay it back since they have limited income to save and few assets. Accordingly, the probability of demanding a loan is lower. Moreover, people in general are inclined to report neither their income nor their wealth. Even if they agree to report it, they will probably underestimate their real income. In this study we use assets as a proxy for wealth. The assets are represented by the ownership of physical and financial capital. The physical assets include livestock, consumer durables, and dwelling characteristics such as use of electricity in the house, and use of clean water. We expected a higher value of assets to be positively related to the probability of obtaining credit.

Ethnicity

Ethnicity refers to the factor which may influence the demand for MFI credit, particularly in rural areas. Ethnicity favours the creation of a social network which facilitates the demand for credit. Foreign people are less likely to obtain credit because they are expected to move at any time, as most of them are seasonal workers and microfinance institutions trust them less than the native Agni. In this study, we

expect ethnicity to be positively related to the probability of obtaining MFI credit for the natives and negatively for foreigners.

Institutional characteristics

Costs of credit

The demand for credit is likely to be negatively associated with the interest rate charged on loans. Holding other factors constant, when the interest rate increases the demand for credit should theoretically decrease. Some other factors linked to the cost of credit include the commitment fee, insurance costs, and client administration costs. In this study, the interest rate was excluded from the selection equation because the interest rate for non-borrowers had they decided to borrow, was unknown. During the study period, different interest rates were applied, depending on the credit institution and the type of loan. Another factor which may affect the demand for credit is trust. During the focus group discussion with the group of female non-borrowers, the lack of trust was revealed as a factor which may negatively affect the demand for credit. Some women did not take credit because they did not trust the credit institution and the other women (i.e. foreign women) in case of a group loan. Although this variable may affect the demand for credit, it was not used in this model.

Credit institution

The difference in the amount of loan received by women may be explained not only by the amount of savings, but also by the credit institution. As COOPEC has more financial resources than CMEC, we expect COOPEC to provide more credit. In addition, we assume that women with more savings will obtain more credit.

Credit history

Access to MFI credit can be influenced by the credit history of the borrowers. On the one hand, if a borrower has a reputation for paying back his/her previous loan (good credit history), he/she is more likely to obtain a new loan and even a higher loan depending on saving capability. On the other hand, if she defaults (bad credit history) it will be difficult for that client to get a new loan. So the probability of a woman getting MFI loan can be associated with her credit history. Although this variable is an important exogenous factor to explain the probability of obtaining credit, we did not use it in our study. This is because credit history is perfectly correlated with credit. Women without credit have never taken credit from MFI.

The data used in the estimation of the determinants of the demand for credit are summarised in Table 6.3.

Table 6.3. Summary of explanatory variables in the demand for credit.

Variable	Definition
Age (squared)	Age (squared) of the female respondent
Women household head (HH)	Dummy variable, takes the value 1 if the woman is the head of the household, 0 otherwise
Natural log of household size (HS)	Number of people living in the household
Marital status (MS)	Dummy variables. Single woman is used as reference for marriage, divorce and widowhood dummy variables.
Education level	Dummy variable. Illiterate is the reference for primary.
Natural log of the amount of savings	Total amount of women' savings in the MFIs in FCFA.
Natural log of the amount of credit (AC)	Amount of credit received by each borrower in FCFA
Natural log of wealth (Asset)	The value of physical and financial household assets in FCFA
Decision-making power (DM)	A woman's strategic and practical gender needs as presented in Tables 6.1 and 6.2
Activity (AC)	Dummy variable, 1 if women carried out trade activity, 0 otherwise
Ethnicity (ET)	Dummy variable. Agni is reference to in-country-migrants and foreign population is a dummy variable.
Credit institutions	Dummy variable. 1 if COOPEC, and 0 otherwise

Source: Research results based on the household survey, 2006.

6.2.2 The demand for credit model

Modelling individual or household demand for credit leads to a two-stage decision process: the first step is the probability of obtaining credit by a given individual or household and the second step is related to the amount of the loan obtained. The presence of MFIs alone in rural areas is not enough for every individual to apply for credit. As indicated above, many socio-economic factors can affect the decision by an individual to apply for credit, the amount applied for, and the amount of credit obtained. In the context of this study, we assume that women's characteristics can influence their demand for credit. To examine these factors, we estimated a probit model for the decision to borrow money from microfinance institutions (COOPEC/CMEC).

The amount of credit is an essential variable in the process of loan provision. As indicated in the previous chapter, access to credit and the amount provided is a real

constraint especially in rural areas. The amount of credit can determine a woman's livelihood activities and the profit she can earn from her activity. The analysis of the factors associated with the provision and the amount of the loan is worthwhile and necessary. Evaluating these determinants will provide some knowledge on the effectiveness of MFIs operating in rural areas.

Studies show that the estimation of the loan size is conditional on obtaining a loan. Credit approval/refusal from COOPEC or CMEC is mainly based on having/not having savings. This means that for women who did not apply for credit, or those who have been refused a loan because they lack savings for example, the amount of credit will be zero. In such a situation, the use of OLS regression on the demand for credit either for women who have obtained MFI credit only or for all women (with and without MFI credit) leads to possible sample selection bias with inconsistent estimates. To solve this problem, Heckman (1979) has shown that selection bias is equivalent to missing variables bias and can be overcome by including in the credit demand equation (outcome equation), a sample selection term called the inverse Mills ratio. This ratio is constructed from an equation modelling the probability of having or not having savings (the probit model or selection model).

In this study, the Heckman two-step estimation procedure, separating the selection model (which applies to credit taking) from the equation of demand for credit (how much credit the borrowers obtained from financial institutions), is used to estimate the determinants of taking credit.

To do so, we start by specifying the general equation of the demand for credit

$$C_i = \beta X_i^{'} + \varepsilon_i \qquad (6.1)$$

Where C is the log of the amount of loan provided for woman *i* which is only observed for women who had access to MFI credit; X is a vector of explanatory variables including women's characteristics such as age and age squared, dummy of women's decision-making power, dummy for trade activity and the size of household. β is a set of coefficients to be estimated (including a constant term) and ε the error term with an expected value of zero.

The two-step Heckman model

As has been indicated above, the dependent variable (amount of credit borrowed) is observed according to a selection process. The selection equation of the demand for credit is the following:

$$CD_i^{*} = \alpha W_i^{'} + u_i \qquad (6.2)$$

Where, CD_i^* is a latent variable that describes whether a woman has credit or not. W_i' is a vector of exogenous characteristics of women. The amount of credit is not observed for women who do not apply for loan. Since CD_i^* is unobserved, we use an indicator variable CD_i which takes the following value:

$CD_i = 1$ if $CD_i^* > 0$,

$CD_i = 0$, otherwise

CD_i is the dependent variable of the following selection equation:

$$\Pr(CD_i^* > 0 | W_i') = \Pr(CD_i = 1 | W_i') = \Phi(\alpha W_i') \quad (6.3)$$

CD_i is a dummy variable taking the value 1 if the woman took credit and 0 otherwise. Φ denotes the cumulative standard normal distribution function; u_i is the error term assumed to be normally distributed with zero mean and constant variance equal to 1; α is the coefficient to be estimated. The set of explanatory variables included in X (equation of demand for credit) is also included in W. These explanatory variables are expected to influence women's decisions to obtain MFI credit but do not influence the demand for credit.

Outcome equation

The conditional expected demand for credit, given that a woman has obtained credit is given by:

$$E(C_i | X_i', CD_i^* > 0) = \beta X_i + E(\varepsilon_i | u_i' > -\alpha W_i) \quad (6.4)$$

Given (ε_i, u_i) has a normal distribution,

$$E(\varepsilon_i | u_i > -\alpha W_i' = \frac{\sigma_{\varepsilon u}}{\sigma_u} \lambda_i)$$

Where $\lambda_i = \frac{\phi(H_i)}{1 - \varphi(H_i)}$ and $H_i = \frac{\alpha W_i'}{\sigma_u}$

λ_i is the inverse Mill's ratio and is also referred to as Heckman's lambda. Lambda is a monotonously decreasing function of the probability $1-\varphi(H_i)$ that an adult woman with characteristics W_i' is selected into the observed sample of women who have obtained credit. H_i is the negative of the predicted value from the selection equation; ϕ and φ are respectively the density and the distribution function of a standard normal variable, $\sigma_{\varepsilon u}$ is the covariance between the errors in the selection and the outcome equations; σ_u is the standard deviation of the errors in the selection equation. Lambda is included in the outcome equation (Equation 6.1) as follows:

$$C_i = \beta X_i^{'} + \beta_\lambda \lambda_i + \upsilon_i, \quad (6.5)$$

with the assumption that the expected value of υ_i equals zero. If β_λ equals zero, it means that there is no sample selection bias. In this case, the OLS estimates of the coefficients of the explanatory variables of the amount of credit are unbiased. If β_λ is positive, then there is at least one unobserved variable that increases the probability of selection into obtaining credit and the amount of loan provided. Finally, if β_λ is negative, there are one or more unobserved variables (women's characteristics or the attributes of MFIs) that decrease the probability of selection into obtaining credit, and the amount of credit provided.

To summarise the two-step estimation procedure of Heckman, in the first step, for each observation, the probit equation (for obtaining or not obtaining credit) is estimated to get estimates of the coefficients in the selection equation and from this result we compute the inverse Mill's ratio. In the second step, this ratio is added to the equation of the amount of loan to produce the estimates of the coefficients β and β_λ. In the Heckman approach, the variables are selected such that some variables that influence the probability of credit demand by women, do not affect the amount of loan provided for them and vice versa. For example, women who have more power in decision-making within the household are more likely to take credit, but this should not influence the amount of credit. The latter may depend on other factors such as the amount of savings or the financial resources of the MFI.

6.2.3 Results

The results in Table 6.4 show a negative and non-significant value of lambda (the inverse Mill's ratio) indicating no selection bias in the process of loan provision. The results suggest that specific women's characteristics or the attributes of MFIs affect the probability of the demand for MFI loans. In general, we found that variables that are significant in the selection equation are not significant in the outcome equation except for the dummy for credit institution. The relationships between dependent and independent variables are in concordance with what we expected in the Heckman two-step model.

In the selection equation, we found that power in decision-making in terms of strategic gender needs (SGN), dummy for married women, trade and wealth are variables that affect the probability of obtaining MFI credit but these variables do not significantly explain the amount of loan provided by MFIs. With a positive sign of the coefficient for decision-making power in strategic gender needs, and its p-value smaller than 0.05, we can say that women's decision-making power related to SGN significantly increases the probability of them obtaining MFI credit. Indeed, women who have more power in decision-making within the household are seen as those who can control and invest the money they borrow in more profitable activities.

Table 6.4. Determinants of the demand for MFI credit using Heckman's two-step model: Dependent variable: Natural log amount of loan.

	Outcome equation		Selection equation	
	Coefficient	Std.d	Coefficient	Std.d
Age	-0.020	-0.021	0.044	0.042
Age squared	0.0002	0.0002	-0.0002	0.0005
MFI COOPEC[a] (dummy)	0.497***	0.117	0.402**	0.167
Female household head[b] (dummy)	-0.175	0.120	0.295	0.224
Natural log household size	0.050	0.091	-0.207	0.166
Decision-making power (SGN)	-0.030	0.042	0.246**	0.103
Decision-making power (PGN)	0.008	0.057	-0.052	0.114
Trade[c] (dummy)	0.084	0.241	1.340***	0.183
Natural log of savings	0.594***	0.039	-	-
Married woman[d] (dummy)	-0.075	0.133	0.466*	0.244
Widowed woman[e] (dummy)	0.006	0.145	0.422	0.323
Natural log of assets (proxy of wealth)	-0.103	0.038	0.136**	0.066
Agni ethnicity[f] (dummy)	-0.315	0.273	1.359***	0.236
Primary education[g] (dummy)	0.121	0.090	-0.213	0.167
Constant	7.453***	1.183	-4.928***	1.323
Lambda (λ)	-0.155	0.321		
Wald chi^2	618.47			
Prob > chi^2	0.000			

Number of observations = 386; Censored observations = 209; Uncensored observations =177; * $P<0.10$; ** $P<0.05$; *** $P<0.01$.
Reference category: [a] = CMEC; [b] = other; [c] = farm activity; [d,e] = single; [f] = foreign; [g] = illiterate.
SGN=Strategic Gender Needs; PGN= Practical Gender Needs.
Source: Research results based on the household survey, 2006.

However women's decision-making power with respect to practical gender needs (PGN) does not significantly affect their likelihood to obtain MFI credit. Because married women are considered more stable, they are more likely to get credit than divorced women. The relationship between being married and the probability of taking credit is only significant at the 10% level. In the same line, wealth positively influences the probability of taking credit by women ($P< 0.05$). This significant relationship between the two variables can be explained by the fact that although they are relatively rich, wealthy individuals still need money to invest as their incomes increase. Trade activity is positively associated with the likelihood of obtaining MFI

credit, meaning that the amount of credit increases with trade activities rather than agricultural activities. Women who are engaged in trade are more likely to obtain MFI loans. This result confirms the involvement of many women in trade activities in rural areas. Undertaking trade activity is useful in rural areas where farm income is uncertain and women face land constraints. Trade income can smooth family consumption, especially during lean periods.

Furthermore, ethnicity increases the probability of taking credit, i.e. native women are more likely to apply for a loan than foreign women. Foreign women are seen as an unstable population that the MFIs cannot rely on. Because of this lack of trust foreign women are less likely to obtain a loan.

The findings in Table 6.4 show that some variables such as age, household size and the level of education neither significantly affect the probability of obtaining MFI credit nor the amount of loan. However, the signs of these variables are as expected.

Family size is negatively correlated with the probability that a woman obtains credit. That means women who belong to a large household are less inclined to apply for a loan for fear of misusing the money they borrow. This may happen because of unpredictable events that may be more frequent in households with many individuals. In rural areas, as household members can be a potential labour force for the livelihood activities of the household (agriculture in general), especially when the majority of members are adults, women may not need credit if they can use this family labour at no cost. Moreover, age is positively related to the probability of taking credit.

The results also indicate a positive relationship between savings and the amount of the loan ($P < 0.01$). It means the amount of credit received by women is linked to the amount of savings they have. This implies that women who were able to save more money are those who can expect more credit from the MFI. In addition, the results indicate a relationship between the credit institution and the amount of loan provided. For example, COOPEC is more likely to lend a lot of money than CMEC. This result is not surprising as COOPEC is the financially most important MFI in the country.

6.3 Profitability of borrowing from MFIs in rural areas

The objective of this section is to analyse whether taking and investing MFI credit in women's livelihood activities leads to the creation of the capital stock[7]. Do women make a profit from the money they borrow? To answer this question, we first evaluated the return on investment of the main activities carried out by women i.e. trade and farm activities. The second sub-section deals with the factors that may explain the return on investment in order to improve the profit. Profitability can also be analysed on the capacity of women to pay back their loan with the income earned from the investment. Therefore, the third sub-section analysed to what extent and how women borrowers were able to repay their MFI credit.

6.3.1 Return on investment (ROI)

The analysis above has shown the factors that have an influence on the demand for credit. One of the objectives of the provision of loans by MFIs in rural areas is to enable the active rural population to invest in income-generating activities and to make profit from these investments. Therefore, an analysis of the value of the return on investment achieved by female borrowers is worthwhile. It is worth investigating to what extent women are able to make a profit from the money they borrow and invest. The question to be addressed is: do women who borrowed money from MFIs obtain a positive return on investment from trade and/or farm activities?

The return on investment is an indicator of whether an investment is profitable or not. Considering financial markets, it gives an indication of whether one should borrow money for investment purposes, given the interest rate and the other expenditures linked to loan provision, and be able to make a profit.

By definition ROI, also called Simple Rate of Return (SRR), is a performance measure used to evaluate the efficiency of an investment or to compare the efficiency of a number of different investments. ROI measures the profit an individual makes on an investment expressed as a percentage of the amount invested. In this study, the ROI is calculated as the ratio of the resulting net income or profit earned from the investment in trade or farm activities to the amount of the costs of investment. There are several ways to compute the ROI; we used the method described by Barry *et al.*, (2000) expressed as follows:

[7] In this study, the amount of money borrowed by female borrowers is expected to result in a creation of the capital stock and most female borrowers used MFI credit to start a new activity. Very few utilized their loans to extend their existing activities. For the latter, MFI credit would allow for an increase in capital stock. But because of the limited number of women in this case, we considered access to credit as a means to produce capital stock.

$$ROI_{ij} = (\sum_{j} P_{ij}) / I_i \quad (6.6)$$

$$P_i = \sum_{j} (Y_{ij} - C_{ij}) \quad (6.7)$$

Where

P_{ij} is the average profit achieved by woman i from investment in activity j; $j=1$ if trade and $j=2$ if farm. For those who invested both in trade and farming (four cases), the return on investment was calculated separately.

I_i is the initial investment (the amount of MFI credit women received and used for investment.

Y_{ij} is the income earned by women i from activity j.

C_{ij} is the total cost of investment by women i in activity j. It includes all external costs of inputs (raw materials, hired labour, seeds and other expenditures related to the activity) and the interest paid on the loan and other transaction costs.

Table 6.5 and 6.6 give an overview of the results. When considering the total sample of female borrowers of COOPEC and CMEC, the investments in farm and trade yielded positive ROIs equal to 117% and 208% on an annual basis, respectively (see Table 6.5). This means that borrowing from an MFI is a good business opportunity for women resulting in financial profit and an increase in their cash flow. When comparing the two activities by using a t-test, we found that the return on investment in trade was significantly greater than the return on investment in agricultural activities, meaning that female trader borrowers are likely to make more profit than farmers. Consequently, we can conclude that it is profitable for women in the study area to borrow money and invest it in farm and/or trade activities, and that, women on average make more profit in trade than in farming. The same results were found for COOPEC and CMEC borrowers separately, meaning that the ROI in trade is higher than the ROI in farming. Comparing the credit institutions, the results in Table 6.6 suggest that there was no significant difference in the percentage of ROI in farming between COOPEC and CMEC. But for trade, ROI was higher for CMEC than for COOPEC. The difference in ROI in trade between CMEC and COOPEC may be explained by the lower interest rate applied by CMEC compared to COOPEC. If

Table 6.5. Return on investment of farming and trade.

	N	Mean	Std.d	t-value
ROI of farming	45	1.17	0.63	8.38***
ROI of trade	96	2.08	0.53	

*** $P<0.01$.

Source: Research results based on the household survey, 2006.

Table 6.6. Return on investment of farming and trade by microfinance institution.

	COOPEC		CMEC		t-value
	N	Mean (std.d)	N	Mean (std.d)	
ROI of farming	19	0.99 (0.27)	27	1.16 (0.35)	1.23
ROI of trade	59	1.89 (0.47)	38	2.44 (0.50)	5.40***

*** $P<0.01$.

Source: Research results based on the household survey, 2006.

this were true, one would expect the same ROI from farm activities. This means that some other factors may explain the value of the return on investment as will be discussed in the next section.

The findings above are consistent with the preference of MFIs to provide loans for trade rather than farming. Trade activities yield not only positive ROIs but also bring regular money that may enable female borrowers to pay back their loans. Female traders have the opportunity to repeat their investments and make profit repeatedly within the year so that in the end, the additional profit gives them more money. This is not the case for female farmers whose investments are in general annual and cannot be repeated within the year. Therefore, the diversification of the sources of income seems to be one of the responses to meet the needs of women, especially in rural areas.

6.3.2 Analysis of the factors affecting the return on investment

This section examines the determinants and the extent to which these factors influence the return on investment (ROI). To do so, Heckman's two-step model was applied. The use of this method is explained by the fact that the return on investment with MFI credit is only observed for women who have borrowed money and invest it either in trade or agricultural activities. Those without credit will have zero ROI with MFI credit. The explanatory variables used in this model, are almost the same variables used in the model of the demand for credit for the outcome equation and the same for the selection equation. We added the logarithm of amount of loan to the outcome equation to capture the relationship between loan and the return on investment. The ROI calculated here is the ROI of trade and farm. Therefore, for those who simultaneously carried out the two activities, ROI was calculated as the weighted average ROI in trade and farm. Here the dependent variable of interest is the natural logarithm of the return on investment of trade and/or agricultural activities.

The coefficient of lambda in Table 6.7 is not significant, meaning that unobserved factors that make participation in MFI credit more likely do not significantly influence the return on investment. From the estimated outcome equation, the amount of loan is found to be positively related to the return on investment. It is the only variable that is significant in the outcome equation. In particular, the return on investment increases with the amount of credit obtained. Since the coefficient

Table 6.7. Determinants of the return on investment using Heckman's two-step model. Dependent variable: Natural log of return on investment (trade and farm activities combined).

Variables	Outcome equation		Selection equation	
	Coefficients	Std.d	Coefficients	Std.d
Natural log amount of loan received by women	1.011***	0.072		
Age	-0.022	0.021	0.062	0.046
Age squared	0.0002	0.0002	0.0005	0.0005
MFI COOPEC[a] (dummy)	0.035	1.105	0.357**	0.180
Female household head[b]	0.016	0.105	0.084	0.252
Natural log household size	0.011	0.082	-0.083	0.181
Decision-making power (SGN)	-0.017	0.040	0.248**	0.102
Decision-making power (PGN)	0.076	0.052	0.012	0.127
Trade[c] (dummy)	0.701	0.407	1.935***	0.197
Natural log of savings	-0.064	0.061		
Married women[d] (dummy)	-0.159	0.283	0.527**	0.263
Widowed[e] (dummy)	-0.117	0.151	0.432	0.320
Natural log assets (proxy of wealth)	0.043	0.033	0.066	0.069
Ethnicity: Agni[f] (dummy)	-0.104	0.263	1.354***	0.272
Primary education[g] (dummy)	0.070	0.076	0.033	0.181
Constant	1.277	1.448	-5.280***	1.412
Lambda (λ)	-0.332	0.349		
Wald chi	1102.42			
Prob > chi	0.000			

Number of observations = 386; Censored observations = 254; Uncensored observations = 140.
* $P<0.10$; ** $P<0.05$; *** $P<0.01$.
Reference category: [a] = CMEC; [b] = other; [c] = farm activity; [d,e] = single; [f] = foreign; [g] = illiterate.
SGN=Strategic Gender Needs; PGN= Practical Gender Needs.
Source: Research results based on the household survey, 2006.

represents elasticity, a 1% increase in the amount of loan (in FCFA) raises the ROI by 1.01 percent point.

The sign of the coefficient associated with trade activity is positive and significant at $P < 0.10$ meaning that trade activity is more likely to increase the return on investment with reference to agricultural activity. Furthermore, trade positively affects the probability of taking MFI credit ($P < 0.10$).

The results found in this section have important implications for the provision of MFI credit, especially in rural areas. First, the findings show that access to MFI credit can increase women's income through its positive effect on ROI. Second, the results give an empirical answer to what can be the best way of investing the money women obtain from MFIs. It also explains the preference of MFIs to provide loans for trade activities rather than for agricultural activities. More importantly, it indicates that MFIs in rural areas could be more effective if they provided loans for agricultural activities in addition to loans for trade. Third, there is a positive relationship between the amount of loan and the return on investment, indicating that one should take into account this variable when providing loans for the poor. It is generally admitted that the poor need small loans to carry out income-generating activities. From the findings, it appeared that in order for the poor to make large profits, there is a need to increase the size of the loan granted. Doing so could enhance their income and improve their standard of living.

6.3.3 Repayment capability and the issue of MFIs' sustainability

Loan repayment is an important issue for microfinance efficacy. In general, credit suppliers require borrowers to repay the money, because it is not provided free of charge. In many cases, the success of MFI programmes is measured not only by the proportion of the targeted population reached, or the changes experienced by borrowers, but also by the extent of loan repayment. For example, when the borrowers are able to pay back their loans, this is seen as a success of the MFI and as good discipline of the borrowers. However, in some circumstances the borrowers may use many sources to repay their loan. This section presents the process of loan repayment by female borrowers in the study area and their efficiency in paying back their MFI loans. Here we investigate whether the positive ROI enables female borrowers to successfully pay back their MFI credit.

Loan repayment

The amount of money the borrowers should pay back when they take a loan is basically composed of the total amount provided to them plus the interest. This means the borrowers always have to pay more money than they received. The higher the interest rate, the higher the amount of money to be paid back. The interest rate

found in this study differs across the MFIs. The interest rate in COOPEC is between 17% and 18% per loan period. In COOPEC, the interest rate charged on individual loans is 18%. However, a special interest of 17% is applied in the AFISEF project. In CMEC the interest rate is between 10% and 18% per loan period. The difference between the two MFIs is due to group loans to which CMEC applies a low interest rate of 10%. It is important to know that the interest rate does not depend on the type of activity but is linked to the type of credit. The low interest rate is applied to group loans by CMEC because these loans are assumed to be less risky than loans to individuals. Additionally, the transaction costs related to group loans are less than those of individual loans.

Loan repayment is accomplished on the basis of instalments which can be paid monthly, quarterly, by semester or annually depending on the type of livelihood activities and the rules of the MFIs concerned. For trade activities, all female borrowers of the two MFIs had paid their money back monthly. Alternatively, at COOPEC, 39% and 14% were allowed to pay back their money by semester and quarterly, respectively (Table 6.8). At CMEC, the respective proportions were 16% and 20%. More than one third of female farmer borrowers had to pay back their loans each month. From these results, it appears that the repayment schedule at CMEC might not fit the farming agenda which varies from four months to one year depending on the type of crop. In case of monthly instalments, women also lack the grace period necessary to harvest and sell their farm produce before loan repayment starts. Therefore, loan repayment on a monthly basis can be a real constraint for female borrowers in the agricultural sector, eventually causing a delay in repayment.

To measure the proportion of women borrowers who were able to respect their loan contract and those who had some difficulties and were not able to repay their loans,

Table 6.8. Different types of loan instalments by MFI and by activity.

Instalments	COOPEC		CMEC	
	Agriculture (%)	Trade (%)	Agriculture (%)	Trade (%)
Weekly	-	-	-	-
Monthly	35.7	100.0	40.0	100.0
Quarterly	14.3	-	20.0	-
By semester	39.3	-	16.4	-
Annually	10.7	-	23.6	-
Total	100.0	100.0	100.0	100.0

Source: Research results based on the household survey, 2006.

two categories of women were considered. The first group of borrowers consisted of those who had passed their deadlines[8] and the second group were borrowers who still had time to repay their MFI loan at the time the fieldwork for our research took place.

Among the 185 COOPEC and CMEC female borrowers, 141 women had passed their repayment deadlines but were expected to pay back their loan, and 40 female borrowers had not reached their deadlines yet. In the latter group, 48% of women were paying back their loans regularly while 41% were having some difficulties paying back their loans, showing a delay in loan repayment (Table 6.9). Another 10% of women were in their grace period, meaning that they had not started paying back their loans. The length of the grace period varied on average from one to three months depending on the type of instalment. We also found that within the group of female borrowers who had passed their deadlines, 71 women had completely repaid their loans whereas 69 women were declared as bad loans[9]. Based on these results, we can say that the repayment rate of women who passed the deadline of repayment was about 47%. The repayment rate of female borrowers in the study area showed some differences between the two MFIs. In COOPEC, for example, in the group of women borrowers who had passed their deadlines, 60% had repaid

Table 6.9. Loan repayment and default in COOPEC and CMEC.

	COOPEC		CMEC	
	Repayment deadline passed (N=57)	Before repayment deadline (N=34)	Repayment deadline passed (N=84)	Before repayment deadline (N=6)
Fully repaid	60.7	-	44.0	-
Bad loans	39.3	-	56.0	-
No delays	-	54.5	-	83.3
Delayed repayment	-	45.5	-	16.7

Source: Research results based on the household survey, 2006.

[8] Normally, the period of loan repayment ranges from a minimum of 3 months to a maximum of 12 months. In some rare cases, it can go up to 18 months. After this maximum deadline, the loan can be classified as a bad loan, meaning that the borrower is unable to repay the loan.

[9] The declaration of bad loans does not mean that the borrowers will not repay their loans. Borrowers in this situation are put under pressure until they reimburse their loans. For example, one of the strategies of MFIs is to exhibit pictures of default borrowers in the MFI office.

their loans and 39% had been declared as bad loans (Table 6.9). At CMEC almost all female borrowers were behind schedule (84 women out of the total of 90 women borrowers). In addition, 56% of female borrowers at CMEC were declared as bad loans and 44% women had repaid their loans. These results show that loan repayment is more likely to be successful at COOPEC than at CMEC. As indicated in the previous sections, most COOPEC borrowers had invested their loans in trade activities which are more profitable than farm activities.

The difficulties women encountered in loan repayment can be explained by many factors (Table 6.10). The most important factor had to do with the success of the business. Most female borrowers reported that they were unable to repay their loans on time because the business in which they invested had failed. The income earned was used for household consumption and medical expenditures. From the FGD2, some women engaged in farm activities explained that they had experienced a delay in the harvest due to unfavourable weather. As a result, the income earned was below expectation. The diversion of the investment of the loan was another important cause of the difficulties in loan repayment. Indeed, some borrowers did not invest their loans in farm or trade business. They used their loans for household

Table 6.10. Causes of delay and sources of loan repayment.

Variables	Farm activities	Trade activities
Causes of the delay in loan repayment (%)	(N=42)	(N=43)
Business failed	45.2	53.5
Household consumption expenditure	11.9	-
Medical expenditure	26.2	25.6
Other causes	16.7	20.9
Total	100.0	100.0
Source of loan repayment (%)	(N=69)	(N=100)
Income from activities financed by COOPEC and CMEC	73.9	85.0
Husband, relatives	2.9	-
Use of new loans from MFIs	1.5	4.0
Credit from moneylender	-	1.0
ROSCA	-	2.0
Remittances	2.9	1.0
Other sources	18.8	7.0
Total	100.0	100.0

Source: Research results based on the household survey, 2006.

consumption or medical expenditures for themselves or other household members. The loan was also used for school fees for children and for building houses. For those women who did not invest the loan in income-generating activities, it was obvious that the reimbursement of their loan was a real constraint unless they diversified their sources of repayment. This issue is investigated below.

Sources of loan repayment

The subject of the sources of loan repayment in the MFI industry has been discussed in the literature (see Chapter 3). According to some studies, borrowers may totally repay their loans but the money used for this purpose may come from other sources than the activities financed by the loan. This may happen when the investment of the borrower failed to result in profit or when the borrower diverted the purpose of the loan. In the study region, the findings show that women used different sources to reimburse the credit (see Table 6.10). However, most women had used the income earned from farm activities (74%) and trade activities (85%). In case of difficulties, borrowers may use new loans to pay back the old ones. However, this was rarely the case in this study. Very few women had used money from moneylenders, ROSCAs, remittances and relatives to pay their instalments. Other sources such as savings, non-farm salary and income from other farm activities that were not financed by MFI loans were also employed. For women who had invested both in farm and trade activities, the income earned from trade activities was also used to repay the credit for farm activities.

Data on loan repayment in this study shows that in general female borrowers had some difficulties paying back their MFI credit. As reported in Chapter 5, about 31% of female borrowers invested their loan neither in agriculture nor in trade. The misuse of the loan may explain the high percentage of non-repayment among female borrowers. For MFIs, this can endanger their functioning and sustainability. In this situation, if no subsidy is provided to these MFIs, they could quit, thereby depriving the rural population of credit access.

6.4 Effects of microfinance credit using propensity score matching (PSM)

The objective of this section is to give evidence of the potential effects of MFI credit for women in rural areas. We aim to analyse whether obtaining MFI credit leads to change with respect to outcomes such as income, the value of assets, farm productivity, human capital and social capital. The section also analyses the effect of MFI on women's decision-making power which refers to the reverse causality, because here decision-making power is used as an endogenous variable whereas it has been used as an explanatory variable in Section 6.2. This analysis was done by comparing women's empowerment before and after taking MFI credit. Doing so

will identify individual and institutional factors that may affect the outcomes and the efficacy of credit participation.

6.4.1 Microfinance impact assessment

The objective of assessing the effects of participation in microfinance programmes is to establish a direct relationship between credit taking and changes in the outcomes of interest experienced by participants. Our impact assessment study seeks to assess the difference in the values of key variables between the outcomes on agents (i.e. individuals, enterprises, households, populations, policymakers, etc.) that have experienced an intervention, against the values of those variables that would have occurred had there been no intervention (Hulme, 1997). To put it briefly, impact assessment seeks to address the question of how participants would have performed in the absence of an MFI programme or how non-participants would have performed had they participated in the programme. The main problem in this issue is how to prove that the changes observed in the outcomes can be attributed to microfinance credit. According to studies, characteristics of individuals prior to the participation (self-selection bias), programme intervention and the environment (programme placement bias) may intervene in the process and shape intervention outcomes of interest (Sebstad and Chen, 1996; Pitt and Khandker, 1998). Self-selection may happen because of initial differences in observable and unobservable characteristics. For example, female borrowers may have initial entrepreneurial ability compared to non-borrowers that may enable them to earn higher income even in the absence of MFI credit. Or borrowers may be better-off compared to non-borrowers, especially when access to credit strictly depends on the provision of savings. So, female borrowers are those who have provided savings. And those who have no savings may not participate. The difference in outcomes may also come from observable and unobservable characteristics of MFIs. For example, the way they design their credit programmes may influence the outcomes of interest. In such conditions, the credit status of women is not randomly distributed and comparing the mean outcomes of borrowers and non-borrowers is subject to bias as the outcomes can be different even in the absence of a loan. Thus, before assessing the impact of MFI credit we need first to make the two groups (participants and non-participants) comparable before the treatment (obtaining MFI credit).

Different research methods have been used to assess the impact of microfinance credit on the borrowers. One of the simple and widely used methods in the microfinance literature is to compare programme participants (the treated group) to non-participants (control group) on key outcomes that are expected to be affected by participation. Using the mean difference to measure the impact of credit between two groups that may be different with respect to some characteristics may lead to overestimation or underestimation of the impact. Thus, this method was criticised for ignoring the selection problem. Another method recently used in impact assessment is propensity

score matching (PSM). This technique which is performed to reduce the selection bias is used in our study to assess the effects of MFI credit on women with respect to some outcomes of interest. This method is described below.

6.4.2 The propensity score matching method

PSM is defined as the conditional probability of receiving treatment given pre-treatment or exogenous individual characteristics (Rosenbaum and Rubin, 1983). In our case we can define PSM as the conditional probability of a woman obtaining credit from MFIs (COOPEC and/or CMEC) given certain characteristics such as age, education level, marital status of women, ethnicity and so on. The PSM method is a widely used non-experimental method of evaluation in economic policy intervention that can be implemented to estimate the average effect of a treatment or programme intervention (Todd, 2006). It helps to adjust for initial differences between the treated and control group by matching those treated and controls with similar propensity scores based on observable characteristics. The idea of the PSM method is to construct the outcomes (Y_1) of programme participants (borrowers) with the outcomes (Y_0) of comparable non-participants (non-borrowers). Therefore, any difference in the outcomes between the two groups is attributed to the programme or treatment.

Two main assumptions underlie the PSM method. The first assumption is the conditional independence assumption (CIA) according to which the selection is only based on observable characteristics, and potential outcomes in the untreated state are independent of treatment or programme participation. It is noteworthy that this assumption is strong as unobservable characteristics may also cause bias but are ignored in the process. The CIA condition requires that selected exogenous variables are those which simultaneously affect the participation and the outcomes. However, these variables should not be influenced by participation in the treatment. The second condition is the common support (CS) requirement which ensures that individuals from the treatment and control groups are comparable before the treatment. According to Heckman *et al*. (1999) cited in Tesfay, (2009), common support ensures that individuals with the same observable characteristics have a positive probability of being in both treatment and control groups. Thus estimation can be performed on individuals that have common support. The average treatment effect on the treated group (*ATT*) is the difference between the mean outcomes for matched treated and untreated individuals that have common support conditional on the propensity score. The model is written as follows:

$$p(X_i) \equiv \Pr\{\mathrm{T}_i = 1 | X_i\} = E\{\mathrm{T}_i | X_i\} \tag{6.8}$$

Where $p(X_i)$ is the propensity score; It represents the probability of a woman i of obtaining MFI credit; $\mathrm{T}_i = \{0,1\}$ is the indicator of exposure to treatment, $\mathrm{T}_i = 1$ if treated (having MFI credit) and $\mathrm{T}_i = 0$, otherwise. X_i is the vector of pre-treatment

characteristics. In our case X_i is represented by age, household size, education level, marital status, ethnicity, and decision-making power (PGN and SGN).

If outcomes are assumed to be independent of programme participation after controlling for propensity score, and Equation 6.8 holds, the average treatment effect *(ATT)* is represented by:

$$ATT = E\{E(Y_i|T_i = 1, p(X_i)) - E(Y_i|T_i = 0, p(X_i))|T_i = 1\} \quad (6.9)$$

The estimation of the average treatment effect using the PSM method is done in three steps. The first step is to construct a predicted propensity score that estimates the probability of being treated given a set of exogenous characteristics for each group by using a probit regression model (Equation 6.8). In the second stage, individuals are matched on the basis of their predicted probabilities of participation. But an estimate of the propensity score is not enough to estimate the average treatment effect because the probability of observing two units with exactly the same value of the propensity score is in principle zero. To overcome this problem, different methods are used by which weights are given for matching precision. Among these methods, four are the most widely used (nearest neighbour matching, radius matching, stratification matching and Kernel Matching (KM). The latter is used in this study. With KM, all control cases are matched to each treated case but weighted so that those closest to the treatment case are given the largest weight. According to Tesfay (2009), KM has the advantage of ensuring low variance because it uses the weighted average of all individuals in the control group to construct the counterfactual outcome. Whatever the methods used, the quality of the matches may be improved by imposing a good common support restriction.

To ensure comparability once propensity scores are estimated and cases are matched, the next step is to test the balancing property using a t-test which assumes that pre-treatment observable covariates did not differ statistically between control and treated groups. From the balancing test a balanced distribution of the covariate is obtained meaning that there is no difference between the two groups. It also gives the percentage reduction in bias. So, any difference in the outcome between the treated and the control is due to the treatment (obtaining MFI credit in our case).

6.4.3 Definition of exogenous variables and outcomes

To construct a propensity score that estimates the probability of obtaining MFI credit, the control variables representing women's characteristics were the same as used in Section 6.2. The control variables are expected to simultaneously influence the probability of a woman obtaining a loan and the outcomes.

The outcomes of interest to be measured are women's net income, women's and household assets. Human and social capital and the productivity are included as well. The treatment group (i.e. women who have obtained MFI credit), contains 185 observations, and the control group (women without MFI credit) 209 observations. Below we present a description of each outcome of interest.

Income

One of the most important outcomes of the provision of loans by MFIs to the poor is to enable them to earn and increase their income. By lending money to the poor, they can set up income-generating activities or extend and improve existing activities. The net income in this study represents the total amount of money earned per month by women from agricultural and/or trade activities. We made this choice to have the same basis of comparison as traders who make money everyday, while farmers get money once a year by selling crops after the harvest.

Assets

Assets are the basic factors of production, consumption and investments that are controlled and accessed by the household. Assets are represented by the sum of monetary value (in francs CFA, local currency) of livestock, equipment, electrical appliances and consumer goods that belong to the household (see Appendix 1). Several studies have found that the provision of loans for women may enable them to build up and improve the value of their assets (Rahman, 2004; Mayoux, 1999; ADB, 2000; Van Maanen, 2004).

Farm productivity

Farm productivity is an important variable in rural areas where agriculture is the main activity. In general, it is commonly thought that rural households and women in particular face difficulties in generating income due to their low level of productivity, which has to do with the lack of resources to buy adequate inputs. The provision of credit in the agricultural context is supported by the argument that giving credit to farmers may help them to acquire farm inputs such as seeds and fertilizer that will add value to farm production and therefore make their farms more productive. In the study area, female farmers had borrowed money from either COOPEC or CMEC to produce crops, mainly cassava, yam, plantain cash crops and horticultural crops. In this study productivity is defined as the ability of women to produce profitable crops using their scarce resources, including inputs and hired labour. Farm productivity was estimated in value of crops per hectare and is given as follows:

$$VQ_i = \sum_j \left(\frac{P_j Q_{ij}}{A_j} \right) \tag{6.10}$$

where VQ_i is farm productivity (value per hectare obtained by a woman i) , P_j is the price of crop j produced by woman I; Q_{ij} represents the quantity of crop j produced by woman I and A_j is the area cultivated in crop j (in hectare).

Because credit enables the use of additional inputs that may increase the yield, we assume that the difference in farm productivity will be positive meaning that farms of female borrowers are more productive than farms of women without credit.

Because credit enables the use of additional inputs that may increase the yield, we assume that the difference in farm productivity will be positive meaning that farms of female borrowers are more productive than farms of women without credit.

Human capital

Human capital can be defined as labour capacity, a main factor for households to generate livelihood. It is also related to education level, skills and health status (HIV/AIDS) of people. Human capital focuses on education and health as inputs to economic production. In line with this, Becker (1993) argued that investments in education, health, and training produce human capital. The skills acquired by an individual through experience are also factors that enhance human capital (Ellis, 2000). Connecting human capital to MFI credit, we argued that MFIs can contribute to borrowers' education through training in loan and business management. In addition, the financial support provided for women can help them to earn or to increase their net income and enable them to invest in children's schooling, and medical care of their family members and of themselves. So, human capital is assessed by the number of children attending school (primary and secondary level) and the health status of household members including female respondents, notably the number of sick household members and the amount of money spent on medical treatment. Based on hypothesis 5 we assume that women who have obtained MFI credit generate more human capital. This means that more children in this group are expected to attend school and more money is spent on health care of household members than in the group of women without MFI credit. And the health status is also better than in household without MFI credit.

Social capital

Social capital is seen as an important asset for the poor and vulnerable people both in rural and urban areas. Social capital also provides a cushion that can help an individual or household to cope with shocks such as illness or death. Connected with MFIs, microfinance institutions can improve women's social capital and can help women to get credit and improve their livelihood. Social capital is, for instance, proxied by the visit and assistance received by women when experiencing illness or death of their household members. We assume that women with MFI credit have

more social capital than women without MFI credit. Female borrowers in particular are more likely to receive assistance and moral support.

6.4.4 Results

The results are presented in three tables. Table 6.11 shows the socio-demographic characteristics of women who have obtained MFI credit and women without MFI credit. It presents unmatched and matched average sample coefficients. From the unmatched sample, we can conclude that women who obtained MFI credit are adult Agni female household heads with few household members. They have more power in decision-making within the household. In the matched sample there is no significant difference between the two groups of women with respect to the variables in the table. This means that the bias between women with and without credit was reduced and therefore the treatment and the control groups are now comparable on the basis of their pre-treatment characteristics.

Table 6.12 presents the probit regression model for propensity scores. It indicates that Agni women who have more power in decision-making are more likely to obtain credit from MFIs (COOPEC or CMEC). Agni is the principal ethnic group in the study area, and this fact may give Agni women more of a chance to be well informed about the services offered by MFI, as most of the MFI agents in the region belong to this group. There may be a positive discrimination in favour of Agni women in the process of the provision of credit as reported during the focus group discussion. Decision-making power in terms of SGN is positively linked to obtaining MFI credit. Women with more power in decision-making, have more chance to obtain MFI credit. As explained above, when a woman has power within the household, she can efficiently invest her money and make a profit. MFIs will therefore prefer such a woman in whom they will have more confidence. As predicted, women with a large household size are less likely to obtain MFI credit. The same holds true for married women and female household heads. Contrary to what we expected, neither the level of education nor age was significant. This means that in our study, these two variables did not affect or explain MFI credit taking.

The effects of MFI credit, after controlling for potential bias, is presented in Table 6.13. These effects are the differences in outcomes between the groups of women with and without MFI credit, respectively, and are indicated by the average treatment effect ATT. A positive ATT for a particular outcome means that participation in MFI credit has led to a positive change in that particular outcome. And this change can be attributed to participation in MFI credit. The results indicate that the matched difference in income between women who received MFI credit and women without MFI credit is positive ($t = 2.76$; $P < 0.05$). This means that female borrowers earned on average more income than non-borrowers. Thus, we can say that MFI credit has helped women to improve the level of their income. Furthermore, the table shows that

Table 6.11. Socio-demographic characteristics of women with and without MFI credit.

	Unmatched samples			Matched samples			Percentage reduction in bias
	Women with credit N=185	Women without credit N=209	t-test	Women with credit N=137	Women without credit N=179	t-test *P*-value	
Age in years	42.21	39.46	2.31**	41.2	41.3	0.10	94.8
Household size	5.47	6.15	2.67**	5.41	5.62	0.69	69.2
Female household head	0.43	0.27	3.36**	0.41	0.40	0.25	90.3
Married woman (dummy)	0.61	0.64	0.73	0.64	0.64	0.05	91.5
Primary education (dummy)	0.44	0.45	0.33	0.44	0.50	0.95	-253.3
Decision-making power (SGN)	0.13	-0.21	3.32**	-0.01	-0.04	0.25	92.2
Decision-making power (PGN)	-0.08	0.16	2.32**	-0.05	-0.04	0.11	94.4
Ethnicity: Agni	0.91	0.66	6.23***	0.90	0.92	0.66	90.6

Source: Research results based on the household survey, 2006.

Table 6.12. Probit model of the propensity score to estimate MFI credit effects.

	Probability of obtaining MFI credit	
	Coefficient	Z-value
Age	0.034	0.87
Age squared	-0.0003	0.69
Household size	-0.073	2.25**
Female household head	0.388	1.83*
Power of decision-making (SGN)	0.314	3.47**
Power of decision-making (PGN)	0.038	0.35
Primary education (dummy)	-0.201	1.24
Married woman (dummy)	0.377	1.86*
Ethnicity: Agni (dummy)	1.058	5.09***
Constant term	-1.683	1.96*

Source: Research results based on the household survey, 2006.

after propensity matching, the value of women's assets was not significantly different between the two groups. However, a positive difference in the value of household assets was found. This interesting result is the proof of women's contribution to household expenditure. Female borrowers may use their income to contribute to household expenditure rather than to buy goods for themselves. The participation in MFI credit resulted in the increase of the value of household assets. This result is not surprising as during the focus group discussion some women reported that their main objective for taking credit was to contribute to household livelihood and consumption and to be able to take care of the household members, and children in particular. The participation of women in household livelihood is a way for them to increase their fallback position, and an opportunity to gain more power within their household.

Table 6.13 suggests that the value of production was significantly different between the treated and the control groups. The average treatment effect is positive, meaning that female borrowers who invested their loan in farming have achieved a higher value of production per hectare than women without MFI credit. This difference is reflected in the yield of crops such as cassava, yam and plantain (see Appendix 2).

Table 6.13. Average effects of obtaining MFI credit on a set of outcomes.

	Mean		Unmatched		Matched	
	With credit	Without credit	Unmatched difference	T-value	Matched *ATT*	T-value
Income in FCFA/month	50,179	29,331	20,847	4.53	17,722	3.17**
Women's assets (FCFA)	39,807	21,879	17,927	1.49	15,073	1.11
Household assets (FCFA)	552,312		239,590	2.15	217,247	2.99**
Value of production/ha (FCFA)	597,138	447,464	149,673	2.94	209,913	2.00**
Human capital						
Education	0.222	0.216	0.006	0.26	0.002	0.06
Share of children in school	0.013	0.004	0.009	2.05**	0.010	1.87*
Share of adults in secondary level						
Health						
Household member sick	0.331	0.420	-0.089	1.32	-0.162	1.99**
Medical expenses (FCFA)	194,340	74,728	119,611	3.71***	139,633	3.28**
Social capital						
Visit if woman sick	3.424	1.444	1.979	2.61**	1.762	1.84*
Visit if household member sick	0.379	0.689	-0.310	1.15	-0.418	1.27
Assistance if woman sick	8.533	4.283	3.84	3.81***	4.250	2.34**
Assistance if household member sick	0.392	0.403	-0.011	0.06	-0.057	0.22

Source: Research results based on the household survey, 2006.

Female borrowers produced on average 8,650 kilograms per hectare of cassava[10], whereas the yield in the control group was only 4,841 kilograms on average. The factors explaining these differences may be linked to the use of inputs such as hired labour and modern seeds. Indeed, female borrowers in the study area spent much money on cassava, yam and plantain. Even more money was used to hire labour because labour was a real constraint for women in farm production. Some tasks such as ploughing and felling trees are rarely performed by women as this is men's work.

The results for human capital show no significant difference between the two groups after propensity matching in terms of the proportion of children attending primary school, meaning that access to credit did not affect the schooling of children. This result is not surprising, since it confirms the effort made by the state of Côte d'Ivoire with respect to primary education. As explained in Chapter 5, primary education is compulsory for every child over 6 years old, regardless of the financial situation of the parents, and school fees are low. However, the proportion of households with children at secondary level and beyond is significantly higher in households with credit than in households of the control group. Unlike primary school, education at secondary level requires investments from both the state and parents. Access to credit enabled women to earn more income and to invest more in the schooling of their children than women without credit.

Another factor improving human capital is people's health. Households in which women had access to credit had a smaller number of sick household members and a higher percentage of healthy household members compared to the control group. In case of illness, they spent significantly more money on care for sick household members ($t = 2.55$, $P < 0.05$) than households without credit. Since households with female borrowers had a relatively high number of educated household members and gave them medical care in case of illness, we conclude that MFIs have contributed to the improvement of human capital, at least in the study area. Therefore, it can be concluded that microfinance institutions can positively contribute to improve human capital in rural areas. Specifically, MFI credit enables households with access to credit to have better educated children and healthier household members.

The matched difference in outcomes representing social capital was assessed by the number of visits and assistance received by women in case of illness. The findings suggest that women who obtained MFI credit received more visits and assistance

[10] Like coffee and cocoa, cassava and plantain and yam can be considered cash crops in the region, though this depends on the context and the objectives that one wants to reach. For example, when a woman borrows money and grows one of these crops, it is more likely that the crop will be produced mainly for the market rather than for household consumption. Then the crop becomes a cash crop. In the study region, cassava is nowadays generally produced as a cash crop.

when they were sick than women without credit. However, if the household members are sick, there is no significant difference between the two groups.

6.4.5 Effect of MFI credit on women's empowerment in rural areas

In Section 6.2, we used women's empowerment as an exogenous variable to explain the probability of obtaining MFI credit. This section analyses the reverse causality of women's decision-making power within the household. It seeks to explain to what extent MFI credit affects women's empowerment.

In this study, we assumed that MFI credit helps women to meet their practical and strategic gender needs. Therefore, women with MFI credit were expected to have more power to make decisions in household management matters and in their livelihood activities after getting credit than before through retrospective questions. To assess the effect of MFIs on women's empowerment, we ran a t-test for related samples to compare women's participation in decision-making within the household in the situation before and after their access to MFI credit. Table 6.14 indicates significant differences between the two situations with respect to the power in decision-making related both to women's practical needs ($t = 3.11$; $P < 0.005$) and strategic gender needs (3.36; $P < 0.005$). The results suggest that MFI credit has given more power to female borrowers. Indeed with the increase in the income they earned from their activities, women borrowers were able to reinforce their fallback position. This led to the improvement in women's ability to be financially more involved in the management of household resources. Accordingly, it gave them the opportunity to reinforce their power in household decision-making. Credit taking has also increased women's power in decision-making regarding strategic gender needs, meaning that women are more likely to make their own decision about what types of goods to produce and sell, and, more importantly, they could decide how to use their loans and their incomes. Achieving power in strategic gender needs is a very important issue for women as it may affect the profit a woman can make from MFI services provided for them and, consequently, the effectiveness and the capability of the credit institutions to financially support women in general and rural women in particular. The more power women have to decide whether and how to carry out their business and above all, to control the use of their income, the more likely they are to have access to MFI credit (see previous section), to pay back their loans and to improve their standard of living and that of their households. It is noteworthy that women's responses to retrospective questions used to assess the empowerment of women before and after obtaining MFIs credit are subject to recall bias, namely hindsight bias[11]. Hindsight bias should normally work against our hypothesis, meaning that

[11] Hindsight bias refers to the tendency people have to view events as more predictable than they really are. People often recall their predictions before the event as much stronger than they actually were. With hindsight people consistently exaggerate what could have been anticipated with foresight (Fischhoff, 1980).

Table 6.14. Women's decision-making power before and after obtaining credit.

	Before obtaining MFI credit		After obtaining MFI credit		t-value
	Mean	Std.d	Mean	Std.d	
Practical gender needs	2.452	0.465	2.506	0.450	3.108**
Strategic gender needs	2.840	0.332	2.903	0.233	3.357**

** significant at 5%.
Source: Research results based on the household survey, 2006.

the difference between power before obtaining MFI credit should be less and may not be significant. However, our result showed a significant difference between the two situations.

6.7 Conclusion

This chapter aimed at testing the main hypotheses postulated in Chapter 4. From the findings, it turned out that these hypotheses were confirmed in many cases and rejected in other cases. This means that the provision of MFI credit for women led to both significant and non-significant changes for women in rural areas.

Women's access to MFI credit in rural areas is influenced by factors associated with women and household characteristics. The results of the demand for credit show that factors such as the type of activity, woman's decision-making power with respect to strategic gender needs, and the wealth status of the households and ethnicity are positively associated with access to MFI credit. Furthermore, it also increases the probability to obtain MFI credit. In particular, women who were involved in trade, married women, empowered women and women who belong to wealthy household are more likely to obtain MFI credit. Although these factors explain the probability of obtaining MFI credit, the findings showed that they did not affect the amount of loan provided for women. Savings and the credit institutions are variables that are positively associated with women's demand for credit. These results confirmed hypothesis 1b assuming that women who have obtained MFIs credit have more savings and hypothesis 1c presuming that more trade activities are undertaken by women with credit.

The findings suggest that using MFI credit to invest in trade and farm activities is profitable for women. Moreover, trade activity yielded a higher return than farm activity, explaining the preference of MFIs for providing loans for trade. So the

hypothesis assuming that women who are engaged in trade activities have higher return on investment is corroborated. The findings also showed a positive relationship between MFI loans and the return on investment, meaning that an increase in MFI loans leads to an increase in the return on investment. Therefore, the promotion of women's access to loans is a way to improve their livelihood in rural areas.

The analysis of the impact of MFI credit showed that access and use of MFI credit enabled women borrowers to undertake trade and farm activities and to achieve an increase in their net income (hypothesis 3a confirmed). MFI credit has also improved the value of household assets but no significant effect on women's assets was found. So, hypothesis 3a is rejected. Human and social capital and more importantly, participation in MFI credit has reinforced women's power in decision-making. These results confirm hypotheses 4 and 5.

Although the impact of MFIs on the borrowers is in general positive according to the results on impact assessment, this may not be the case for the credit institution. Indeed the results for loan repayment showed some difficulties among the borrowers. We will come back to this issue in the last chapter. From the discussion with MFI loan officers, the general view was that loan repayment was not a success story. These two controversial situations raise some questions about loan repayment. Why did women not repay their credit? Is it because their activity failed as reported by women or is the non-repayment a matter of unwillingness to repay?

Chapter 7
HIV/AIDS, microfinance and women's activities

Many studies have focused on the impact of AIDS on individuals and households (Nombo, 2007; Barnett and Whiteside, 2002; Oppong and Mensah, 2004; Tumushale, 2004; White and Robinson, 2000; Barnett and Blaikie, 1992). Research and statistics on HIV/AIDS have shown that people in the productive ages of 24-49 years are the most frequently infected by HIV and AIDS. Although people in all income groups are affected, the disease has disproportionately affected the poor. According to Donahue (2001), the impacts of HIV/AIDS go beyond the individuals who contract the disease, cope with prolonged HIV-related illnesses, and, finally, die. The HIV and AIDS epidemic reduces the economic capacity of households because of medical expenses, and funeral costs in case of death, which seriously undermine the household safety net. Although there is no direct link between poverty and AIDS, findings have shown that poverty is both a cause and a consequence of HIV and AIDS. Poverty is simultaneously seen as a factor that increases the risk of contracting the disease and aggravating its effects, and a consequence of the disease (Stillwaggon, 2006). On the one hand unemployment of the young population and social practices, such as prostitution among young women, contribute to the spread of the disease. On the other hand, AIDS can worsen existing poverty and impoverish the non-poor due to the use of both their human and financial resources in trying to cope with the disease.

Literature on the relationship between MFIs and HIV and AIDS and especially on the effectiveness of microfinance on people living with HIV is still scarce. For most MFIs, the effects of HIV/AIDS on their clients and on the institutions themselves are an emerging issue. It is believed that, despite the fact that HIV can negatively affect MFIs through loan diversion for medical treatment and low repayment rates, MFIs are seen as one of the ways in which the effects of HIV on individuals and households can be mitigated (White and Robinson, 2000; Kraal *et al.*, 2000). However, as pointed out by Huybrechts and Fonteneau (2005), microfinance institutions have rarely taken structural initiatives to respond to the special needs of individuals and households affected by HIV and AIDS, especially in Africa, which accounts for 66.7% of the world's infected people (World Bank, 2007). Moreover, MFIs engaged in targeting people living with HIV limit their services to non-financial services, for example training and education, whereas people living with HIV may need financial services such as health insurance.

In general, when providing their clients with credit, most MFI loan managers are not aware of the number and the identity of their clients affected by the disease. In many cases, MFI managers do not consider the health status of their clients, especially their HIV status. One of the reasons explaining this behaviour of credit institutions is the stigma and secrecy associated with HIV and AIDS, which make it

difficult to talk about the disease and directly ask questions about the health status of a particular client. In the study area, the MFIs adopted similar behaviour. Obtaining COOPEC or CMEC credit is unrelated to the HIV status of the borrowers. Even though the MFI loan officers are aware of the spread of the disease in the region, because of the sensitivity of the subject, it is impossible for them to check the HIV status of clients. An attempt by a credit institution to do so may result in a loss of clients, as people will see the credit institution not as a source of getting credit but as a source of information on the disease. As discussed in the previous chapter, the most important condition for accessing MFI credit is the borrowers' savings capability. In such a context it becomes difficult to study the effects of the disease on individuals or households in general, and on the MFIs in particular. Nevertheless, in this study, we found a group of women living with HIV participating in a credit programme managed by COOPEC (see Chapter 4). Because of the small number of observations in the HIV-affected sample, qualitative data obtained in the focus group discussions, particularly in FGD3 (see Chapter 4), will be used to explain and sustain the quantitative results of the two-sided effects of HIV on households and individuals, and of MFI loans on women living with HIV.

This chapter analyses how the HIV epidemic may affect the effectiveness of microfinance for female borrowers living with HIV[12] (Hypothesis 6 and 7 formulated in Chapter 3). The first section presents the characteristics of HIV-affected women and their organisation (CERAB). The second part deals with women's access to and use of MFI credit in the context of HIV and AIDS. The third section analyses the effects of the HIV and AIDS epidemic on female borrowers living with HIV, in particular the effects on household human capital in terms of health status and children's education, social capital and income. The chapter ends by analysing the effects of HIV and AIDS on MFI loan repayments.

7.1 Descriptive analysis of HIV-affected women and the CERAB organisation

7.1.1 Socio-demographic characteristics of HIV-affected women

In Chapter 5, we described all women in this study, including HIV-affected women. In this section, we present some characteristics of women living with HIV that can help us understand the effects of the HIV and AIDS epidemic on the efficacy of MFIs that serve this particular part of the population. At least some of these women have agreed to publicly expose their identity as people living with HIV through their association with an organisation named CERAB, which is described below. The main

[12] The term 'HIV-affected women' was defined in Chapter 3. In this study we refer to women who are members of CERAB, meaning that they have taken an HIV antibody test and have been declared HIV-positive.

objective of CERAB is to mitigate the effects of the disease and above all to overcome the accompanying stigma that affected women are experiencing. However, some members of this group are still hiding their status from their family and community for fear of being rejected by their husband or being treated badly by other people. Forty-six women living with HIV were selected in this study from the list of CERAB members. The selected women were those who could be met during the survey. The study sample is composed of 24 women living with HIV who received credit from the Belgian Health Project (PSB) and 22 HIV-affected women without PSB credit. The relatively small size (46) of this sample is due to the difficulties in identifying and accessing HIV-affected women, especially in the area where the disease is still surrounded by secrecy and stigma.

The mean age of the women in the sample is 33.8 years, the ages ranging from 19 to 48 years, and the average number of household members was 6.6, ranging from 1 to 12. The average age corresponds to the 30-34 year age bracket, which has the highest incidence of the disease (UNAIDS, 2004). Table 7.1 presents some additional socio-demographic characteristics.

Table 7.1. Socio-demographic characteristics of HIV-affected women (N= 46).

Characteristics		Average
Household size		6.6
Age		33.8
	Frequency	Percentage
Household head	11	23.7
Marital status		
Married	20	43.5
Single	11	23.9
Widowed	5	10.9
Divorced	10	21.4
Education level		
Illiterate	23	50.0
Primary	22	47.8
Secondary	1	2.2
Activity		
Agriculture	-	-
Trade	46	100.0

Source: Research results based on the household survey, 2006.

Half of the respondents were illiterate and the other half were educated: 47.8% had completed primary school and only 2.2% had attended secondary school. Among these women, 43.5% were married, including 25% of married women in polygamous marriages, 23.9% were single, 10.9% were widowed and 21.7% were separated or divorced. About 24% of women were household heads. The high percentage (24%) of single as well as widowed women can be a factor in spreading the disease. Those in polygamous marriages may also infect not only their husband (if not being infected by him), but also indirectly their co-spouses. All respondents were engaged in trade, but for 21.7% of the respondents, trade was an additional activity to, for example, working as a teacher at the primary school or in the community council for HIV mitigation. The majority of women in this study (about 90%) were living in urban areas, notably in Abengourou city.

7.1.2 Description of CERAB

CERAB is an organisation of women living with HIV in the Abengourou region. The organisation encourages women to go for voluntary HIV tests and provides counselling concerning HIV and AIDS, which is seen as an effective strategy to mitigate the spread of the disease. Thornton (2008: 1829) sees voluntary counselling and testing (VCT) as the 'missing weapon in the battle against AIDS.' If a person knows that his/her HIV-status is HIV-negative, he/she can protect themselves from infection. For those declared HIV-positive, precautions can be taken so as not to infect others. However, it should be recognised that the VCT process requires financial means if it is to be effective. In Côte d'Ivoire, access to VCT services is free of charge due to the financial aid of donors, and the population is encouraged via awareness campaigns to check their HIV-status.

CERAB members have voluntarily agreed to check their HIV-status. The first target population of CERAB is pregnant women who visit the maternity clinic for prenatal consultation. Once a woman is diagnosed HIV-positive, she is invited to join CERAB as a member. This gives the new member the opportunity to receive moral support, to learn more about the disease and to protect herself and her baby before and after delivery. This procedure may reduce the mother-to-child transmission, a common source of HIV infection, especially in Africa where relatively few women regularly go to hospital during their pregnancy. Preventing mother-to-child transmission will also reduce the spread of the disease within the region. The training received by HIV-positive women is aimed at preventing them from contaminating other people. But as we will see in the next section, this is not always the case. Every week the group members meet at the maternity clinic for training and to look for new members. The choice of the maternity clinic as the place of weekly meetings is a strategy to encourage other women to agree to HIV testing. Each group member is given medical support from CERAB, which is often sponsored by donors through the network of the organisations of people living with HIV and AIDS in Côte d'Ivoire named RIP.

The micro-credit programme of PSB is an example of a programme for women living with HIV for which CERAB received a grant. The programme has provided loans for CERAB members to cope with the disease by undertaking income-generating activities. By doing so, HIV-positive women can take care of themselves and improve their health status with healthy nutrition, which is one of the requirements for stabilising the virus. Although CERAB is trying to be more effective by serving its members and promoting the prevention of HIV infection, it is faced with difficulties which may affect its effectiveness in serving HIV-positive women (see Chapter 4).

7.1.3 Access and use of credit

At the start of the implementation of the credit programme provided for women living with HIV, 24 women in the study area had received a loan. PSB credit is a particular group loan where each beneficiary gets access to the fund through the organisation (CERAB). However, each borrower is personally responsible to the credit institution; collective responsibility is not part of the loan process. In the context of high HIV prevalence, such joint liability would be unlikely to work due to the high probability of being ill. However, in the absence of joint liability among borrowers, the provision of loans by the credit institution might be risky. Furthermore, the conditions for accessing credit in this particular group were more specific. The first condition for obtaining PSB credit was positive HIV-status and group membership. Saving was not compulsory for obtaining loans, but the process of loan provision was gradual, meaning that the total amount required by the loanees was not delivered immediately. The main reason for doing so was to prevent default. For example, if a women required 100,000 FCFA, she would be given only half or two-thirds of the amount. The provision of the second part of the loan was therefore based on the repayment of the first part. As we can see, the conditions imposed on female borrowers living with HIV show that the credit institutions are aware of the risk related to the epidemic. It also indicates the effort made by the credit institution to minimise that risk, while enabling affected women to carry out income-generating activities. However, one could say that this process of loan provision is somewhat flawed as it may not respond to the financial needs of the borrower for the particular activity she planned to carry out. As a result, the loans could be diverted or the size of the activity be reduced. This may result in less income and lower profitability for the borrower (see Chapter 6). During the focus group discussion (FGD3), women expressed their disappointment due to misunderstandings about the process of loan provision. The average amount of loan available for women living with HIV was 248,090 FCFA with a minimum of 106,400 FCFA and a maximum of 550,000 FCFA. The total amount of loan was transferred to COOPEC, that being the MFI in charge of the management of the programme. In practice, as explained above, each female borrower received less than this amount, 124,045 FCFA on average. The second part was only supposed to be delivered if the first part was repaid.

In general, women borrowers used their loans for trade activities. There were 15.2% women traders of agricultural goods such as yam and cassava; 17.4% were engaged in food processing, while 67% were miscellaneous traders (in fish, charcoal, cosmetics) or were running a dress-making shop. HIV-affected women without credit were also involved in trade activities. This result indicates that despite their HIV-status, those women were active. The capability of HIV-affected women to undertake income-generating activities depends on their health status. The women in the study were in various stages of the affliction, but most of them did not yet have full-blown AIDS and were still able to work. However, they could experience illness from time to time and might use their loan for the medical expenditure that is not covered by their organisation (CERAB).

The financial support offered by PSB to women living with HIV to enhance their livelihood was a good initiative. Affected women need financial and medical support not only to cope with the disease, but also to invest in activities in order to generate income and meet other needs. In this study, the use of PSB credit was influenced by the size of loan relative to the expected activity and by unpredictable factors such as illness and death. In the FGD3, some borrowers reported that they could not invest their loan as expected because the amount provided for them was insufficient, which obliged them to carry out other activities. In some cases, women explained that they used part of their loan for medical treatment. Although the affected women were financially supported for AIDS treatment, they were required to contribute to their medical expenses if they suffered from HIV-related diseases (TB, diarrhoea, typhoid, and shingles). The diversion of loans for medical treatment may result in two conflicting effects. On the one hand, the diversion of credit may have a negative impact on the profitability of the credit and the sustainability of the credit programme. On the other hand, it may positively affect the health status of women. In such a context the best solution would enable women living with HIV to better invest their loan in income-generating activities and also get medical treatment when experiencing chronic illness.

7.2 Economic and human capital effects of HIV

The effects of the HIV and AIDS epidemic are numerous and can be perceived at different levels: individuals, households, communities, state, and microfinance institutions. The objective of this section is to establish a relationship between the HIV and AIDS epidemic and a set of economic, human and social variables. The economic effects of HIV on female borrowers are captured by income earned by women living with HIV and the medical expenditure they face. These two variables are chosen because when providing women with credit, we expect them to invest the money in activities and earn income. However, in the context of the HIV epidemic, women are likely to face medical expenditure that may affect income procurement.

Human capital is an important factor that enables individuals to use their skills and knowledge and generate livelihoods. In general, the most important effect of HIV on households is the loss of human capital, due to morbidity and mortality. Illness and death are usually a profound shock for individuals and particularly for poor families. Death and illness in the family mean taking time off work and having to give care. Moreover, health-care related expenditure can deplete incomes and savings. For microfinance clients, illness is often the main reason for defaulting. In this study, human capital is assessed by children's education which is supposed to be affected by illness in general and HIV in particular. Education is measured by educational attendance (the proportion of children at school), while health status is assessed by morbidity and mortality of household members. The proportion of children at school is the total number of children 6 to 14 years old at school divided by the total number of children in this age bracket. Morbidity and mortality are indicated by the number of household members who have been ill or who died during the three years prior to the survey, as reported by the female respondents.

The analysis of the social impacts of HIV is basically carried out by using information gathered from focus group discussions (FGD3). The main topics of discussion were: how women living with HIV are seen by others and treated in their communities and in their own household; how they are experiencing the disease; the reasons for disclosing their HIV status and the consequences of this for the spread of the disease. The importance of group support for HIV-positive persons was also discussed.

7.2.1 Method of analysis

The best way to assess the impact of HIV on women borrowers (N = 46) is to study them along with the non-affected female borrowers (N = 394, see Table 4.1). As explained in Chapter 6, before studying the impact of HIV, one should be aware of potential selection bias due to different characteristics of the two groups. For example, some women may have zero outcomes (i.e., zero income, medical expenditures and zero children attending school). To deal with this problem in Chapter 6 we used the PSM method. In this section, we could not use it to match HIV-affected women to non-affected women because of the small sample of HIV-positive women and the resulting small matched sample (24 out of 46). Therefore, we used a regression analysis on the total sample (N = 440) to see whether there is a relationship between the outcomes of interest and a set of determinants, capturing heterogeneity across the infected and non-infected samples. In particular, we used Heckman's two-step regression (explained in Chapter 6), to control for selection bias into investment activity, household member being sick and having children age 6-14. Establishing a relationship between, for example, income, credit and HIV-status will show the extent to which these variables affect the income and provide information about the causality between the dependent and independent variables that are presented below.

Independent variables

Most of the variables used in the equation of demand for credit, are also used in the equations of concern here. These variables concern the level of education, age, the type of activity in which women have invested, women's marital status, household headship, household size, and ethnicity. HIV and health status of the household (number of sick household members and children) and the credit status of women were included as well. To capture the interaction effects on the outcomes, we combine health status with credit, HIV with the sickness of children, and credit-taking with activity type.

Dependent variables (outcomes)

Three dependent variables were considered in the regression models: income, medical expenditure and children's school enrolment.

Income

Income is the total net income earned by women from their livelihood activities. MFI credit is supposed to enable the beneficiaries to invest their loans in income-generating activity and to earn income. Therefore, we expect credit to positively affect income. However, in the HIV epidemic context, the positive effect of credit may disappear. Thus, we assume that HIV-status and taking credit may negatively affect the income earned. In addition, undertaking trade activities is expected to be positively related to income, meaning that trade increases the income.

Medical expenditure

Medical expenditure refers to the total money used for medical treatment of household members including women respondents. Medical expenditure is positively influenced by the number of sick household members, including HIV-positive women and children. We hypothesise that in HIV/AIDS-affected households, more money is spent on the health of the household members including female respondents. To capture mother-to-child transmission effects on medical expenditure, we combine HIV status with the number of sick children into an interaction effect.

Children's education

Children's education refers to the ratios of children enrolled in school as a proxy for human capital. We expect a negative relationship between HIV and children's education, meaning that in HIV-positive households, fewer children are attending school.

7.2.2 Results and discussions

The results of the regressions are presented in Tables 7.2, 7.3 and 7.5. The coefficient of lambda is not significant in the three tables indicating the absence of selection bias. In Table 7.2 the coefficients of credit and trade activity are significant ($P < 0.05$ and $P < 0.10$, respectively), meaning that income earned by women is positively affected by MFI credit and trade activity. Trade, in which most women, and in particular all women living with HIV were engaged, increases the amount of income. However,

Table 7.2. Heckman's two-step model: Dependent variable: natural log of income.

	Outcome equation		Selection equation (probability of investing in activity)	
	Coefficient	Std.d	Coefficient	Std.d
Age	-0.017	-0.032	-0.059	0.048
Age squared	0.0008	0.0003	-0.0005	0.0005
HIV[a] (dummy)	0.297	0.305		
MFI credit (dummy)	0.309**	0.138		
HIV by MFI credit (dummy)	-0.733*	0.389		
Trade[b] (dummy)	0.976***	0.134		
Female household head[c] (dummy)	0.068	0.150	0.009	0.250
Married woman[d] (dummy)	-0.093	0.192	0.234	0.262
Decision-making power (SGN)	0.017	0.056	0.021	0.101
Decision-making power (SGN)	0.041	0.079	0.058	0.129
Natural log household size	0.116	0.156	-0.164	0.161
Agni ethnicity[e] (dummy)	0.282	0.351	-0.883**	0.289
Primary education[f] (dummy)	0.092	0.147	0.213	0.193
Constant	9.381***	0.750	3.710**	1.234
Lambda (λ)	-0.219	1.677		
Rho (ρ)	-0.223			
Sigma (σ)	0.982			
Wald chi^2	153.50			
Prob > chi^2	0.000			

Number of observations = 439; Censored observations = 48; Uncensored observations = 391.
* $P<0.10$; ** $P<0.05$; *** $P<0.01$.
Reference category: [a] = non-HIV; [b] = farm activity; [c] = other; [d] = single; [e] = foreign; [f] = illiterate.
Source: Research results based on the household survey, 2006.

the interaction effect of credit and HIV negatively influences the amount of income. It shows that for HIV-positive women who have obtained credit, the amount of income decreases. From this finding, we can say that credit has negatively affected the income of HIV-affected borrowers. The decrease in income among HIV-positive women may be linked to loan diversion: HIV-affected women may use their loans for medical expenditure. Another reason revealed in the FGD3 was the small size of loan the women received, which prevented some of them from investing in their activities as planned.

Table 7.3 presents factors that explain medical expenditure in the study region. HIV status and household size showed significant effects on medical expenditure ($P < 0.05$). This result is not surprising, as people living with HIV are generally exposed to opportunistic infections and diseases. Illness in HIV-affected households may be linked to malnutrition due to lack of money, which makes people, especially HIV-positive people, more susceptible to opportunistic infections and diseases. The health status of HIV-affected women in Table 7.4 indicates that 80.4% had experienced AIDS-related illness during the past three years, namely tuberculosis (TB), diarrhoea, shingles, typhoid and meningitis. Some women had experienced more than one type of illness. This fact explains why the total number of diseases in Table 7.4 is higher than 46 (number of affected women in the sample). The types of illness found among the affected women in this study confirm the general view of these illnesses as HIV- and AIDS-related. At the household level, typhoid, TB and diarrhoea were the main illnesses incurred. Although in the absence of tests there is no proof of HIV infection, this result may be linked to HIV.

The number of household members is significantly associated with medical expenditure ($P < 0.10$). The findings also indicate a positive relationship between child sickness and household medical expenditure ($P < 0.10$). However, the interaction effect between HIV and child sickness shows a non-significant coefficient, meaning that in households with people living with HIV, sick children may not incur higher expenses than in non-affected households. The non-significant effect of child sickness in HIV-positive households may be explained by the reduction of mother-to-child transmission. Indeed, HIV-affected members of CERAB are given follow-up care during their pregnancy and after delivering their child. They also receive training to keep their children healthy.

The results on human capital, captured by the proportion of children attending school (see Table 7.5), again shows a negative effect of HIV on child schooling and illness of household members ($P < 0.05$). This means that in general, illness is the cause of children dropping out of school. In households with HIV-positive people, fewer children go to school. However, the findings did not show any significant relationship between the proportion of children going to school and the number of children being sick, which means that it is not so much the illness of the children

Table 7.3. Heckman's two-step model: Dependent variable: Natural log of medical expenditure.

	Outcome equation		Selection equation (probability of any member of the household being sick)	
	Coefficient	Std.d	Coefficient	Std.d
Age			-0.012	0.031
Age squared			-0.0006	0.0003
HIV[a] (dummy)	0.897**	0.363		
MFI credit (dummy)	-0.086	0.258		
Natural log of children being sick	1.279*	0.664		
HIV by number of children being sick	-1.405	0.995		
Female household head[c] (dummy)	-0.337	0.347	-0.056	0.164
Married woman[d] (dummy)	-0.787	0.439	-0.245	0.152
Natural log household size	0.588**	0.275	0.078	0.127
Agni ethnicity [e] (dummy)	0.199	0.537	-0.309**	0.146
Primary education[f] (dummy)			0.093	0.130
Constant	9.563***	1.614	0.464	0.672
Lambda (λ)	0.511	2.126		
Rho (ρ)	0.289			
Sigma (σ)	1.765			
Wald chi^2	26.31			
Prob > chi^2	0.001			

Number of observations = 439; Censored observations = 240; Uncensored observations = 199.
* $P<0.1$; ** $P<0.05$; *** $P<0.01$.
Reference category: [a] = non-HIV; [b] = farm activity; [c] = other; [d] = single; [e] = foreign; [f] = illiterate.
Source: Research results based on the household survey, 2006.

themselves but illness in the household that causes this effect. The question which arises here is why children in HIV-affected households are not allowed to go to school? One reason is that in this study all women living with HIV are traders; in case of illness, the children may replace their mother especially when these children are not doing well at school. As revealed in FGD3, when a child has to repeat a school-year once or twice, in particular when it is a girl, her mother prefers her to drop out and stay at home.

Table 7.4. Types of illness experienced by HIV/AIDS-affected women.

Types of illness	N	Percentage
Tuberculosis	12	32.4
Diarrhoea	12	41.4
Typhoid	17	45.9
Shingles	13	36.1
Malaria	17	45.9
Meningitis	1	2.7

Source: Research results based on the household survey, 2006.

MFI credit has no significant effect on children's education. The latter result was expected because the education of children at the primary level in the study region is supported by the State (see Chapter 6), so the children's education at primary school level does not depend on the socio-economic status of the parents. Finally, we did not observe a selection effect of having children in the relevant age group.

Although we excluded death in the regression, the number of deaths was compared for groups of households with and without HIV, using a t-test. The results show that the number of deaths was significantly higher in households with people living with HIV than in non-affected households (1.27 and 0.33 respectively).

7.3 The social impact of HIV/AIDS on affected women

The HIV epidemic is still alarming and threatening individuals and households in many societies. In general, affected women are frequently confronted with other people's opinion in addition to their own feelings as HIV-positive people. The first social impact associated with HIV/AIDS is the taboo and stigma surrounding it in communities and even in households. These factors may negatively affect mitigation of the disease, and positively influence its spread, because affected people refuse to disclose their HIV status. Different notions are used by individuals to stigmatise people living with HIV, reflecting its negative effects. For example, in some communities the HIV epidemic is referred to as an electric shock, meaning that once you are HIV-positive you immediately die as if you are electrocuted (Nombo, 2007). In general, HIV is associated with death. This idea was also found in the study region, the main reason for it being the lack of information about the disease. In general, people know little about HIV and AIDS. One participant of the FGD3 stated that when she was informed about her seropositive status, despite the support and advice of the counselling staff of CERAB, her first feeling was that she was going to die immediately, and, during the following days, she offered her clothes to her sisters.

Table 7.5. Heckman's two-step model: Dependent variable: Proportion of children attending school.

	Outcome equation		Selection equation (Probability of having children aged 6-14)	
	Coefficient	Std.d	Coefficient	Std.d
Age	0.036	0.035	-0.036	0.035
Age squared	-0.0002	0.0001	-0.0006	0.0004
HIV[a] (dummy)	-0.216**	0.648		
MFI credit (dummy)	-0.021	0.051		
Natural log of children being sick	-0.0466	0.125		
HIV by number of children being sick	-0.206	0.169		
Credit by trade	-0.06	0.054		
Female household head[c] (dummy)	-0.012	0.056	0.150	0.187
Married woman[d] (dummy)	-0.719	0.064	0.356**	0.172
Natural log household size	-0.115	0.163	1.588***	0.184
Agni ethnicity [e] (dummy)	0.199	0.537	0.078	0.168
Primary education[f] (dummy)			-0.235	0.149
Illness[g] (dummy)	-0.052*	0.028		
Constant	0.886*	0.512	0.464	0.672
Lambda (λ)	-0.334	0.220		
Rho (ρ)	-0.932			
Sigma (σ)	0.358			
Wald chi^2	26.31			
Prob > chi^2	0.001			

Number of observations = 439; Censored observations = 151; Uncensored observations = 288.
* $P<0.1$; ** $P<0.05$; *** $P<0.01$.
Reference category: [a] = non-HIV; [b] = farm activity; [c] = other; [d] = single; [e] = foreign; [f] = illiterate; [g] = healthy.
Source: Research results based on the household survey, 2006.

The second impact stressed in the literature and confirmed in the focus group discussion is the isolation of the affected individuals from their communities and family. If an individual, especially a woman, is affected by HIV, it is seen as evidence of immoral behaviour. A woman in such a situation is socially rejected, whereas men are not. Finally, HIV-affected women feel isolated by others because of the way they are treated by them. In some cases, people refuse to come near people living with HIV or embrace them for fear of becoming infected. The isolation of

HIV-positive women may have negative economic effects on women's livelihood generation. This was the case of a woman who used to sell food to contribute to the family income. But when people learned about her HIV status, she lost her clients within a few weeks. She said: 'My income has decreased and I have difficulties making ends meet.' The rejection of HIV-positive women may also add to the spread of the disease. During the focus group discussion, some married women stated that to avoid being rejected or blamed by their husbands, they preferred to conceal their HIV status from their husbands. Another social effect of HIV is the protection of children against mother-to-child transmission. In general, an affected woman can feed her baby but before the child becomes five months old she is required to wean it to avoid the transmission of the virus to her child. However, in most societies in Côte d'Ivoire a woman has an obligation to feed a baby until the age of eighteen months. In such a context, women may find it difficult to convince their husbands and relatives of the need to wean a five-month old baby.

From the focus group discussions with HIV-positive women, it emerged that there is a lot of misinformation and ignorance surrounding the disease. In general, people are totally ignorant of the factors of transmission of the virus other than sexual transmission. For most people having HIV and AIDS automatically results in death. The physical manifestation of the disease is not well-understood either. There is a widespread belief that someone who is HIV-positive loses weight and becomes thin. One FGD3 participant revealed that because she is fat, people did not believe her when she disclosed her seropositive-status.

Social capital in the context of the HIV and AIDS epidemic is seen as a source of support for people living with HIV. In general, social capital gives people access to benefits that they would otherwise not have. In line with this statement, HIV-positive women found CERAB useful, because as a social organisation it provides them with moral support and financial aid to cope with HIV and AIDS. The group becomes like a family to them. To show how important social capital is for women living with HIV, the HIV-affected women in FGD3 explained that since they had become members of CERAB, they had been given a new lease of life.

7.4 The impact of HIV/AIDS on MFIs

The effects of HIV and AIDS on MFIs are analysed through the repayment of loans by HIV-affected female borrowers. Repayment is one of the indicators of the effectiveness of MFIs in providing loans for people. Loan repayment is an important factor in assuring the sustainability of MFIs. In an environment of high HIV prevalence, illness and death are two factors associated with the depletion of assets and income that may seriously hamper the success of loan repayment.

The loan repayment analysis of HIV-affected female borrowers shows that none of them had reached their deadline yet (Table 7.6). The average number of remaining loan repayment instalments was twenty, meaning that all female borrowers were required to repay their loans within a period of twenty months. However, whereas HIV-positive female borrowers should already have paid eight instalments, on average they had paid back only two instalments. This result shows the real difficulty in loan repayment among female borrowers living with HIV. This was confirmed in the FGD3. The FGD3 participants explained the difficulty in loan repayment by referring to: the failure of their business; the use of loan for other purposes such as household consumption, and medical expenditures for themselves or a sick household member. Being sick or having to give care took up women's working time that would otherwise be available for their economic activities. Other reasons mentioned were the misuse of loans, and the reduced amount of loan they had received from the project (see above). As a consequence, those who did not get additional funds were obliged to invest in other activities than originally planned. Despite the follow-up care for HIV-affected women, illness is the main factor which prevents them from undertaking their income-generating activities.

Table 7.6. Loan repayment by HIV/AIDS-affected women.

N=24	Minimum	Maximum	Mean	Std.d
Total amount of loan granted (FCFA)	143,500	550,000	232,222	97,459
Total amount of loan received by borrowers	47,833	183,333	77,407	32,486
Amount of money paid	0.0	100,000	21,395	26,794
Total number of instalments	13	23	20.13	2.63
Number of instalments paid	0	4	1.46	1.6
Number of instalment which should be paid before the deadline	2	14	8.5	

Source: Research results based on the household survey, 2006.

7.5 Conclusion

This chapter has given a descriptive and statistical analysis of the role of microfinance institutions in financially supporting HIV-positive women to enable them to generate their livelihood, and the way in which providing HIV-positive women with loans can affect MFIs. The provision of credit for HIV-affected women is accomplished through a special microcredit programme. Identified as people living with HIV, these women do not have direct access to MFIs. This fact reveals the missing role of MFIs in targeting HIV-affected people.

The HIV epidemic negatively affects both the human and physical capital of households. The evidence from this chapter indicates that one of the direct effects of HIV is increased morbidity and mortality. The morbidity of HIV/AIDS-affected respondents negatively influenced the level of their income. At the household level, HIV has a negative effect on school enrolment of children. The inability of children to attend school shows the long-term effect of HIV/AIDS on the level of education of future generations and accordingly its impact on their contribution to the developmental process of the country. The quantitative analysis of the determinants of medical expenses also shows that AIDS results in increased medical expenditure.

Through its impact on female borrowers, HIV and AIDS have an indirect negative effect on the MFIs. As indicated above, the illness of female borrowers or their household members resulted in the loss of labour for their productive activities (trade). In turn, this led to the inability of affected borrowers to generate more income, to repay their loans, and to meet their own needs and the needs of their households.

Hypotheses 6 and 7 were corroborated by the findings, meaning that HIV/AIDS has negative effects on women's economic, social and human capital. It has a negative impact on loan repayment, which can endanger the functioning of the credit institutions.

Chapter 8

General discussion and conclusions

The objective of this study was to analyse the effectiveness and capability of MFIs in alleviating poverty and enhancing women's livelihood activities and empowerment. It also focused on the one hand on the potential effects of the HIV and AIDS epidemic on the ability of affected women to carry out their activities and ensure household livelihood and on the functioning of MFIs. One the other hand, the study analysed how MFIs can help mitigate these effects. This was done in the previous chapters through theoretical and statistical analyses, and econometric estimations on cross-sectional data.

This chapter summarises the main findings of the study. The first section presents the empirical results in line with the research questions formulated in Chapter 1. The second part provides and discusses the main implications for policy and interventions that can be derived from the findings. The last part deals with the limitations of the study and areas for further research.

8.1 Summary of findings

The findings are captured by providing the answers to the four research questions and presenting the results of the testing of the hypotheses by the analyses of Chapters 5 to 7. The research questions and hypotheses (see Chapter 3) will be dealt with in the next sub-sections.

8.1.1 Why MFI credit for women?

Research question 1: What are women's needs for credit in rural areas?

The answer to this question was given in Chapter 5 by first looking at the type of activities carried out by female borrowers and non-borrowers. This is because we believe that the demand for MFIs credit is subject to the need for generating a livelihood or for meeting consumption needs. Studies have shown that the needs of men and women are different, due to their gender roles and gender inequality in the control over resources (Moser, 1993). To gain knowledge about women's need for credit, this study has investigated women's livelihood activities in the study area.

Using descriptive statistical analysis, the findings show that women in the study area are basically engaged in both agricultural activities and trade activities. However, women are more involved in farming than in trade since farming is still a predominant activity in rural areas. This study revealed the agricultural sector to be gender-biased as men produce cash crops (coffee and cocoa) and women are the main

producers of food crops, including cassava, plantain, yam, maize and peanut, and some horticultural crops that are generally for household consumption.

However, the findings indicate that women have land and financial constraints that stop them producing cash crops like coffee and cocoa. These constraints have two main implications. The first is the transformation of some food crops such as yam, plantain and cassava (produced for family consumption) into cash crops, especially for women who obtained MFI credit (see Chapter 5). The second has to do with the women's response to their dual role of feeding household members and generating income to satisfy their own needs. In many African societies, women are the main producers of food crops for household consumption. If women use their MFI loans to produce food crops that are more profitable for them and might not be necessary for household consumption, they might be unable to fulfil their role of feeding household members. However, using these food crops as a cash crop is a way for women to generate their livelihood and increase their income as shown in this study and be able to pay back their loan. This conflicting situation raises the question about how women can simultaneously make money from food crops and ensure food security of their household. Trade activities were revealed as the second income-generating livelihood activity in which most women are engaged in the study area. Trade as a livelihood strategy is adopted by women in rural areas as a response to their problematic access to land, because trade is not directly connected to land. Trade activities also help women to meet their own needs and that of their household. But, trade activity requires money, in some cases a lot of money, depending on the type of activities. In such a context, MFI credit is useful and necessary. The involvement of women in trade activity which is encouraged by MFIs may also result in them being unable to fulfil their role of providing food for household consumption.

Women in rural areas need credit for farming and trade activities. Women need credit as farmers to pay for hired male labour for performing agricultural tasks that they cannot perform themselves, and to buy inputs. Hiring labour raises the issue of labour allocation within the household (see Chapter 5). Although there is a gender division of labour within the household with women involved in food crops and men being the main producers of cash crops, household members are supposed to contribute to the production of these crops. However, this study found that when women borrow money to carry out farming activities, they lose family labour and are obliged to hire external labour. Because of the specific nature of farming with regard to the timing of its activities, women farmers need a loan arrangement which matches the duration of farming, i.e. an instalment schedule which takes into account the timing of harvest. From our study, it transpired that the MFIs do not take into account the specific nature of farming activities, which makes female borrowers unable to respect and satisfy their MFI contract. Contrary to farming, with trade women can make money in a short period of time and be able to assure the

household daily needs. The income from trade can also support farming activities and help women to achieve livelihood diversification.

Another issue related to the first research question is the size of loan delivered by the credit institutions. The results of the analysis of the factors affecting the return on investment (Chapter 6) indicate the positive correlation between the amount of loan provided for women and the profit they can make from their investment with the loan. Studies have shown that the poor need small loans to generate their livelihood. If this is true, our findings show that to enhance the profitability of the loan, there is a need to increase its size. For several reasons, the small amount of loan provided by MFIs for the poor does not always result in an increase in income. The first is the positive relationship between the return on investment and the amount of money invested as indicated above. The second reason is that the limited amount of loan may not cover the total cost of investment as was revealed in the focus group discussion. In this situation, if the borrowers do not have additional funds, the loan can be easily diverted. This may not be the case if the size of loan were big enough to cover the investment. This study recommends the provision of loans to respond to women's financing needs. The MFIs should not only look at the amount of savings provided by the potential borrowers as is the rule in most MFIs including those in the study region. They should also evaluate the type of activity to be carried out and the costs thereof, before providing women with the loan.

8.1.2 Access to MFIs credit in rural areas

Research question 2: How do women access MFI credit in rural areas?

To answer this question, the factors that affect women's demand for MFI credit (institutional and individual factors), and the types of activities financed by the credit institutions were investigated. We also analysed the extent to which MFI contracts are profitable for female borrowers.

The in-depth analysis on microfinance institutions in the study area (COOPEC and CMEC) shows that access to MFI loans is conditional on rules that differ across institutions. It was found that having savings is the main condition for access to MFI credit. This is confirmed by the significant relationship between savings and credit in the two MFIs (Chapter 5), and by the positive relationship between savings and the amount of loan received by female borrowers in the regression model. Women who want to borrow money from the MFIs are required to have savings in the credit institution. Savings are used by the MFIs as collateral to prevent defaults. The relationship between credit and savings was stronger in COOPEC than in CMEC; all COOPEC female borrowers had savings before getting credit. At CMEC some women without savings were able to obtain a loan. The MFIs' requirement to have savings has two implications. First, it can be a motivating factor for the borrowers to save, as

confirmed in this study. The majority of women reported that they saved money in order to gain access to credit. But on the other hand, the obligation to save money before being eligible for credit can deprive individuals of MFI credit. Poor people in particular may not be able to save money although some studies assert that the poor can save money either at home or at a credit institution. With regard to this issue, Hypothesis 1 formulated in Chapter 3 which assumes that women who have obtained MFI credit have more savings than women without credit, was confirmed.

This study found that MFI membership is another, if not the first, condition for gaining access to credit in the study area, in particular for obtaining credit from COOPEC and CMEC. Membership is subject to rights and responsibilities, claims and obligations of the members. As such, it can be seen as a factor for promoting social capital among borrowers. The latter is essential for the household or individual in terms of support. The group loan provided by MFIs is a good illustration of such social relations.

The findings indicate that the services offered by MFIs in the study area are limited to the provision of loans and savings facilities, while there is a diversity of financial services that could be provided by microfinance institutions and that might be useful for individuals and households. Individual loans are the major type of loans offered to women. Due to the small size of women's activities, notably farm activities, MFIs associate individual loans with high transaction costs. High transaction costs generally result in high interest rates charged on loans, with a long-term effect on the sustainability and effectiveness of MFIs operating in these areas. By contrast, the group loan which is generally linked to relatively small transaction costs, and subsequent low interest rate, is seen as the better solution to serve individuals in rural areas. This explains the promotion of group loans in many countries especially in Asia. An example is the Self Help Group (SHG) as presented by Swain and Varghese (2008). In our study, group loans provided to women as reported in the focus group discussion seem to be unsuccessful in terms of loan repayment and social relations among female borrowers. Women seem to misunderstand the rules and the rationale behind group loans. The principle of joint liability was particularly unsuccessful in practice. From our experience during the field work, we found a lack of solidarity among the group members if a member encountered difficulties paying back her loan. In some cases the group was simply dissolved.

The findings show that access to credit in the study area is gender biased, especially with respect to the amount of the loan. Men being the major producers of cash crops, as indicated in Chapter 5, received a higher amount of credit than women. The large size of loans obtained by men has to do with the scale of their activities, which depends on the size of their land. Whereas women are supposed to be the first target of MFI credit, the focus group discussions revealed that some women are

still not informed about the availability of loans and are completely ignorant about the procedure for getting access to MFI credit.

Women's access to MFIs credit is influenced by several factors. The analysis of the determinants of the demand for credit applying Heckman's two-step regression showed that individual characteristics, including women's marital status, wealth status of household, and – more importantly – women's empowerment in decision-making with respect to strategic gender needs are factors that positively affect the probability of women's demand for MFI credit. These variables explain the difference in obtaining credit among women.

Due to their stability within the household and the village, married women were found to be more likely to obtain MFI credit. In the study area, there are many married women. So if MFIs are inclined to provide loans for these categories of women, they will achieve their effectiveness in targeting and serving more women in rural areas. Women belonging to wealthy households are more likely to obtain MFI credit as well. The later contradicts the general view of microfinance as a means to help the poor gain access to credit to carry out income-generating activities. By giving loan to wealthy households instead of poor ones, MFIs will run the risk of not achieving their goals.

This study suggests that power in decision-making with regard to strategic gender needs as an individual characteristic, is positively associated with the probability of obtaining MFI credit. That means that women with more power are more likely to obtain MFI credit than less empowered women. For MFIs, empowered women are seen as those who are able to control and use their loan in income-generating activities. Therefore, it is reasonable and useful to provide such women with credit. By doing so, these women will be able to pay back their loan and ensure the sustainability of the MFIs. The positive relationship between women's decision-making power and access to MFI credit corroborates Hypothesis 1b. In particular, women who have obtained MFI credit are more empowered than women without MFI credit.

Trade is positively linked to access to MFI credit, meaning that women who are involved in trade are those who are more likely to obtain credit from COOPEC and CMEC than women engaged in farming. This reflects the preference of MFIs for trade in an area where agriculture is the basic livelihood activity. It also explains the involvement of many women in trade activities in rural areas (Hypothesis 1c). Trade is preferred to farming for two main reasons. First, investment in trade yields a positive and higher return on investment than farming. This result confirms Hypothesis 3. Second, trade generates money in a shorter period of time than farming. The preference of MFIs to provide loans for trade rather than farm activities addresses an important concern about the trade-off between financing trade or farm activities in rural areas. On the one hand, the majority of the rural active population

is predominantly engaged in the agricultural sector, especially women. However, they are also good traders. Thus, promoting trade instead of agriculture in rural areas may eventually lead to them missing their role of financially supporting and reaching the majority of rural population. On the other hand, trade seems to be a good opportunity for women to obtain a steady income which can simultaneously support their agricultural activities and help generate income. In our opinion the best way for MFIs to be more effective is to promote livelihood diversification; MFIs should provide loans for trade as well as agricultural activities.

8.1.3 Socio-economic impacts of MFIs and women empowerment

Research question 3: What are the effects of participation in microfinance programmes on women's practical and strategic gender needs?

To answer this research question supported by Hypotheses 2, 4 and 5 formulated in Chapter 4, we used the propensity matching method (PSM). This method has helped to reduce the potential selection bias between women with and without MFI credit.

The findings confirmed Hypothesis 2 in many respects. MFIs are found to be effective in enhancing women's income. However, access and use of MFI credit in rural areas did not significantly increase the value of women's assets although it did significantly enhance the value of household assets. The results on the value of women's assets did not confirm the findings in the literature. Indeed, several studies found that the provision of credit enables women to build up and improve the value of their assets (Rahman, 2004; Mayoux, 1999, Van Maanen, 2004). First, an individual or household with access to credit is more likely to earn more income. Second, higher income enables women to build up their assets. However, this process is not straightforward. The opposite effect can happen as well. Access to credit can lead to the reduction of income, especially when the loan is diverted from investment in income-generating activities. In such a situation, the borrowers are more likely to use their savings or sell their assets to pay back their loans. In this case, the borrower ends up in debt. Although this study established the positive relationship between MFI credit and women's income, it suggested that female borrowers were more likely to use their earned income not to build up their own assets, but to contribute to the improvement of the household standard of living. Doing so enables these women to enhance their fallback position and to achieve more power in decision-making within the household. To corroborate this statement, our findings on the effects of MFI credit on women's empowerment showed that women's access to credit has significantly increased their power in fulfilling their practical and strategic gender needs. This means that with MFI credit, women gained more power with respect to individual (women themselves) and household issues. Thus, Hypothesis 4 was corroborated.

The improvement of the value of farm production is a main development goal in most African countries whose economies are based on the agricultural sector. Studies have suggested that the progress in this sector is associated with the use of modern inputs to increase the level of production. The findings of this study show that MFI credit has improved the value of farm production.

The findings of the study both corroborated and refuted Hypothesis 5. Hypothesis 5a was rejected, meaning that MFI credit does not affect children's education in the study area. On the other hand, the hypothesis was accepted indicating that access to MFI credit enables households with female borrowers to have more children educated at the secondary level. The first result is a consequence of the contribution of the state to primary education of children, as explained in Chapter 5. At the secondary level, the results indicated the effectiveness of MFI in human capital and the need for additional support from the state in the education sector.

The findings confirmed that MFI credit contributes to the health of household members. In particular, the high amount of medical expenditure in the households with MFI credit suggested that when a household member is ill, he/she is likely to acquire medical care. Accordingly, the health status of the household members is better than that of households without MFI credit.

Loan repayment is a key issue that affects the efficacy of MFIs in financially supporting the rural population. Any microfinance programme in which the borrowers are able to pay back their loans is seen as good. Loan repayment not only enables MFIs to extend the number of their clients, but also enhances sustainability. The results of loan repayment in this study show that in general female borrowers had difficulties paying back loans. Among the reasons behind the low repayment rate, the misuse of the loan by female borrowers is essential. This study shows that many female borrowers did not invest their loan in income-generating activities (about 31% of female borrowers invested their loans neither in agriculture nor in trade). The misuse of MFI loans has to do with the lack of women's control over loans as discussed in the literature (Sebstad and Chen, 1996; Ali, 2005; Goetz and Gupta, 1996; Rahman, 1999; Muhumuza, 1997; Ackerly, 1995). For MFIs, the diversion of loans can endanger their functioning and sustainability and therefore their effectiveness in rural areas. In this situation, if no subsidy is provided for these MFIs, they have to stop their programmes, depriving the rural population of credit opportunities. The results show that loan repayment is likely to be better at COOPEC than at CMEC because most COOPEC borrowers had invested their loans in trade, which is more profitable than farming.

The low repayment performance of female borrowers is contradictory to the findings of the impact analysis with respect to the income earned by female borrowers. The quantitative results of the effect of MFI credit showed that MFI credit provided for

women led to an increase in their income and the investment of the loan yielded a positive return on investment. In principle, these results would imply that women who have obtained a MFI loan should be able to repay it and to make a profit. So, why did these women not repay their loan? Is it because their activity failed as reported by some women or is the non-repayment a matter of unwillingness to repay? The qualitative information received from the in-depth interview with the MFI loan officers indicates that in addition to the diversion of loans, non-repayment is linked to the unwillingness of the borrowers to repay their loan because of the misconception about the loan provision. Some female borrowers considered the loan to be an aid offered by the state to rural women in particular. This statement was confirmed during the focus group discussions.

8.1.4 HIV and AIDS epidemic, MFIs and women's livelihood activities

Research question 4: What is the relationship between microfinance programmes and women coping with HIV/AIDS?

The objective of Chapter 7 was to analyse how HIV-positive women get access to MFI credit and how HIV and AIDS may affect the efficacy of microfinance. The direct and indirect effects of the epidemic on women and MFIs were analysed. The direct effects were assessed through economic variables (income and medical expenditure), human capital variables (proportion of children attending school and social variables (stigmatisation, isolation, child and household members' protection). The indirect effects were captured by female borrowers' capability in loan repayment.

HIV/AIDS-affected women have access to credit through a special microcredit programme. Identified as people living with HIV, these women do not have direct access to MFIs. This result is consistent with findings showing that HIV-affected individuals and households need special MFI programmes that are rarely offered by microfinance institutions, especially in Africa (Huybrechts and Fonteneau, 2005). In the credit programme provided for HIV-affected women in the study area, no interest was charged and no compulsory savings were required from the borrowers. Despite this flexibility in the conditions for obtaining the loan, the focus group discussion and the survey results revealed some flaws in the process of the provision of loans for these women. The amount of loan necessary to carry out the type of activities at the desired scale was only partially given to the borrowers. Hence, the loan did not correspond to the financial needs of the borrower for the particular activity she planned to carry out. However, access to credit enabled HIV-positive women to engage in trade activities, which proves that these affected women still have at least part of their labour capacity.

HIV/AIDS negatively affects both human and physical capital of households through morbidity and mortality. The results from Heckman's two-step regression showed

that MFI credit did not increase HIV-positive women's income, while they face higher medical expenditure than non-affected women. This study suggests that the decrease in income among HIV-positive women may be explained by the diversion of the loan. Women living with HIV may use their loan for medical treatment. Another reason for the decrease in the income was the small size of loan, which prevented some of them from investing in their activities as planned (see above).

Furthermore, the level of medical expenditure found in this study reflects the morbidity in HIV-affected households, which has a direct negative impact on their livelihood activities and an indirect effect on the level of income. It also affects the school enrolment of children, which may result in a long-term effect on the level of education of future generations (Kakuru, 2006). Moreover, the morbidity of HIV/AIDS-affected women also reduces their domestic care-giving role within the household. The morbidity and mortality of adult household members result in the loss of labour that cannot easily be replaced by hired labour due to lack of resources.

When experiencing illness, individuals or households use their savings to pay for medical expenditure. Because having savings was not compulsory for obtaining credit, and given the low level of income, most HIV/AIDS-affected women in this study did not have savings. In such a situation, the contribution of other household members to the medical expenditure is needed. However, financial support from household members is often lacking, though dependent on the wealth status of the household or on the stage and severity of the illness of household members. If there is no hope of recovery, household members may not find it necessary to spend money on the affected individual (Nombo, 2007). To conclude, we can say that through its numerous effects, HIV/AIDS can push individuals or households into situations of poverty and hunger.

The stigmatisation and isolation of HIV-positive women are the social impact of HIV and AIDS revealed in this study which may lead to the spread of the disease. For fear of being stigmatised and isolated, most HIV-positive women conceal their HIV status. Those who are married do not want their husbands to know about their HIV status. In this case the question is how do HIV-positive married women avoid transmitting the virus to their spouses if not being infected by them? This important social concern has to be investigated in order to mitigate the transmission of the virus between spouses.

According to Hypothesis 7, we expected HIV/AIDS to have a negative effect on MFIs through the incapability of borrowers to repay their loans. Our study confirms this hypothesis. The repayment of MFI credit among HIV-positive female borrowers is insufficient, meaning that female borrowers have difficulties paying back the money they borrowed due to their inability to generate more income. As indicated above, the illness of female borrowers or of household members resulted in the loss of

labour for productive activities. In this study loan repayment was the condition for obtaining the full amount of loan or the remaining part of the total loan granted to each borrower. The difficulties encountered by HIV-affected borrowers may be due to partial access to the granted loan. This raises the issue of the effectiveness of MFI programmes for women in general and HIV-affected women in particular. Providing insufficient amounts of loan may lead to the diversion of loans and therefore does not insure the efficacy of MFIs.

Financing HIV-positive people in general and HIV-positive women in particular remains a dilemma. And the main question which arises is: do HIV-positive people really need credit to undertake income-generating activities or do they need health insurance to better cover their medical expenditure when experiencing illness? When HIV-positive women are provided with a loan, they can invest it in income-generating activity as expected. But due to morbidity, these women might not be able to generate income and pay back their loans or improve their standard of living. Also, when HIV-positive women obtain credit, it can be directly used for medical expenditure and not invested. In this case too, HIV-positive borrowers will not be able to repay their loan. So, in our opinion, we do not believe there is a trade-off between the two issues. On the one hand, when women living with HIV do not have full-blown AIDS, i.e. they still have their labour capacity, they need financial support to generate their livelihood. On the other hand, because they are exposed to opportunistic infections, they need financial support for medical care. Giving health insurance to HIV-positive women could prevent them from diverting their loan from investment purposes. Doing so may lessen the impact of the disease on MFIs.

8.2 Policy implications of findings and interventions

The findings of this study have highlighted the relationship between MFIs and women's livelihood activities on the one hand and the HIV epidemic, women's livelihood activities and MFIs on the other. The results of this study raise important policy considerations at different levels: state, microfinance institutions, village and community, household and individual. The findings indicate that women in rural areas need financial assets to carry out their livelihood activities and generate income. Women need loans to acquire modern inputs and especially to hire labour to perform agricultural tasks that men used to carry out. Women need loans for business, household consumption and for the enhancement of their social capital. However, this study shows that not all rural women have access to MFI loans, due to the conditions imposed by MFIs, the limited number of MFIs and the difficulties that the sector still encounters. COOPEC and CMEC are the main MFIs serving the population in rural areas. The development of MFIs in Côte d'Ivoire is relatively recent and the sector needs to be better structured and organised in order to increase its outreach. To do so, the state has set up the National Strategy of Microfinance (NSM) covering the period 2007-2015. It aims at promoting the microfinance sector

and micro-enterprises, expanding financial services in both rural and urban areas and making the microfinance sector more professional and sustainable (see Chapter 2).

The expansion of MFIs in rural areas is contingent upon the development of an infrastructure, including road networks and electricity, which reduces the transaction costs linked to the provision of loans, and facilitates the functioning of MFIs. However, access to many villages in the country is still difficult, leaving MFIs unable to operate in rural areas. Therefore, we suggest that the state should give priority to the development of rural infrastructures in the medium and long term. In the short run, we suggest joint and coordinated interventions by non-governmental and governmental institutions and MFI practitioners. Such cooperation between the state (Ministry of Agriculture) and MFIs (CMEC) was implemented in the eastern region of the country through the project of rural development of this region named PDZR. CMEC was in charge of financing the rural activities. The financing of the agricultural sector is a real constraint for the population and a challenge for the state in rural areas, because of the risky nature of farming. MFIs that are newly operating in rural areas need subsidies from the state or donors to enable them to compensate for the transaction costs and provide loans for farming as well as for trade. In addition, due to the specific nature of the agricultural sector, there is a need to think about a loan which takes into account the characteristics of farming. In particular, we suggest that the provision of loans for farmers should consider the timing of the harvest and the scheduling of instalments to better fit the agricultural calendar. In short, there is a need to promote financing by specialisation, meaning that there should be credit for the agricultural sector separately from credit for trade. Concerning credit for the agricultural sector, we suggest thinking about an approach by product or crops which will consist of categorising agricultural products into cash crops and food crops, for example. The new credit approach should bring together all participants (state, private, NGOs, female and male farmers) of the sector and it should take into account the constraints of the borrowers and the opportunities offered by the agricultural sector and so on.

To serve the poor in remote villages where MFIs are absent, NGOs supported by the state or donors can replace MFIs. Most NGOs work in that way, but their services are limited to the provision of loans. They do not have the authority to provide savings facilities. We suggest the reinforcement of the capacity-building of these NGOs working in the microfinance sector which will results in their professionalisation.

To organise and strengthen MFIs, the state of Côte d'Ivoire has created the National Commission of Microfinance (CNM) and the Directory of Microfinance (DM). These structures have the mission to reinforce institutional and operational capacity-building, and to ensure the supervision and monitoring of MFIs. This study reveals a misuse of loans leading to low repayment rates among borrowers, especially female farmers. One of the main reasons is the diversion of loans due to the lack of

monitoring of borrowers. To avoid the diversion of MFI loans, there is a need to adopt integrated and interactive approaches in the management of loans before, during and after their provision. This means that MFI loan officers should not limit themselves to providing loans, especially to women who may not have the full power to invest their loans. There is a need to think about a mode of financing women's activities in kind rather than cash. This experience which has been implemented in Bangladesh[13] should be elaborated and adapted to the country context. Furthermore, to be more efficient, MFI borrowers need training about how to spend loans on income-generating activities. For MFI officers who do not know the rural environment, it is crucial to reinforce their capacity-building in rural micro-financing and especially emphasise the monitoring of MFI clients.

Regarding group loans, though admittedly they reduce the transaction costs and are a way of developing social capital, they proved to be unpopular in the study region, because of cultural factors. The practice of credit is relatively new among the Agni women. Therefore, we recommend addressing the issue of the importance of and especially the rationale behind group loans, as well as emphasising the necessity of having a more or less homogeneous group in which group members trust each other. This objective can be achieved through the training of women. Furthermore, the focus group discussion revealed a lack of information about the financial services given by MFI in rural areas. Therefore, this study recommends a campaign to increase the public, especially women's, awareness of the availability of MFI credit and the way to access it. Because in general women are credit averse, there is a need to encourage them to request MFI loans.

There is some discussion in the literature about the significance of MFI credit in a situation of high HIV prevalence. A recent study raised the following question: How does HIV/AIDS affect the success of microfinance interventions? What kind of services are suitable for HIV/AIDS-affected households? (Haile, 2010:180). This study provides some answers to these questions, which we will review below.

The results of the analysis of the effects of HIV and AIDS on female borrowers show how the epidemic affects individuals and households. They underline the need for the kind of policy interventions that the state of Côte d'Ivoire is trying to implement through its National Strategic Plan (NSP) as presented (Chapter 2). The NSP showed

[13] Called free-interest microfinance this mode of financing was presented by Alam during the conference organised by CERMI (Centre for European Research in Microfinance) in Brussels in 2009. It is a process in which becomes the intermediary between the supplier of goods or raw materials and the borrowers. For example, if the borrower demands credit to carry out an activity and signed their loan agreement with the credit institution, they are asked by the lender to select a supplier and to bring invoices of goods or raw materials they required for their investment. Once the credit institution authorities agreed with the invoice prices, they made the necessary arrangements to pay the money directly to the suppliers. In this case, the credit institution is assured that the credit is being properly used.

positive effects in HIV prevention among the population, but remains inadequate especially in rural areas. Therefore, we recommend continuing the implementation of the NSP by seeking ways to make it more effective. It should give more priority to the response to AIDS in rural areas, where the majority of the population lives and is less educated. The response to the epidemic should start by motivating the population to find out their HIV status through the promotion of voluntary testing followed by access to ARV drugs when necessary, access to information about nutrition and safe sex behaviour. Doing so will not only extend the life of affected people but also reduce the spread and the stigmatisation of the disease. In line with this, an organisation like CERAB that brings together HIV/AIDS-affected people should be supported and duplicated within the country. Doing so will promote support networks at the national level. MFIs can play an important role in mitigating the impact of HIV and AIDS through joint and coordinated interventions with the state and other actors. For example, we suggest that MFIs include the issue of HIV and AIDS in their borrower's training schedule and reinforce the capacity-building of MFI officers in charge of training.

This study indicates the negative impacts of HIV and AIDS on MFIs through the low level of loan repayment. The main factor that causes this result is linked to flaws in the process of the provision of loans and the incapability of HIV-affected borrowers to carry out their income-generation activities normally due to illness. We recommend that the process of the provision of loans be based on rules that should take into account the needs of affected clients. The programme should assess the real financial needs and provide the total amount of the granted loan to the beneficiaries. Rules should be based on the health status of the borrowers. Furthermore, there is a need to think about a group loan for common investment of HIV-positive women as suggested by HIV-positive women and whose opinion we share. Doing so may reduce the loss of labour force among affected women when experiencing illness. In particular, when some members are sick, they could be replaced by those who are healthy, to ensure the continuity of the activities of the group. Despite the involvement of the state in providing free drugs to infected people, many of them do not have access to these drugs. And when experiencing opportunist illness, they have difficulties meeting medical expenditure. To deal with these problems, this study suggests giving the opportunity to and encouraging HIV-affected women like the members of CERAB who do not have full-blown AIDS and still have their labour capacity, to build up savings. These savings could be used to meet borrowers' medical expenditures and cope with non-repayment. In addition, the provision of loans should be followed by the monitoring of their use. In this way, MFIs can also prevent defaults. In the long term, there is a need to think of the provision of health insurance facilities for HIV-positive people to respond to their need for health care. However, the main question about the issue of financing medical treatment for HIV-positive people is how to and which financial structure will be in charge of providing this particular health insurance.

8.3 Limitations of the study and further research

The study of the efficacy of MFIs is based on cross-sectional data that cannot capture the long-term impact of MFI credit on women's livelihood in the Abengourou region. This is because microfinance institutions only settled recently in this area and panel data were not available, and if they were available, they would be costly. For this reason, we recommend further study to use panel data which will enable a longitudinal approach.

Another limitation of this study is the choice and quality of the control group. During data collection, it was difficult to find women who had access to credit and did not take credit. The selected women had no access to MFI credit due to lack of savings. This process made a bias in the comparison between the groups of women who had access to credit and women without access to MFI credit. The first group in this case is considered as better-off clients. Although we used the propensity score method to reduce the bias and Heckman regressions in Chapter 6 to analyse the effects of MFIs on female borrowers, there is a need to take into account the comparability of the control group and the treatment group when selecting the sample unit.

The analysis of HIV and AIDS in relation to microfinance was done on a credit programme which was implemented in the urban area of Abengourou, where the conditions and the environment are different from rural areas. A survey on HIV and AIDS effects on rural microfinance should provide further insight into the spread of the disease in rural areas, its different impacts and the way to find better solutions to mitigate these impacts.

References

Ackerly, A. (1995), Testing the tools of development: Credit programmes, loan involvement and women's empowerment. *IDS Bulletin* 26(3): 56-68.

Adams, R.H. and He., J.J. (1995), Sources of income inequality and poverty in rural Pakistan. Research Report No. 102. Washington DC: *International Food Policy Research Institute.*

Adams, D.W. and Pischke, V. (1992), Micro-enterprise credit programmes: Déjà vu, *World Development* 20: 1463-1470.

ADB (2000), Finance for poor: Microfinance Development Strategy. Asian *Development Bank*.

ADB (2007), ADB Statistics Pocketbook: African Development Bank.

Agarwal, B. (1994), Gender, resistance and land: Interlinked struggles over resources and meanings in South Asia. *Journal of Peasant Studies* 22(1): 81-125.

Agarwal, B. (1997), Bargaining and gender relations: Within and beyond the household. *Feminist Economist Development* 3(1): 1-51.

Akram-Lodhi, A.H. (2005), Intrahousehold resource allocation: a feminist economics perspective. Lecture in the course Feminist Development Economics 2005. The Hague: Institute of Social Studies.

Akram-Lodhi, A.H. (1997), The Unitary model of the peasant household: An obituary? *Economic Issues* 2 (1): 27-42.

Alam, M. N. (2009), Interest-free Microfinance to Micro Entrepreneurs in rural Bangladesh (A study based on an 'Institutional-Network Approach'). Paper presented at First International Microfinance Conference on Microfinance held at ULB Brussels on June 2-4, 2009 by CERMI (Centre for European Research in Microfinance).

Ali, A. (2005), Livelihood and food security in rural Bangladesh: The role of social capital. PhD Thesis, Wageningen University.

Amin S., Rai, A.S. and Ropa, G. (2003), Does microcredit reach the poor and vulnerable? Evidence from northern Bangladeh. *Journal of Development Economics,* 70: 59-82.

Ardener, S. and Burman, S. (eds.) (1995), Money-go-rounds: The importance of Rotating Savings and Credit Associations for women. Oxford/Washington DC: Berg.

Armendàriz, B. and Morduch, J. (2005), The Economics of Microfinance. The MIT Press Cambridge, Massachusetts London, England.

Armendàriz, B. and Roome, N. (2008), Empowering Women via Microfinance in Fragile States. Solvay Business School, Bruxelles, And TiasNimbas Business School, Tilburg Campus, The Netherlands.

Balkenhol, B. (2006), Access to finance: The place of risk sharing mechanism Social Finance Program, International Labour Organization.

Barry, P.J, Baker, C. B., Ellinger, P.N., Hopkin, J. A., (2000), Financial Management in Agriculture. Interstate Publishers, Inc, Danville, Illinois.

Barnett, T. and Blaikie, P. (eds.) (1992), AIDS in Africa: Its present and future impact London: Belhaven Press.

Barnett, T., and Whiteside, A. (2002), AIDS in the twenty-first century: Disease and globalization. New York: Palgrave Macmillan.

Barslund, M. and Tarp, F. (2008), Formal and informal rural credit in four provinces of Vietnam. *The Journal of Development Studies* 44(4): 485-503.

References

Becker, G.S. (1965), A theory of the allocation of time. *Economic Journal,* 75(299): 493-517.

Becker, G.S. (1973), A theory of Marriage: Part 1. *The Journal of Political Economy*, 81 (4): 813-846.

Becker, G.S. (1993). Human Capital: A Theoretical and Empirical Analysis with.

Special Relevance to Education. New York: Columbia University Press, NBER.

Bekele, H. (2010), Targeting married women in microfinance programmes: Transforming or reinforcing gender inequalities? Evidence from Ethiopia. Ph.D. Thesis, Wageningen University, Wageningen, The Netherlands.

Berger, M. (1989), Giving women credit: The strengths and limitations of credit as a tool for alleviating poverty. *World Development* 17 (7): 1017-1032.

Binaté, N. (1996), Women and rice intensification: Analysis of the production systems in the northern (Korhogo) and western (Gagnoa) regions of Côte d'Ivoire). Doctorat 3ème cycle in Rural Economics, University of Cocody Abidjan.

Browning, M. and Chiappori, P.A. (1998), Efficient intrahousehold allocations: A general characterization and empirical tests. *Econometrica*, 66(6): 1241-1278.

Browning, M., Chiappori, P.A. and Lechene, V. (2006), Collective and unitary models: A Clarification. *Review Economics Household*, 4: 5-14.

Bryceson, D. (2000), Rural Africa at the crossroads: Livelihood practices and policies. *Natural Resource Perspectives* No.52. London: Overseas Development Institute (ODI).

Buckley, G. (1997), Microfinance in Africa: Is it either the problem or the solution. *World Development 25(7):* 1081-1093.

Carswell, G. (1997), Agricultural intensification and rural sustainable livelihoods: A think Piece, *IDS Working Paper,* 64:28.

CGAP (2006), Emerging lessons in agricultural microfinance.

Chambers, R. and Convay, G.R. (1992), Sustainable rural livelihood: Practical concepts for the 21St century. Sussex University, Brighton United Kingdom.

Chambers, R. (1997), Whose reality counts? Putting the first last. London: Intermediate Technology Publications.

Chen Z. and Wooley, F. (2001), A Cournot-Nash model of family decision-making. *Economic Journal,* 111:722-748.

Chen, K. and Chivakul, M. (2008), What drives household borrowing and credit constraints? Evidence from Bosnia and Herzegovina. *International Monetary Fund Working Paper* 08 (208):36.

Chiappori, P.A. (1992), Collective labour supply and welfare. *Journal of Political Economy,* 100: 437-467.

Chua, R.T., Mosley, P., Wright G.A.N. and Zaman, H. (2000), Microfinance, risk management, and poverty: Synthesis study. Study submitted to Office of *Micro- enterprise Development*, USAID.

Coleman, B., E., (2006), Microfinance in Northeast Thailand: Who Benefits and How much? *World Development* Vol. 34(9): 1612-1628.

Cornhiel. S.L. (2006), Feminization of agriculture: Trends and driving forces. University of Wisconsin-Madison.

Diagne, A. (1998), Impact of access to credit on income and food security in Malawi. FCDN Discussion paper, (46): 65. Washington DC: Food Policy Research Institute (IFPRI).

Diagne, A. and Zeller, M. (2001), Access to Credit and Its Impact on Welfare in Malawi. *International Food Policy Research Institute*, Washington D.C Research Report 116.

Donahue, J. Kabbucho, K. and Osinde, S. (2001), HIV/AIDS responding to a silent economic crisis among microfinance clients in Kenya and Uganda: Micro Save-Market-led solutions for financial services.

EIS (2005), Enquête sur les Indicateurs du Sida, Ministère de la Lutte contre le SIDA Institut National de la Statistique, RETROCI Abidjan, Côte d'Ivoire. ORC Macro Calverton, Maryland, U.S.A.

Ellis, F. (1998), Peasant Economics: Farm households and agrarian development. Cambridge: Cambridge University Press.

Ellis, F. (1999), Household strategies and rural livelihood diversification. *The Journal of Development Studies,* 35(1):1-38.

Ellis, F. (2000), Rural livelihoods and diversity in developing countries. Oxford University Press.

FAO (1995), Gender and food security: Synthesis report of regional documents: Africa, Asia and Pacific, Europe, Near East, Latin America.

FAO (1999), High level consultation on rural women and information: Gender issues in land tenure. Rome, 4-6 October 1999.

Farrington, J. (2001), Sustainable livelihoods, rights and the new architecture of Aid. ODI *Natural Resource Perspectives* No. 69. London: Overseas Development Institute.

Fischhoff, B. (1980), For those condemned to study the past: Heuristics and biases in hindsight in Kahneman, D; Slovic, P.; Tversky, A. (1982), Judgment under uncertainty: Heuristics and biases. Cambridge University Press.

Garikipati, S., (2008), The Impact of Lending to Women on Household Vulnerability and Women's Empowerment: Evidence from India. *World Development* Vol. 36(12): 2620-2642.

Gifford, Julie L. (2004), Utilizing, accumulating and protecting livelihood assets: The Role of Urban informal financial services in Kampala, Uganda in Lont, Hotze and Hospes, Otto (eds.): Livelihood and Microfinance – Anthropological and sociological perspectives on savings and debt. Delft: Eburon.

Goetz, A.M. and Gupta, R.S. (1996), Who takes the credit? Gender, power, and control over loan use in rural credit programs in Bangladesh. *World Development,* 24 (1): 45-63.

Goldman, I. *et al*. (2000), Institutional support for sustainable rural livelihoods in southern Africa: Results from Zimbabwe, Zambia and South Africa. ODI *Natural Resource Perspectives* No.50. London: Overseas Development Institute.

Gonzales de la Rocha, M. (1994) Household headship and Occupational Position in Mexico. Poverty and Well-being in the Household: Case Studies of the Developing World, pp. 115-125. San Diego: Center for Iberian and Latin American Studies, UCLA.

Greeley, M. (2003), Poverty reduction and microfinance assessing performance. *IDS Bulletin* 34 (4): 10-20.

Haddad, L., Hoddinot, J. and Alderman, H. (1997), Introduction: The scope of intra household resource allocation issues. In Haddad, Hoddinot L., J. and Alderman H. (eds.), Intrahousehold resource allocation in developing countries: models, methods, and policy. Baltimore: Johns Hopkins University Press.

Hart, G. (1994), The Dynamics of Diversification in an Asian Rice Region in B. Koppel, John N. Hawkins, William E. James (eds.), Development or Deterioration? Work in Rural Asia, (Boulder, CO: Lynne Reinner, pp. 47-71.

Hashemi, S.R., Schuler, S.R. and Riley, P. (1996), Rural credit programmes and women's empowerment in Bangladesh. *World Development* 24 (4): 635-653.

Heckman, J. (1979), Sample selection bias as a specification error. *Econometrica,* 47: 153-61.

Hoff, K. and Stiglitz J.E. (1990), Introduction: Imperfect Information and Rural Credit Markets: Puzzles and policy perspectives, *World Bank Economic Review,* 4(3): 235-250.

Hoff, K., A.B. and Stiglitz, J.E. (1993), The economics of rural organization theory, practice, and policy: Oxford: Oxford University Press.

Holvoet, N., (2005), Credit and Women's Group membership in South India: Testing Models of Intrahousehold Allocative Behaviour. *Feminist Economics*, 11:3, 27-62.

Holvoet, N., (2005), The Impact of Microfinance on Decision-Making Agency: Evidence from South India. *Development and Change* 36(1): 75-102.

Hotze, L. and Hospes, O. (2004), Livelihood and Microfinance: Anthropological and sociological perspectives on savings and debt. Delft: Eburon.

Hulme, D. (1991), The Malawi Mudzi Fund: Daughter of Grameen. *Journal of International Development* 3(4): 427-432.

Hulme, D. (2000), Is Microdebt good for poor people?: A Note on the dark side of microfinance. *Small Enterprise Development* 11(1): 26-28.

Hulme, D. and Mosley, P. (1996), Finance against poverty. Vol2. Routledge, London.

Hussein, K. and Nelson, J. (1998), Sustainable livelihoods and livelihood diversification. 69, University of Sussex Institute – IDS Working Paper (69): 32, Brighton.

Huybrechts, A. and Fonteneau, B. (2005), Microfinance institutions & HIV/AIDS: transversal analysis of existing initiatives. Flemish Interuniversity Council (VLIR) and Belgian Development Corporation (DGDC): Brussels.

INS, (2008), Institut National de Statistiques Côte d'Ivoire.

Ismawan, B. (2000), Microfinance, Poverty & Social Capital, A Case Study on the Impact of Economic Intervention, Paper to be presented at The Asian Regional Conference jointly organized by INASIA and CDF on The Potential and Limitations of Economic Initiatives in Grassroots Development – Current Issues and Asian Experiences, 27-30 November 2000 at the BRAC Centre for Development Management (BCDM), Rajendrapur, Bangladesh.

Johnson, S. (1999), Gender and Microfinance: Guideline for good practice. Centre for Development Studies. University of Bath.

Johnson, S. (2000), Gender impact assessment in microfinance and microenterprise: why and how. *Development in Practice*, 10(1): 89-94.

Johnson, S. (2003), Gender norms in financial markets: evidence from Kenya. *World Development,* 32(8): 1355-1374.

Johnson, S., Kidder, T. (1999), Globalization and gender–dilemmas for micro finance organizations, *Small Enterprise Development*, 10(3): 4-15.

Kabeer, N. (1994), Reversed Realities: Gender Hierarchies in Development Thought. London: Verso.

Kabeer, N. (2001), Conflict over credit: Re-evaluating the empowerment potential of loans to women in rural Bangladesh. *World Development* 29 (1): 63-84.

Kakuru, D.M. (2006), The combat for gender equality in education: Rural livelihood pathways in the context of HIV/AIDS. Ph.D. Thesis, AWLAE series No.4. Wageningen Academic Publishers, Wageningen, the Netherlands.

Karim, L. (2001), Politics of the poor? NGOs and grass-roots political mobilization in Bangladesh, *POLAR* 24(1): 92-107.

Karuhanga, B.M. (2008), Living with AIDS in Uganda: Impacts on banana-farming households in two districts. PhD Thesis. AWLAE series No.6. Wageningen: Academic Publishers.

Khandker, S., Baqui Khalily and Zahed Khan. (1995), Grameen Bank: Performance and sustainability. World Bank Discussion Paper 306:162. Washington, DC: The World Bank.

Khandker, S. (2003), Microfinance and poverty: Evidence using panel data from Bangladesh. *The World Bank Economic Review*, 19(2):263-286.

Kraal, V., D. Pelletier, Frongillo E. and Rajabuin S. (2000), The potential role of food aid for AIDS mitigation in East Africa: Stakeholder views. FANTA discussion paper. Food and Nutrition Technical Assistance, Academy for Educational Development: Washington DC.

Laier, J.K. (1997), Women's Work and the Household in Latin America. A Discussion of the literature, *CDR Working paper* No. 97.

Lundberg, S. and Pollak, R.A. (1993), Separate spheres bargaining and the Marriage Market. *Journal of Political Economy,* 101(6), 998-1010.

Lundberg, S., Pollak, R.A. and Wales, T. (1997), Do husbands and wives pool their resources? Evidence from the U.K. Child benefit. *Journal of Human Resources,* 32: 463-480.

Lundberg, S. and Pollak, R.A. (2003), Efficiency in marriage. NBER Working Paper (8642).

Manser, M. and Brown M. (1980), Marriage and Household Decision-making: A Bargaining Analysis. *International Economic Review* 21 (1): 31-44.

Maxwell, S. and Smith, M. (1992), Household food security: A conceptual review in S. Maxwell and T. Frankenberger (eds.) *Household Food Security:* Concepts, indicators, measurements, (Rome and New York: IFAD and UNICEF, 1992).

Mayoux, L. (1998), Women's empowerment and micro-finance programmes: Strategies for increasing impact. *Development in Practice,* 8 (2): 235-241.

Mayoux, L. (1999), Questioning virtuous spirals: Micro-finance and women's empowerment in Africa. *Journal of International Development* 11: 957- 984.

McElroy, M.B. and Horney, M.J. (1981), Nash-bargained household decisions: towards a generalization of the theory of demand. *International Economic Review* 22 (2): 333-349.

Microcredit Summit Campaign Report. (1999), Washington DC 20001 USA.

Microcredit Summit Campaign Report (2005). Washington DC.

Ministère de lutte contre le SIDA, INS, RETROCI-CI. (2005), Enquête sur les indicateurs du sida. ORC Macro Calverton, Maryland, USA.

Moll, H.A.J. (2003), Rural microfinance in Developing countries: An introduction in microfinance and marketing in developing countries. Lecture reader.

Molyneux, M. (1985), Mobilization without emancipation? Women's interests, the State and revolution in Nicaragua. *Feminists Studies* 11(2).

Morduch, J. (1999), The Microfinance Promise. *Journal of Economic Literature* 37: 1569-1614.

Morduch, J., and Haley, B., (2002), Analysis of the effects of microcredit on poverty reduction. New York University Wagner Working Paper No. 1014. Hull: Canadian International Development Agency.

Morduch, J., Hashemi, S. and Littlefield, E. (2003), Is microfinance an Effective strategy to reach the Millennium Development Goal? CGAP: Focus Note 24.

Mosley, P., and Rock, J., (2004), Microfinance, labor markets and poverty in Africa: A study of six institutions. *Journal of International Development*, 16(3), 467-500.

Moser, C.O.N., 1989. Gender Planning in the Third World: Meeting practical And Strategic Gender Needs. *World Development,* 17(11):1799-1825.

Moser, C. O. N., 1993. Gender Planning and Development Theory, Practice and Training. New York, Routledge.

Moser, C.O.N., 1998. The Asset Vulnerability Framework: Reassessing urban poverty reduction strategies. *World Development*, 26(1):1-19.

Mosley, P. (2001), Microfinance and Poverty in Bolivia', *Journal of Development Studies*, 37(4):101-132.

Mpuga, P. (2008), Constraints in Access to and demand for rural credit: Evidence from Uganda. African Development Bank, Tunis-Tunisia.

Muhumuza, W. (1997), The interface between structural adjustment, poverty and state managed credit programmes in Uganda. Makerere *Political Science Review* Vol 2.

Nguyen, G., Wampfler, B., Benoit-Cattin, M. and Savadogo K. (2002), Characteristics of household demand for financial services in highly uncertain economies: A Review of evidence from Burkina Faso, in: Manfred Zeller and Richard L. Meyer (eds.): The Triangle of microfinance: financial sustainability, outreach, and impact, Washington DC: Johns Hopkins University Press, pp. 46-68.

Niehof, A. (2004), The significance of diversification for rural livelihood systems. *Food Policy*. 29: 321-338.

Niehof, A. (2007), Fish and Female agency in a Madurese fishing village in Indonesia. *Moussons,* 11:185-209.

Niehof, A. and Price, L. (2001), Rural livelihood systems: A conceptual framework. Wageningen-UPWARD Series on Rural Livelihoods No.1. Wageningen: WU-UPWARD.

Niehof, A. and Price, L. (2008), Etic and emic perspectives on HIV/AIDS impacts on rural livelihoods and agricultural practice in Sub-Saharan Africa. *NJAS Wageningen Journal of Life Sciences* 56-3, 2008, 139-153.

Nombo, C.I. (2007). When AIDS meets poverty: Implication for social capital in a village in Tanzania. Ph.D Thesis. AWLAE series No.5. Wageningen Academic Publishers, Wageningen, the Netherlands.

Odebode, O., (2004), Livelihood Pathways of Low-Income Urban Yoruba in Ibadan, Nigeria. Ph.D Thesis in Development Studies of the Institute of Social Studies, The Hague, Shaker Publishing BV, The Netherlands.

OECD, (2008), Education at a Glance: Indicators (Organization for Economic Co-Operation and Development).

Oppong, J.R. and Mensah, S.A. (2004), HIV/AIDS in West Africa: The case of Senegal, Ghana, and Nigeria in HIV and AIDS in Africa Beyond Epidemiology, Kalipeni, E., S.C., J.R. Oppong and Ghosh, J. Blackwell , pp.70-82.

Pitt, M. M. and Khandker, S.R. (1996), Household and intrahousehold impact of the Grameen Bank and similar targeted credit programs in Bangladesh. *World Bank Discussion Paper* (320): 109.

Pitt, M.M. and Khandker, S. (1998), The impact of group-based credit programs on poor household in Bangladesh: does the gender of participants matter? *Journal of Political Economy*, 106 (5): 958-977.

PNLS-RETROCI, 2000, HIV Seroprevalence among Antenatal Clinic Attendees in Cote d'Ivoire, WHO-AFRO HIV Surveillance Report.

PROSTAB/ANADER. (2006), Agriculture Durable au Département d'Abengourou: Les Innovations Techniques.

Quisumbing, A. and. de la Brière, B. (2000), Women's assets and intrahousehold allocation in rural Bangladesh: Testing measures of bargaining power. FCND Discussion Paper No 86. Washington: International Food Policy Research Institute.

Rakodi, C. and Lloyd-Jones, T. (eds) (2002) *Urban Livelihoods: A People-Centred Approach to Reducing Poverty*, Earthscan, London.

Rahman, A. (1999), Micro-credit Initiatives for Equitable and Sustainable Development: Who pays? *World Development,* 27 (1): 67-82.

Rahman, A. (2004), Microcredit and poverty reduction: Trade-off between building institutions and reaching the Poor in livelihood and microfinance anthropological and sociological perspectives on savings and Debt.

Ravallion, M., S. Chen and Sangraula, P. (2007), New evidence on the urbanization of global poverty. Washington D.C., World Bank Policy Research Working Paper (4199): 46.

Rogaly, B. (1996), Micro-finance Evangelism, Destitute women and the hard Selling of a new anti-poverty formulas. *Development in Practice* 6 (2): 100-112.

Saito, A. Katrine *et al*. (1994), Raising the Productivity of women farmers in Sub- Saharan Africa, World Bank Discussion Paper No. 230. Africa Technical Department Series.

Schaffner. C. and Wenden, A. (1999), Language and peace. London: Routledge.

Schreiner, M. and Vomderkack R.M. (2001), Women, Microfinance, and Savings: Lessons and proposals. Center for Social Development St Louis Washington University.

Schuler, S.R. and Hashemi, S.M. (1994), Credit programs, women's empowerment, and contraceptive use in rural Bangladesh. *Studies in Family Planning*, 25(2): 65-76.

Scoones, I. (1998), Sustainable Rural Livelihoods: A Framework for Analysis. IDS Working Paper 72. Brighton: IDS, University of Sussex.

Scott, K. (2000), Credit in designing Household Survey Questionnaires for Developing Countries Lesson from 15 years of the Living Standards Measurement Study. *World Bank,* 2:211-248.

Sebstad, J. and Chen, G. (1996), Overview of studies on the impact of microenterprise credit. Report submitted to USAID. Assessing the Impact of Microenterprise services (AIMS).

Sen, A.K. (1990), Gender and cooperative conflicts: In: Irene Tinker (ed) Persistent inequalities: women and world development, New York: Oxford University Press, pp.123-149.

Simanowitz, A. (2004), Issues in designing effective microfinance Impact Assessment system. *Imp-Act Working paper* No. 8.

Singh, N. (2003), Building Social capital Through Microfinance: A Perspective on the growth of microfinance sector with special reference to India. Narsee Monjee Institute of Management Studies Deemed University Mumbai, India.

Skoufias, Emmanuel. (2001), Is PROGRESA working? Summary of the results by an evaluation by International Food Policy Research Institute (IFPRI), Food Consumption and Nutrition Division, *Discussion Paper* No. 118, Washington, D.C.

Stillwaggon, E. (2006), AIDS and the Ecology of Poverty. Oxford: Oxford University Press.

Swain. R. B. and Varghese. A. (2008) Does Self Help Group Participation Lead to Asset Creation? Working Paper 2008:5 Department of Economics Uppsala University, Sweden.

Swift, J. (1989), Why are rural people vulnerable to famine? *IDS Bulletin* 20(2):8-15.

Tesfay, G.B. (2009), Econometric Analyses of Microfinance Credit Group Formation, Contractual Risks and Welfare Impacts in Northern Ethiopia. Ph.D. Thesis, Wageningen University, Wageningen, The Netherlands.

Thorbecke. E. and Nissanke. M. (2005), Introduction: The Impact of Globalization on the World's Poor, *World Development* 34(8): 1333-1337.

Thornton, R. (2008), The demand for, and impact of, learning HIV status. *American Economic Review*, 98(5):1829-1863.

Todd, H. (1996), Women at the Center. Colorado: West View Press.

Tujague, L. (2001), Enjeux socio-économiques du maraîchage en zone de plantation. Le cas de la tomate dans le Centre-Est en Côte d'Ivoire, thèse de doctorat de 3e cycle, Université de Toulouse-Le Mirail.

Tumushale, J. (2004), HIV/AIDS and rural livelihoods: What we know? Impacts and mitigation strategies. CHGA policy dialogue on rural livelihoods and food security/nutrition in the context of HIV/AIDS in ESAR, Addis Ababa.

UNAIDS. (2004), Report on the Global AIDS Epidemic.

UNAIDS. (2007), AIDS epidemic update Report.

UNDP. (1997), Human Development Report. New York: Oxford University Press.

UNDP. (2006), Annual Report: Global partnership for development.

UNDP. (2008), Statistics of the Human Development Report.

Van Maanen, G. (2004), Microcredit Sound Business or Development Instrument. The Netherlands, SGO Uitgeverij - Hoevelaken.

Von Braun, J. (2007), Focus on the world's poorest and hungry People. IFPRI, 2006-2007, Annual Report Essay.

White, J. and E. Robinson. (2000), HIV/AIDS and rural livelihood in Sub- Saharan Africa. Policy series 6, Natural Resources Institute, University of Greenwich. London.

WHO. (2006), Working together for health. The World Health Organization report.

World Bank, (2007), Global Monitoring Report: Confronting the challenges of gender equality and fragile states, p.13 Washington, DC.

World Bank Development Report. (2005), Millennium Development Goals: From Consensus to Momentum. Washington DC.

World Development Report. (2007), Development and the next generation. Washington DC.

World Bank development Report. (2008), Agriculture for development, Washington DC.

Zaman, h., (2004), The scaling-up of microfinance in Bangladesh: Determinant, impacts and lessons. *World Bank Ploicy Research Working paper* No. 3398. Washington, DC: World Bank.

Zeller, M. (2001), The safety net role of microfinance for income and consumption smoothing. In: N. Lustig (ed) Shielding the poor. Social Protection in the Developing World. Washington DC: Brookings Institution and Inter-American Development Bank, pp.217-238.

Zeller, M. (1994), Determinants of credit rationing: A study of informal lenders and formal credit groups in Madagascar, *World Development,* 22(12):1895-1907.

Zeller, M. and Sharma, M. (2002), Access to and demand for financial services by the rural poor: A multicountry synthesis. In: Zeller, M. and Meyer R.L. (eds.) The Triangle of microfinance: Financial sustainability, outreach, and impact. Baltimore and London: Johns Hopkins Press, pp.19-45.

Zoetelief, J. (2004), Microfinance from below: Exploring rural livelihoods in Tanzania. Delft: Eburon.
Zoomers, E.B. (1999), Linking livelihood strategies to development: experiences from the Bolivian Andes. KIT-Press (Royal Tropical Institute). Amsterdam, The Netherlands.

Appendices

Appendix 1. Survey questionnaire

Questionnaire number: .....
Date of interview: .../.../... Time started: ..... Time ended: .....
Name of village .....
Name of respondent: .....
Ethnic group: .....
Name of interviewer: .....

A. Socio-demographic characteristics of female respondent

1. What is the status of female respondent?
   1 = women with access to COOPEC credit; 2 = women with access to CMEC credit; 3 = women without credit; 4 = HIV/AIDS-affected women with credit; 5 = HIV/AIDS-affected women without credit.
2. How old are you?
3. What is your relationship to the household head?
   1 = wife; 2 = daughter; 3 = sister; 4 = mother; 5 = step daughter; 6 = grandchild; 7 = grandmother; 8 = mother-in-law; 9 = niece; 10 = daughter-in-law; 11 = other kin (specify).
4. What is your educational level?
   1 = none/illiterate; 2 = able to read and write; 3 = completed primary; 4 = secondary education; 5 = vocational school; 6 = higher education; 7 = other (specify).
5. What is your marital status?
   1 = single; 2 = married; 3 = separated; 4 = divorced; 5 = widowed.
6. If you are married or widowed does your husband have other spouses? 1 = yes; 0 = no
7. If yes, how many spouses are there?
8. What is your position?
   1 = first; 2 = second; 3 = third; 4 = other (specify).
9. What is your main activity?
   1 = farmer; 2 = trader; 3 = other (specify).
10. What is your secondary activity?
    1 = farmer; 2 = trader; 3 = other (specify).
11. What is your religion?
    1 = Catholic; 2 = Muslim; 3 = Protestant; 4 = other (specify).

B. Saving and credit

1. Saving

Table A.1. Women's savings capability.

Source of saving	What is the first reason for saving? (1)	What is the second reason for saving? (2)	What is the third reason for saving? (3)	How did you use your savings? (4)	How much did you save?
COOPEC					
CMEC					
Bank					
Home					
Elsewhere					

Code (1) (2) (3): 1=access to credit; 2=more secured; 3=closed to me; 4=easy procedure; 5=nobody knows how much money you have; 6=more available; 7=more available and accessible in case of emergency; 8=no form to fill in; 9=other (specify).
Code (4): 1=get credit; 2=farm activity; 3=trade activity; 4=household consumption; 5=other (specify).

2. Credit

Table A.2. Use of credit.

Source of credit	Frequency of obtaining loan	When did you obtain the last loan?	Type of credit (1)	Amount of loan	How much do you owe the MFI?
COOPEC					
CMEC					
Bank					
Government Agency					
ROSCA					
Family, friend					
Private moneylender					

Code (1): 1=individual credit; 2=group credit; 3=other (specify).

2.1 Details on credit

1. Did you use the last credit(s) obtained to finance income-generating activity? 1 = yes; 0 = no.

Table A.3. Details on credit.

Where did you borrow your last credit (s) (1)	What was the main reason for borrowing ? (2)	How difficult was it to obtain this credit? (3)	How much money did you spend to obtain the credit?		
			Application fees	Cash payment	Other (specify)

What kind of collateral did you provide to obtain the credit? (4)	What is the cash value of the asset provided as collateral?	Did the lender provide you with any training or services related to obtaining and managing the credit? 1=yes 0=no	What type of services or training did you receive from the lender? (5)

Code (1): 1=COOPEC; 2=CMEC; 3=ROSCA; 4=bank; 5=government; Agency; 6=friends/relatives; 7=private moneylender; 8=other (specify)
Code (2):1=trade; 2=farm activity; 3=other (specify)
Code (3): 1=not difficult; 2=difficult; 3=very difficult
Code(4): 1=savings; 2=group lending; 3=agricultural land; 4=car or other vehicle; 5=building, other property; 6=signature, personal guarantee; 7=co-signer; 8=other (specify)
Code (5): 1=Assistance in preparing loan application; 2=technical advice on the design of the project; 3=technical advice on project during the life of the loans; 4=training in loan management; 5=training in book-keeping; 6=classes on group borrowing; 7=other (specify)

2.2 Loan repayment

Table A.4. Repayment of credit.

Type of activities	Status of women (1)	How much did you borrow?	Did you pay or are you paying interest on this credit? 1=yes 0=no	What was the interest rate you paid?	What was the type of instalment? (2)	How much was the instalment? (FCFA)

How many payments in total will you make to pay back your credit? (or have made if credit is already paid off)?	How much have you already paid?	Are you presently behind on your credit repayments?	What are the causes of the delay in the repayment? (3)	What is the source of funding for the repayment? (4)

Code (1): 1=Women with access to COOPEC credit; 2=women with access to CMEC credit; 3=Women without credit; 4=HIV/AIDS-affected women with credit; 5=HIV/AIDS-affected women without credit.
Code (2): 1=daily; 2=weekly; 3=monthly; 4=quarterly; 5=semester; 6=annual; 7=only one final payment
Code (3): 1=business failed; 2=I used a part of the credit to buy food for household consumption; 3=I used the credit for medical expenses for household member; 4=I used the credit to repay another credit; 5=other (specify)
Code (4): 1=income from activity financed by MFIs; 2=use of new loan from MFIs; 3=credit from money lender; 4=credit from ROSCA; 5=my husband/relatives help me; 6=Use money received from abroad; 7=other (specify)

Why you did not have any access to credit to finance your activities?

1 = I do not have any savings; 2 = lack of collateral; 3 = lack of guarantor; 4 = I do not need any credit; 5 = I am afraid of being in debt; 6 = I am not a member of any group/association; 7 = the interest rate is high; 8 = other (specify)

C. Women' s livelihood activities

1. Agricultural production

Table A.5. Details on agricultural products.

Credit status of women	Types of crops (1)	Acre (ha)	Mode of access to land? (2)	What is the price of land? (FCFA)	How much did you pay for labour?	How much did you spend on inputs (seed, fertilisers)?

In total how much did you spend to produce your crop(s)?	How did you finance your activities? (3)	What quantity did you produce?	What quantity did you use for household consumption?	What is the total income you obtained?

Code (1): 1=maize; 2=peanut; 3=coffee; 4=cocoa; 5=vegetable (tomato, pepper, eggplant); 6=cassava; 7=yam; 8=plantain; 9=livestock (specify)
Code (2): 1=heritage; 2=buy cash; 3=buy on credit; 4=Sharecropping (specify the type of sharing); 5=from my husband; 6=other (specify)
Code (3): 1=self-financing; 2=help from my husband; 3=help from my parents; 4=other (specify)

2. *Trade*

Table A.6. Trade.

Credit status of women	What type of trade of agricultural goods did you carry out? (1)	Did you use hired labour?	How much did you pay for the labour?	How much did you spend in total to get the final goods?	How did you finance your activities? (2)	What is the selling price?

What is the income earned per day or per week?		What is the average number of days in a week that you sell?	What is the quantity for household consumption?
Minimum	Maximum		

Code (1): 1=trade (specify); 2=food processing; 3=restaurant; 5=other (specify

D. Use of income and women empowerment

1. What was the first most important thing you did with the income obtained from your credit?
2. What was the second most important thing you did with the income obtained from your credit?
3. What was the third most important thing you did with the income obtained from your credit?
4. What was the forth most important thing you did with the income obtained from your credit?

   Code: 1 = reinvest in my previous activity; 2 = start new activity (specify); 3 = pay for school fees; 4 = buy clothes/jewels; 5 = buy food for household; 6 = pay for medical expenses; 7 = rearing livestock; 8 = increase my savings; 9 = build house; 10 = other (specify)

Table A.7. Women participation in decision-making.

Who makes the decision to?	Before access to credit			Since you have had access to credit		
	Myself	My husband and myself	My husband and relatives	Myself	My husband and myself	My husband and relatives
Borrow money						
Use credit						
Trade of goods						
Use of household consumption goods						
Use of woman's income						
Use of household income						
Schooling of boys						
Schooling of girls						
Household equipments expenses						
Participation in community ceremonies						
Other (specify)						

E. Health and its effects on household livelihood activities

Table A.8. Effects of illness on women.

Have you been ill during the past 3 years? 1=yes 0=no	What was the type of the illness? (1)	When were you ill?	For how long were you ill?	In total how much money did you spend on the treatment of the illness?	What was the source of the funding for the treatment? (2)	How many days of labour did you miss due to the illness?	How did you compensate for the labour lost due to illness? (3)	What was the total income lost from your activity (ies) due to illness?

Table A.9. Effects of HIV/AIDS on women.

How long have you been affected by HIV/ AIDS?	How much do you spend on treatment?	Have you been ill?	If yes what type of illness was it?	For how long have you been ill?	How much did you spend on the treatment of these diseases?	How do you finance your illness? (1)	How many days of labour did you miss due to illness?	What was the total income lost due to illness?

Code (1) 1=use of my savings; 2=use of credit; 3=help from my husband; 4=help from my relatives; 5=help from my group/association; 6=other (specify)

F. Household level

1 Socio-demographic characteristics

How many people live in your household (those who share the same meal with you at least once a day including the respondent) (see Table 5)

Table A.10. Household composition and structure.

Person ID	Name of household members (1)	Sex 1=male 2=female	Age	Relation to household head (2)	Marital status (3)	Level of education (4)
1						
2						
3						
4						

Main activity (5)	Secondary activities (6)	Religion (7)

Code (1): For the woman respondent in the table you add (r), and for the household head in the table you add (HH)
Code (2): 1=Wife/husband; 2=Son/daughter; 3=Sister/brother; 4=Father/mother; 5=Stepson/daughter; 6=Grandchild; 7=Grandparent; 8=Father-in-law/mother-in-law; 9=Cousin; 10=Niece/nephew; 11=Son-in-law/daughter-in-law; 12=other kin
Code (3): 1=single; 2=married; 3=separated; 4=divorced; 5=widowed
Code (4): 1=none/illiterate; 2=able to read and write; 3=completed primary 4=secondary education; 5=vocational school; 6=higher education; 7=other (specify)
Code (5) & (6): 1=farmer; 2=trader; 3=employee; 4=small business/self-employee (non-farming); 5=civil servant; 6=other (specify)
Code (7): 1=Catholic; 2=Muslim; 3=Protestant; 4=other (specify)

2. Household livelihood indicators

Table A.11. Household asset ownership.

Assets		Does any member of your household own this item? 1=yes 0=no	Who owns this item? (1)	How many items does the person have?	How was this item obtained? (2)	If this item had to be sold today, how much would it be worth?
Land						
House						
Livestock						
	Cows					
	Sheep					
	Pigs					
	Chicken					
Equipments						
	Tractor					
	Car/truck					
	Motorcycle					
	Bike					
	Poultry houses					
Electrical household appliances						
	Television					
	Radio/tape recorder					
	Telephone					
	Sewing machine					
Consumer goods						
	Sofa, chairs					
	Electricity					

Code (1): 1=husband; 2=son/daughter; 3=sister/brother; 4=father/mother; 5=stepson/daughter; 6=grandchild; 7=grandparent; 8=father-in-law/mother-in-law; 9=cousin; 10=niece/nephew; 11=son-in-law/daughter-in-law; 12=other kin

Code (2): 1=buy cash; 2=cash using credit; 3=gift; 4=other (specify)

3. Health and its effects on household livelihood activities

Table A.12. Effect of illness on woman's household.

Has any household member been ill during the last 3 years? 1=yes 0=no	Who was ill? (1)	What type of illness was it? (2)	For how long has the person been ill?	Who takes care of the sick person?	How much money was spent on medical costs?	How did you finance the treatment? (3)	What is the status of the sick person now: 1=recovered 2=still ill 3=died

Code (1): 1=husband; 2=son/daughter; 3=sister/brother; 4=father/mother; 5=stepson/daughter; 6=grandchild; 7=grandparent; 8=father-in-law/mother-in-law; 9=cousin; 10=niece/nephew; 11=son-in-law/daughter-in-law; 12=other kin

Code (2): 1=tuberculosis; 2=diarrhoea; 3=malaria; 4=typhoid; 5=meningitis; 6=diabetes; 7=pneumonia; 8=other (specify)

Code (3): 1=my savings; 2=use of the credit; 3=my husband; 4=my parents/parents-in law; 5=aid of my group/association; 6=other (specify)

How many household members were unable to attend school due to the illness?

1. Did any person or NGO visit and assist your household member during the illness?
   1 = yes; 0 = no
2. If 'yes' what did this person do in terms of assistance?
3. Has any household member died during the last 3 years?
   1 = yes; 0 = no

Table A.13. Effect of illness on woman's household.

Who died? (1)	Sex 1=male 2=female	Age	When did the person die	Cause of death (2)	In case of illness	
					What type of illness was it?	How long has the person been ill?

Code (1): 1=husband; 2=son/daughter; 3=sister/brother; 4=father/mother; 5=stepson/daughter; 6=grandchild; 7=grandparent; 8=father-in-law/mother-in-law; 9=cousin; 10=niece/nephew; 1=son-in-law/daughter-in-law; 12=other kin
Code (2): 1=old age; 2=prolonged illness (specify); 3=short illness (specify); 4=accident

Appendix 2. Mean productivity by credit

Table A.14. Mean productivity by credit.

	Credit status		t-value (p-value)
	Credit Mean (std.d)	No credit Mean (std.d)	
Production (kg/ha)			
Coffee	303 (228)	445 (226)	0.97 (0.35)
Cocoa	405 (205)	398 (217)	1.30 (0.89)
Cassava	8,650 (4,140)	4,841 (2,960)	3.90*** (0.01)
Yam	7,871 (4,506)	3,902 (2,429)	3.15** (0.04)
Plantain	9,127 (4,152)	2,627 (1,741)	5.08*** (0.000)
Peanut	973 (742)	1,068 (714)	0.49 (0.62)
Eggplant	768 (543)	799 (369)	0.11 (0.91)
Input expenditure (FCFA)			
Labour	36,800 (30,011)	19,144 (26,497)	3.20** (0.02)
Inputs	12,620 (21,486)	3,422 (9,628)	2.25** (0.03)
Total	48,483 (40,901)	22,621 (29,578)	3.31** (0.02)

*** $P<0.01$; ** $P<0.05$.

Source: Research results based on the household survey, 2006.

Summary

This thesis deals with the effectiveness and capability of microfinance institutions in enhancing women's livelihood and empowerment, and mitigating the effects of HIV and AIDS on affected women and their households in Côte d'Ivoire. This study was carried out within the framework of the AWLAE (African Women Leaders in Agriculture and Environment) project. The AWLAE project addresses the theme of the role of women in food systems and the effects of HIV and AIDS on rural livelihoods.

Microfinance has been recognised as a significant means of economic development in developing countries, especially in Africa where most of the economies are based on agriculture. Microfinance as a credit institution is seen as one of the relevant tools that can provide small loans for poor people especially women who have no access to formal banks. Therefore, MFIs have attracted more attention from governments, NGOs, researchers and civil servants since the microcredit summit in 1997 and the nomination of the year 2005 as the International Year of Microcredit by the United Nations General Assembly.

Studies have shown that the effects of MFIs on women's activities differ between countries and between regions within countries according to factors including the environment, and the socio-demographic characteristics of the beneficiaries. This heterogeneity renders the effects of MFIs inconclusive and explains the necessity and the relevance of conducting this empirical study in Côte d'Ivoire.

The objective of this study is to gain insight into women's needs in terms of support for economic activities and empowerment in rural areas and the way in which MFIs address these needs. Specifically, the study aims at assessing whether microfinance services provided for women in Côte d'Ivoire fit their needs in terms of improving their income, productivity, decision-making power, human and social capital. Special attention is paid to HIV-affected women. To achieve these objectives, the study attempts to respond to four main research questions: (1) What are women's needs for credit in rural areas? (2) How do women access MFI credit in rural areas? (3) What are the effects of participation in microfinance programmes on women's practical and strategic gender needs? (4) What is the relationship between microfinance programmes and women coping with HIV/AIDS? These research questions lead to the formulation of hypotheses that are confirmed or rejected.

This study uses both a theoretical and empirical approach that represents the interaction of women's livelihood, microfinance and HIV and AIDS. The empirical analysis consists of an in-depth analysis of microfinance institutions and a survey analysis applied to cross-sectional data collected from 440 women in the Abengourou region located in the Central Eastern part of Côte d'Ivoire. The sample was divided

into four categories of women as follows: non-HIV affected women with and without MFI credit; HIV-affected women with and without credit.

This study gives a descriptive analysis of the study country, and the response of the state to promote the microfinance sector and to mitigate the effects of HIV and AIDS on the individual, household and communities in Côte d'Ivoire. Women in the Abengourou region are basically involved in agriculture, from which they earn their livelihood and the opportunity to produce food for household consumption. The type of activities carried out by women depended on their access to credit. Those who have no access to MFI loans were mainly engaged in farm activities while women with access to credit were mainly traders. They were also able to undertake both agricultural and trade activities. From these results, it appears that women in rural areas need MFI credit for trade purposes and to a lesser extent for agricultural activities.

This study found a significant relationship between savings and credit, meaning that access to MFI credit was fundamentally conditional on the provision of savings from the borrowers that most of the rural population did not have. MFIs use savings as collateral to prevent defaults. In addition, MFI membership and the type of activity are also important for obtaining MFI credit. Furthermore, access to MFI credit depends on factors linked to the characteristics of female borrowers including, marital status, wealth status of the household, ethnicity and the empowerment of women, and trade activity. These determinants positively affect the probability of obtaining MFI credit in rural areas. The study reveals that MFIs prefer to finance trade activity rather than agricultural activity as the latter is seen as risky and associated with unpredictable income.

The use of the propensity score matching method led to the following results. MFIs are found to be effective in enhancing a set of variables including income, the level of farm production, human and social capital. MFI credit has enhanced women's decision-making power within the households too. However, although women's access and use of MFI credit in rural areas did not significantly increase the value of women's assets, it did significantly enhance the value of household assets. This result on the value of women's assets did not confirm the findings of several studies which indicated that the provision of credit enables women to build up and improve the value of their assets (Rahman, 2004; Mayoux, 1999, Van Maanen, 2004). The result also suggested that female borrowers were more likely to use their earned income not to build up their own assets, but to contribute to the improvement of the household standard of living. Doing so enables these women to achieve more power in fulfilling their practical and strategic gender needs within the household as indicated by the findings of this study.

The effectiveness of MFIs in providing loans for women in rural areas is measured by the loan repayment which is an important indicator for MFI practitioners. It gives insight into the capability of the credit institution to ensure its sustainability and to increase its outreach. From our analysis, loan repayment among female borrowers generally was not successful as some borrowers had difficulties paying back their MFI loan. The non-repayment is mainly explained by the diversion of loans from investment purposes, which has to do with the lack of women's control over loans. For MFIs, the diversion of loans can endanger their functioning and sustainability and therefore their effectiveness in rural areas. However, this study found the low repayment performance of female borrowers to be contradictory to the positive effect of MFI credit on women's income and the positive return on investment they achieved. Hence, this study suggests that in addition to the diversion of loans, non-repayment might be linked to other factors especially the unwillingness of the borrowers to repay their loan.

The analysis of the interaction between HIV/AIDS, women's livelihood and MFIs reveals on the one hand that HIV and AIDS negatively affects both human and physical capital of households through morbidity and mortality. The morbidity of affected women results in a direct negative impact on their livelihood activities and an indirect effect on their income and loan repayment. HIV/AIDS has an impact on the morbidity of household members that leads to the loss of family labour, which is difficult to replace due to lack of resources. In addition, the morbidity results in a drop in the level of education as children are forced to stay at home due to illness. On the other hand, the negative effects of HIV and AIDS on female borrowers have an indirect effect on MFIs through the inability of affected borrowers to generate more money and repay their loans. This result essentially has to do with the diversion of loans to meet medical expenditure and the process of the provision of loans that appears to be flawed. In line with this deficiency, the operation and effectiveness of MFIs in supporting and extending their outreach among HIV-affected individuals or households are threatened.

This study contributes to the existing findings about the socio-economic role of MFIs in helping women to generate their livelihood. It gives empirical findings in the case of rural areas in Côte d'Ivoire. Such a study has not been carried out since the implementation of microfinance institutions in the Abengourou region. The study reveals that the activities carried out by women can be influenced by their need to have access to MFIs. This means that women will choose to undertake a particular activity to fit the preferences of microfinance institutions. Another important contribution of this study is to empirically link women's empowerment to their access to MFI credit. The study reveals that women's empowerment regarding the demand for and the use of credit makes them more reliable and gives them more opportunity to obtain MFI credit. With regard to HIV, this study highlights

the diversity and the specificity of the way HIV-affected individuals are financially supported by credit institutions.

To conclude, the study provides some policy recommendations and interventions in order to make MFIs more effective in offering financial services to individuals and households in general and women in particular in rural areas. Specifically we recommend the provision of loans taking into account the needs of borrowers with respect to the special nature of their activities to be financed. MFIs need subsidies from the state or other potential donors to reinforce the capacity-building of MFI credit officers through training and to support the transaction costs linked to the provision of small loans. Doing so will help them to better understand and serve the rural population in an environment which seems to be complex. The study also recommends further study to be conducted in order to explore the long-term effects of MFI credit in rural Côte d'Ivoire.

Samenvatting

De effectiviteit en de mogelijkheden van microkrediet instituten om het levensonderhoud en de *empowerment* van vrouwen te verbeteren, almede de mogelijkheden van deze instituten om de HIV/AIDS geïnfecteerde vrouwen en hun huishoudens in Ivoorkust bij te staan, is het onderwerp van dit proefschrift. De studie is uitgevoerd in het kader van het African Women Leaders in Agriculture and Environment (AWLAE) project.

Microkrediet wordt gezien als een belangrijk instrument om de economische ontwikkeling in Afrikaanse landen, waar de landbouw een zeer belangrijke bedrijfstak is, te bevorderen. Door microkrediet hebben arme mensen en vooral arme vrouwen, die geen toegang hebben tot het bankwezen, de mogelijkheid om een klein bedrag te lenen. Daarom krijgt microkrediet steeds meer aandacht van regeringen, non-gouvernementele organisaties, ambtenaren en onderzoekers na de topconferentie over microkrediet in 1997 en het jaar 2005, het jaar van het microkrediet van de Verenigde Naties.

Verschillende studies laten zien dat het effect van microkrediet op de activiteiten van vrouwen verschilt tussen en binnen landen en afhankelijk is van factoren als de omgeving en de sociaaldemografische kenmerken van de schuldenaar. Dit verschil in uitkomsten geeft het belang en de noodzaak aan om een en ander in Ivoorkust te onderzoeken.

Het doel van deze studie is om inzicht te krijgen in de behoeften van vrouwen in rurale gebieden om zo hun economische activiteiten te steunen en hun *empowerment* te bevorderen en de rol die microkrediet instituten hierin kunnen spelen. Meer in het bijzonder heeft de studie tot doel om vast te stellen of microkrediet verleend aan vrouwen in Ivoorkust hun inkomen, productiviteit en beslissingsmacht heeft vergroot. Aan vrouwen met HIV/AIDS wordt speciale aandacht besteed. De probleemstelling bestaat uit vier hoofdvragen: (1) Wat zijn de behoeften van vrouwen in rurale gebieden met betrekking tot microkrediet?; (2) Wat zijn de voorwaarden voor microkrediet aan vrouwen in rurale gebieden?; (3) Wat zijn de gevolgen van microkrediet op de praktische en strategische *gender* behoeften van vrouwen?; (4) In welke mate hebben HIV/AIDS geïnfecteerde vrouwen toegang tot microkrediet? Om deze vragen te beantwoorden zijn hypothesen geformuleerd die getoetst zijn door (mulivariate) statistische technieken.

In de studie wordt zowel een theoretische als empirische benadering gebruikt om de samenhang tussen levensonderhoud, microkrediet en HIV/AIDS te bestuderen. De empirische analyse bestaat uit een kwalitatieve analyse van microkrediet instituten alsmede een veldonderzoek onder 440 vrouwen in de Abengouru regio in het centraal oostelijke deel van Ivoorkust. De steekproef bestaat uit vier categorieën:

vrouwen zonder HIV/AIDS en zonder microkrediet; vrouwen zonder HIV/AIDS en met microkrediet; vrouwen met HIV/AIDS en met microkrediet; vrouwen met HIV/AIDS en zonder microkrediet.

De studie bevat een beschrijving van Ivoorkust en het beleid van de overheid daar om het gebruik van microkrediet te bevorderen, en het beleid om de gevolgen van HIV/AIDS op individu, huishouden en gemeenschap te ondervangen. Vrouwen in de Abengourou regio werken voornamelijk in de landbouw om in hun levensonderhoud en de eigen voedselconsumptie te voorzien. Vrouwen die geen toegang hebben tot microkrediet werken vaker in de landbouw, terwijl vrouwen met microkrediet voornamelijk in de handel actief zijn. Vrouwen met microkrediet kunnen zowel in de landbouw als in de handel economisch actief zijn. Het blijkt dat microkrediet door vrouwen in rurale gebieden vaker gebruikt wordt voor handels- dan voor landbouwactiviteiten.

Uit de resultaten blijkt dat er een positieve samenhang is tussen sparen en microkrediet, de toegang tot microkrediet is afhankelijk van het hebben van een spaartegoed van de schuldenaar; een spaartegoed waarover het merendeel van de rurale bevolking geen beschikking heeft. Microkrediet instituten gebruiken het spaartegoed als borg. Verder blijkt dat microkrediet instituten de voorkeur geven aan de financiering van handels- boven landbouwactiviteiten, want de laatste worden als meer risicovol en onvoorspelbaar beschouwd wat betreft inkomen.

De toegang tot microkrediet is afhankelijk van de kenmerken van de vrouwelijke schuldenaar. De huwelijkse staat, de vermogenspositie van het huishouden, etniciteit, de *empowerment* en handelsactiviteit hebben een positief effect op het gebruik van microkrediet door vrouwen in rurale gebieden.

Met behulp van *propensity score matching* zijn de volgende resultaten verkregen. Microkrediet heeft een positieve invloed op het inkomen, de productie van het agrarische bedrijf, de hoogte van het menselijke en sociaal kapitaal. Microkrediet geeft vrouwen meer beslissingsmacht. Echter, in tegenstelling tot wat in andere studies wordt gevonden, het verlenen van microkrediet leidt niet tot een verhoging van haar bezittingen, maar wel van die van het huishouden. Het door het krediet verworven inkomen wordt door de vrouwen gebruikt om het levenspeil van het huishouden te verbeteren en niet om de eigen bezittingen te vergroten. Door dit te doen zijn vrouwen meer in staat om hun praktische en strategische *gender* behoeften te realiseren.

De terugbetaling van de lening is belangrijk voor het bereik en het voortbestaan van microkrediet instituten. Het blijkt dat niet alle vrouwelijke schuldenaars de lening terugbetalen. Het niet terugbetalen van de lening is voornamelijk een gevolg van het niet gebruiken van de lening voor het doen van investeringen vanwege het gebrek van controle over het geleende geld door de vrouwen. Het staat haaks op

het in onze studie gevonden resultaat dat microkrediet een positief effect heeft op het inkomen van de vrouw en het positieve rendement van de investering. Naast het niet gebruiken van de lening voor investeringen speelt het niet bereid zijn om terug te betalen ook een rol.

De analyse van de samenhang tussen het hebben van HIV/AIDS, het levensonderhoud van de vrouw en microkrediet instituten toont aan dat HIV/AIDS een negatieve invloed heeft op zowel het fysieke als menselijk kapitaal vanwege de morbiditeit en mortaliteit. De morbiditeit van geïnfecteerde vrouwen heeft een direct negatief effect op de levensonderhoudactiviteiten en een indirect effect op het inkomen en de terugbetaling van de lening. HIV/AIDS heeft een effect op de morbiditeit van de leden van het huishouden; een verlies van gezinsarbeidskrachten kan moeilijk opgevangen worden door derden vanwege gebrek aan middelen, en bij kinderen leidt het tot schooluitval en een lager onderwijsniveau. De negatieve effecten van HIV/AIDS op de vrouwelijke schuldenaars hebben ook een effect op de microkrediet instituten omdat geïnfecteerde vrouwen moeilijk geld kunnen verdienen om het microkrediet terug te betalen. Dit kan het bereik van en de effectiviteit van microkrediet instituten onder/voor HIV-geïnfecteerde individuen en huishoudens in gevaar brengen.

Deze studie heeft een bijdrage geleverd aan de kennis over de sociaaleconomische rol van microkrediet in het steunen van vrouwen in het veiligstellen van hun levensonderhoud. De bevindingen hebben betrekking op rurale gebieden in Ivoorkust. Een dergelijke studie was nog niet gedaan na de invoering van het microkrediet in de regio Abengourou. Het hebben van microkrediet heeft een positief effect op de economische activiteiten van vrouwen. Microkrediet instituten kunnen de activiteiten van vrouwen beïnvloeden. Een andere belangrijke bijdrage van deze studie is de relatie tussen microkrediet en *empowerment* van vrouwen. Deze studie laat zien dat de *empowerment* van de vrouw met betrekking tot de vraag en het gebruik van krediet haar betrouwbaarder maakt en meer mogelijkheden geeft om microkrediet te verkrijgen. Met betrekking tot HIV laten de bevindingen de diversiteit en de specificiteit zien van de manier waarop HIV-geïnfecteerden financieel gesteund worden door microkrediet instituten.

Aan het slot van deze studie worden beleidsaanbevelingen en beleidsinterventies gegeven om microkrediet instituten effectiever te laten functioneren in hun financiële dienstverlening aan individuen en huishoudens, vooral in rurale gebieden. In het bijzonder bevelen we aan dat bij de verstrekking van de lening rekening wordt gehouden met de aard van de te financieren activiteiten. Van belang is dat de staat of potentiële donoren subsidies geven aan microkrediet instituten voor de training van kredietverstrekkers en als een tegemoetkoming in de hoge transactiekosten voor relatief kleine leningen. Op deze manier zijn zij toegerust om de complexe rurale omgeving beter te begrijpen en te bedienen. Een studie van lange termijn effecten van microkrediet op rurale gebieden in Ivoorkust is gewenst.

About the author

Namizata Binaté Fofana was born on 22nd December 1962 in Séguéla in Northern Côte d'Ivoire. From 1985 to 1989, she studied economic sciences and holds a Masters in economics. In January 1996, Namizata obtained her Doctoral degree in Rural Economy from the University of Cocody Abidjan on Women and Rice Intensification in Côte d'Ivoire.

Since her graduation she has been Assistant Lecturer at the National University of Cocody, in the Faculty of Economic Sciences and Management, and researcher in charge of the branch of Gender and Development at CIRES (Ivorian Economic and Social Research Centre). From 1999 to 2002 she was appointed Deputy Director of the Ivorian Economic and Social Research Centre (C.I.R.E.S). Her field of research interest includes rural development, gender and development, microfinance.

In 2004, she was awarded a scholarship through the joint programme between AWLAE (African Leaders in Agriculture and Environment) research project on gender change, food security and HIV/AIDS, Winrock International and Wageningen University and Research Centre, to pursue her PhD at the Economics of Consumers and Households (ECH) group of Wageningen University.

She is coordinator of RFAE-Côte d'Ivoire (African Women Economists Network), and a member of AFEMC-CI (Association of Women-Researcher in Côte d'Ivoire).

Namizata is married and a mother of one daughter and two sons.

Training and Supervision Plan

of Social Sciences
MANSHOLT GRADUATE SCHOOL

Description	Institute / Department	Year	ECTS*
Courses:			
Mansholt Introduction course	Mansholt Graduate School of Social Sciences (MG3S)	2004	1.5
Research Methodology: Designing and conducting a PhD research project	MG3S	2004	2.8
Socio-Cultural Field Research Methods	MG3S	2005	3
Techniques for Writing and Presenting a Scientific Paper	Wageningen Graduate Schools (WGS)	2005	1.2
Advanced Econometrics	MG3S	2004	6
Rural Gender Studies	CERES	2004	1.4
Food Policy in an Era of Globalization	MG3S	2004	2.8
HIV/AIDS and Rural Livelihoods in Sub-Saharan Africa	MG3S and CERES	2004	2.8
Gendered Impacts of HIV/AIDS on Food Systems and Livelihoods in Sub-Saharan Africa	CERES	2005	2.8
Microfinance and Marketing in Developing Countries	DEC 51806	2005	6
Feminist Development Economics	ISS The Hague	2005	8.25
Presentations at conferences and workshops:			3
Mansholt Multidisciplinary seminar		2005	1
		2009	1
International conference on microfinance, Jamia Milia Islamia University, New Delhi, India		2009	1
First European Research Conference on Microfinance, Brussels, Belgium		2009	1
Total (minimum 30 ECTS)			42.5

*One ECTS on average is equivalent to 28 hours of course work.

AWLAE

African Women Leaders in Agriculture and the Environment

The present thesis is one of a series. It represents the fruits of a collaboration between African Women Leaders in Agriculture and the Environment (AWLAE), Winrock International (WI), and Wageningen University and Research Centre (WUR). AWLAE is a pan-African program that aims at training women professionals in the fields of agriculture and environment, to redress the existing gap between male and female representation in professions relating to these fields. AWLAE was initiated by Winrock International in 1989. Its headquarters are in Nairobi, Kenya.

Between AWLAE, WI, and WUR a project was formulated that was submitted for funding to the Minister for Development Cooperation of the Netherlands Ministry of Foreign Affairs. The goal of the project was to build a cadre of well-trained African women professionals working in agriculture, environment and related sectors to enhance their academic standing and capacity to contribute to gender-relevant research and policy-making on the role of women in food systems and the gendered impacts of HIV/AIDS on food security and rural livelihoods in sub-Saharan Africa. In April 2002 the project was granted. The Ministry agreed to fund twenty PhD scholarships at Wageningen University and the additional leadership-in-change training for twenty women from eleven African countries, ranging from East to West and Southern Africa. In June 2002 an agreement was signed between AWLAE, represented by its Regional Director, and the Director of the WUR Social Sciences Group, after which implementation of the project could start. The participating scholars were carefully selected from a large number of applications. The scholarships were widely advertised in relevant media in countries with AWLAE chapters, and the chapters concerned were actively involved in the recruitment and selection of the candidates.

The following women participate(d) in the AWLAE scholarship project:

Susana Akrofi	Ghana	Mariame Maiga	Ivory Coast
Namizate Binaté Fofana	Ivory Coast	Lydia Ndirangu	Kenya
Hirut Bekele	Ethiopia	Aifa Fatimata Ndoye Niane	Senegal
Joyce Challe	Tanzania	Faith Nguthi	Kenya
Fatima Dia Sow	Senegal	Carolyne Nombo	Tanzania
Stephanie Duku	Ghana	Regina Ntumngia Nchang	Cameroon
Rose Fagbemissi	Benin	Daisy Onyige	Nigeria
Kidist Gebreselassi	Ethiopia	Gaynor Paradza	Zimbabwe
Monica Karuhanga	Uganda	Corrie du Preez	South
Doris Kakuru	Uganda	Ekaete Udong	Nigeria

Front cover art design:

Microfinance institutions are seen as a means to realize the dream of rural women: Meet their practical and strategic gender needs.

(Art by Essy Jean Mermoz)