

Using Village Mechanisms to Expand the Frontier of Microfinance

The Case of Caisses Villageoises in Mali



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A USAID-funded project, implemented by DEVELOPMENT ALTERNATIVES, INC. in collaboration with ACCION International, Foundation for International Community Assistance, Harvard Institute for International Development, International Management Center, International Cooperation, Ohio State University Rural Finance Program, Community International, and the Small Enterprise Education and Promotion Network.

Using Village Mechanisms to
Expand the Frontier of Microfinance:
The Case of the Caisses Villageoises in Mali

by

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December 1999

This work was supported by the U.S. Agency for International Development, Bureau for Global Programs, Center for Economic Growth and Agricultural Development, Office of Microenterprise Development, through funding to the Microenterprise Best Practices (MBP) Project, contract number PCE-C-00-96-90004-00.

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ACKNOWLEDGMENTS

This case study is a component of the research project, Client-Owned Microfinance Organizations: Lessons from West Africa, conducted by the Rural Finance Program at The Ohio State University under the USAID-funded Microenterprise Best Practices (MBP) Project. Additional funding was received from the OARDC at The Ohio State University. This case study complements a comparative study of microfinance organizations in the region (Ouattara et al., 1999).

The authors wish to acknowledge their collaboration with Douglas H. Graham in an earlier evaluation of *caisses villageoises d'épargne et de crédit autogérées* (CVECAs). They also are grateful for the support of the Centre International de Développement et de Recherche and Renée Chao-Béroff in the earlier study and want to thank the hospitality of the project's staff, CVECA officers, and clients during their visits to Mali. Jeffrey Poyo and Robin Young (Development Alternatives, Inc.) and Anicca Jansen (USAID) made useful suggestions. The interpretations and opinions are those of the authors and not necessarily reflect those of the sponsoring organizations.

ACRONYMS

BNDA	Banque Nationale de Développement Agricole (Agricultural Development Bank)
CFAF	CFA franc
CIDR	Centre International de Développement et de Recherche
CVECAs	<i>caisses villageoises d'épargne et de crédit autogérée</i>
FF	French franc
FINCA	Foundation for International Community Assistance
GDP	gross domestic product
GTZ	Gesellschaft für Technische Zusammenarbeit
KfW	Kreditanstalt für Wiederaufbau
MBP	Microenterprise Best Practices Project
MFO	microfinance organization
MFI	microfinance institution
NGO	nongovernmental organization
OSU	The Ohio State University
PARMEC	<i>loi portant réglementation des institutions mutualistes ou coopératives d'épargne et de crédit</i>
USAID	United States Agency for International Development

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CHAPTER ONE INTRODUCTION

OBJECTIVES

The main objective of this case study was to examine the strengths and weaknesses of West African *caisses villageoises d'épargne et de crédit autogérées* (CVEECAs). These village financial organizations were developed by a French nongovernmental organization (NGO), the Centre International de Développement et de Recherche (CIDR), whose headquarters are in Autreches, outside Paris. The case study is based on the observation of CVEECAs in the Dogon region of Mali.¹

This case study illustrates a comparatively successful process of institution building that has been able to overcome many significant difficulties that expansion of microfinance faces in Africa. This institution-building process has been directed at establishing a system of decentralized and sustainable microfinance organizations (MFOs)² in an environment characterized by low incomes and high systemic and idiosyncratic risks.

Comparative success has resulted from a combination of competent external technical assistance, characterized by a long-term commitment in the field, and the use of existing informal village institutions and social arrangements for the cost-effective operation of the new organizations.

This combination has made possible the creation of organizations capable of expanding the supply of financial services in the villages with outside funds, while at the same time these organizations have been accepted and internalized as genuine village institutions. Given wealth constraints and covariant risks, an expansion of the local supply of financial services beyond the existing traditional arrangements would have been impossible without some links to external organizations.

The case study represents, therefore, a successful marriage between important concepts and stimuli brought from outside (exogenous incentives and technological transfers) and designs compatible with the existing social arrangements (endogenous institutions). In addition, the resulting network of CVEECAs and their second-tier institutions have made it possible to link legitimate village organizations, whose operations are entirely local, to the formal financial system of the country, thereby deepening the extent of financial intermediation in Mali.

From these experiences, the case study derives several lessons for organizational design and for the provision of external technical assistance. The case study also identifies several potential threats to the system's continued success. Some of these threats emerge from the

¹ These field observations took place in March-April 1997 (Ouattara and Nguyen) and in November-December 1997 (Ouattara).

² In this document, the authors use the term MFO rather than MFI (microfinance institution) to refer to organizations that provide financial services to the poor and microentrepreneurs.

process of structural transformation that will gradually link the until-now-isolated village economies to wider market networks and that may weaken some of the informal institutions which support the financial technologies of CVECAs. Other threats may spring from restrictions brought upon CVECAs by the external regulatory framework (for example, the way in which the PARMEC legislation may be implemented).

To guarantee its own sustainability, the system must gradually adapt, with much flexibility, to the new circumstances, while at the same time it must strive to preserve the key elements of the design that have been responsible for its success. This will not be a trivial task. This case study, in its modest attempt to identify threats and determinants of success, should help those responsible for the program to preserve the elements essential for its sustainability.

ORGANIZATION

Including this introduction, this report contains six chapters. Chapter Two discusses the environment in which CVECAs operate. This physical and economic environment constrains the demand and supply of financial services at the village level. The demand for financial services emerges mostly from the risk-management strategies of rural households, while potential suppliers of financial services have to resolve severe information and contract enforcement problems.

Chapter Two discusses central features of the Malian environment that are obstacles to the expansion of microfinance in this country. This discussion should be useful because most policy makers and microfinance literature have focused on credit as a tool to promote productive activities directly, but they have given little consideration to financial services as a risk-management tool. Although CVECAs examined in this case study operate in the Dogon region of Mali, several countries in West Africa and elsewhere are characterized by the same environmental features.

Chapter Two also briefly describes Mali's financial system and highlights the obstacles that must be overcome to supply microfinance services in this environment. This discussion makes it possible to understand the value added by CVECAs and the regulatory environment that potentially threatens their future operations.

Chapter Three focuses on the organizational evolution of the CVECA system. The role of the foreign advisers (CIDR) and of their local counterparts is assessed. The criterion used for the evaluation is the ability to secure the right blend of outside and local elements in the design. The chapter also analyzes the strengths and weaknesses of the organizational design (property rights and governance structures) of CVECAs. The chapter identifies innovations in organizational design, and it anticipates issues that may emerge in the future.

Chapter Four describes the choice and pricing of the products (loans and deposit facilities), other policies that influence product design and implementation, and the technologies that are used to deliver these products. The criterion for the evaluation is the degree of adaptation of products and procedures to local demands for financial services.

Chapter Five assesses the CVECA performance in terms of outreach and sustainability. The breadth, depth, and quality of the outreach of CVECAs is illustrated with aggregate data and with the results from a survey of members and non-members of CVECAs in seven villages. Sustainability is discussed in terms of financial viability and institutional strengths.

Chapter Six presents conclusions, a summary of lessons learned, recommendations for donors and managers of MFOs, and an agenda for future research.

CHAPTER TWO THE ENVIRONMENT

Many of the challenges that a microfinance organization must address originate from the environment in which it operates. The physical and economic environment shapes the capacity to save, opportunity to invest, and ability to repay loans of the potential clientele of the organization. This environment also influences the level of transactions costs borne by all market participants. The nature and extent of the potential shocks that systematically threaten both the organization and its clients also are determined by this physical and economic environment.

In turn, the legal environment dictates the scope and efficacy of mechanisms put into place to enforce financial contracts, while the regulatory environment determines the amount of freedom an MFO has in reacting to market forces

In Mali, CVECAs operate in an environment inhospitable to microfinance. Because potential clients are very poor, their investment opportunities are limited. Their economic activities are characterized by excessive uncertainty and high risk. The country's physical infrastructure is poorly developed, and the institutional infrastructure still consists mostly of informal village arrangements. When it is at all possible, the costs of using the legal system for the design and enforcement of financial contracts are very high.

This chapter examines the main features of the environment in Mali where CVECAs operate. This environment shapes both the demands for financial services and the opportunities for CVECAs to engage in profitable financial transactions. Their outreach must be evaluated against this background.

THE PHYSICAL AND ECONOMIC ENVIRONMENT IN MALI

Geography and climate conspire against the cost-effective provision of financial services in Mali. Geography and climate are responsible both for a low average population density, which reduces opportunities for economies of scale in microfinance, and for substantial risks, which reduce opportunities for sustainable microfinance.

With an area of 1.24 million square kilometers, Mali is the second largest country in West Africa. Located in the semiarid tropics southwest of the Sahel, this land-locked country is dry most of the year, with a short rainy season from June to September. Average annual rainfall is 1,000 millimeters in the south and less than 500 millimeters in the north. Because of this unequal rainfall distribution, southern Mali is better suited for cash crop cultivation, whereas northern regions rely mostly on cattle breeding and rain-fed cultivation, which are subject to the high variability of rainfall in that part of the country.

Like other sub-Saharan countries, Mali suffers from frequent harvest deficits. The country was hit by severe droughts in 1974 and 1984. These droughts reduced harvest levels by more

than one-half and killed 40 to 80 percent of the livestock (Church, 1990). The rural demand for financial services, both deposit facilities and loans, is strongly influenced by the likelihood of these droughts. In attempting to satisfy this demand, MFOs must cope, in turn, with the systemic risks that emerge from these events.

In 1995, the population of Mali was estimated at 10.8 million people. The population is broken down into several ethno-linguistic groups, which further fragments the economy. In particular, informal financial services, deeply based on trust, are frequently limited to members of the same group. The seven most important groups are the Bambara, Dogon, Fulani, Malinke, Moor, Songhai, and Tuareg.

Most of Mali's population is concentrated within a small area irrigated by the Niger River, which crosses the country from west to east. This economically viable region represents only one-fifth of the total area of the country. The rest of the country is desert and semi-desert land. As such, the average population density of 8 inhabitants per square kilometer is a misleading figure because it does not adequately reflect the extent of demographic pressures in some regions (Hodgkinson, 1990).

Microfinance, which in part relies on economies of scale, has a better chance of succeeding in areas of higher population concentration, but the low density of population in Mali generally limits opportunities to dilute the fixed costs of microfinance and to generate the required economies of scale.

Mali's population is growing rapidly, at a rate of 3.2 percent per year. Poverty, combined with rapid population growth in a risky environment, is a source of food insecurity. Most economic activity in Mali is geared toward producing food. Nevertheless, the availability of calories per capita remains at less than 100 percent of the amount required to sustain a normal life (World Resources Institute, 1996).

The country's education levels also are low. In 1994, only 9 percent of Malian children were enrolled in secondary education, and 68 percent of the population were illiterate (World Bank, 1996). Malnutrition and lack of education reduce the ability of the population to take advantage of some less-poorly rewarded economic opportunities and set limits on the size of their financial transactions. Lack of education also increases the costs of lending for MFOs.

With a gross national product of US\$250 per capita in 1995, Mali ranked among the poorest countries in the world. In 1995, the agricultural sector, mainly subsistence based, accounted for 42 percent of the country's gross domestic product (GDP), while it absorbed up to 86 percent of the total labor force (World Resources Institute, 1996). These shares of output and employment suggest that the low productivity of agricultural labor is at the root of poverty.

The two main cash crops—cotton and groundnuts—are grown exclusively in southern Mali. Along with livestock from the northern regions, these two crops provide the country's most important sources of export earnings. Production and market arrangements for these crops (especially cotton) create opportunities for the supply of financial services, as is the case of the Kafo Jiginew (Ouattara, Gonzalez-Vega, and Graham, 1999).

Low-yielding agriculture practiced by a dispersed population in a highly risky environment increases the demand for those financial services needed to smooth consumption while it reduces the demand for credit for investment. The most important feature of the demand for financial services, therefore, is in the management of risk. In turn, the special material features of agriculture further reduce opportunities to supply microfinance services at low costs (Binswanger and Deininger, 1997).

For a long time, but especially in the 1980s, seasonal migration to adjacent countries during the off-farm season has been a secondary occupation for a significant share of the economically active population of Mali. As a result, remittances represent an important source of income and, therefore, of loan repayment capacity. Funds transfer facilities are usually demanded when remittances are important. In 1980, remittances amounted to US\$23 million (or 30 percent of the trade deficit), but their importance declined later (Hodgkinson, 1990).

Mali possesses important mineral resources, such as bauxite, copper, uranium, and phosphates, which have not been exploited because of the lack of infrastructure. Indeed, a deficient physical and institutional infrastructure increases transactions costs for market participation, and it constrains many economic activities to small local markets. Manufacturing activity is limited to the production of a few commodities for the domestic market. The country is heavily dependent on imported food, machinery, and petroleum products (World Resources Institute, 1996).

Since its independence in 1960, Mali has not undergone any significant structural transformation. The economy has, instead, suffered from frequent and severe harvest deficits, a swollen public sector, and political instability. In January 1994, already under a Structural Adjustment Program, Mali experienced a 50-percent devaluation of the CFA franc (CFAF), the common currency in Francophone West Africa.³

The current, almost flat rate of economic growth reduces investment opportunities. It is in this environment of very low and uncertain incomes that CVECAs have attempted to expand the frontier of microfinance. These MFOs operate in the Dogon region.

ECONOMIC OPPORTUNITIES IN THE DOGON REGION

Mali is divided into seven regions and the capital district of Bamako. Regions, in turn, are subdivided into *cercles*. The Dogon region (*Pays Dogon*), located in eastern Mali along the border with Burkina Faso, is made up of three *cercles*: Bandiagara, Bankass, and Koro (see Figure 1).

³ Mali is one of seven Francophone African countries in the Western African Monetary Union, the Union Economique et Monétaire Ouest Africaine (UEMOA). All UEMOA countries use the CFA franc as their currency.

MAP

The *Pays Dogon* is a natural region formed by the uplift of ancient rocks during the pre-Cambrian era (Church, 1990). This process led to a landscape divided into two distinct subregions, the plateau and the plain, separated by impressive cliffs of 450 to 950 meters in height called the cliffs of Bandiagara. The *cercles* of Bandiagara, Bankass, and Koro correspond to the plateau, plain, and cliff areas.

Despite an inhospitable environment dominated by rocky escarpments, the plateau attracted the first Dogon, who were fleeing invaders coming from the Niger River searching for slaves. The first villages were built around the rare permanent sources of water. Demographic pressures, however, soon forced the younger generations to colonize the plains. These plains are more exposed to external threats, but their sandy soil is better suited for rain-fed cultivation of millet.

The characteristics of the Dogon landscape not only have shaped the economy and the organization of the local villages, but they also have limited communication between villages on the plateau and those in the plain. Reunited by the same heritage, however, the Dogon, traditionally cultivators, have maintained a strong sense of organization and unity, which has allowed them to exploit the limited resources of their environment fully (Griaule, 1963).

The resulting social institutions and traditions have been important determinants of the success of CVECAs, which rely on village social networks and village-based governance to enforce financial contracts and monitor CVECA officers. Threats to these traditions and village organizations from gradual structural transformation may thus become threats to the success of CVECAs.

Because Dogon is located in the Sahelian part of Mali, its economy is highly dependent on erratic rainfall. All economic activities are, therefore, seasonal, and rain-fed activities (such as cropping and livestock raising) are particularly risky. Thus, in addition to high systemic risks, seasonality also makes the supply of microfinance difficult.

The area's topography lends itself to a differentiation of economic activities between the plateau and the plain. In the plain, the economy is organized around the culture of millet, the main staple food. Cultivation during the rainy season remains extensive and heavily labor-intensive. Farmers in the plain benefit from sandy soil, which retains water and is suited for rain-fed cultivation of millet and associated crops such as sorghum, groundnuts, and peas. Despite the limited use of fertilizer and other intensification techniques, average yields tend to be higher than on the plateau. For this reason, the plain has the reputation of being the granary of the Dogon region.

Although the villagers in the plain claimed that grain production has been declining since the 1974 drought, a harvest surplus is not uncommon in an average year, and households usually sell these surpluses in local markets. The sale of millet and other crops grown during the rainy season represents an important source of cash income for households in the plain and, therefore, a source of repayment capacity.

The second most important agricultural activity in the plain is extensive livestock raising, which is practiced by the Dogon and their Fulani neighbors. Livestock, however, are considered more as a traditional form of holding savings than as an income-earning activity. Livestock are sold only occasionally, to finance the purchase of cereals or to celebrate important social events, such as weddings. For these households, livestock are an important alternative to holdings of financial assets (deposits).

Crops and livestock sold in local markets to local traders are then hauled to regional markets, such as Bankass and Koro, where they are then sold to wholesalers operating in regional towns or between Bamako in Mali and Abidjan in Côte d'Ivoire. Traders make their profit margin on the price differentials across these markets. Since these differentials, which easily exceed 30 percent of the initial price, rise with the distance separating net surplus regions from net deficit regions, traders who have the means to lower transactions costs and go farther can earn more than if they operate in local markets.

In effect, the existence of numerous crossroads of exchange and the proximity of the border with Burkina Faso provide households in the plain with the rationale for important trading activities carried out throughout the year, particularly during the dry season. Trading is so important that it stands out, after successive droughts, as the most secure source of monetary income. Specific supplies and demands for financial services emerge from these trading activities.

Although both men and women carry out trade, the types of products exchanged and the scale of business differ according to gender. In each village, there are specialized cloth retailers and shopkeepers who sell products like coffee, matches, and tobacco. These relatively small trading activities take place throughout the year, and the scale of operation depends on the trader's working capital and on his or her capacity to reach cheap suppliers located most often in bigger towns. The most important trading activities, nevertheless, are based on supplying grains and livestock to big cities and on selling non-food goods to villages during the dry season.

On the plateau, the economy also is organized around millet cultivation. Here, however, millet is almost exclusively used for household consumption and is rarely traded. Because of the scarcity of land, harvests often are very small. Similarly, raising livestock, essentially the fattening of one or two sheep per household, constitutes a minor agricultural activity. Fattened sheep are usually sold to animal traders at the beginning of the summer before Tabaski, a Muslim festival.

The second most important agricultural activity on the plateau is gardening, which is made possible by water held in natural or artificial dams built by public and private organizations such as the Catholic Mission and the Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ, the German development agency). The plateau is famous for cultivating onions. In most villages, both women and men cultivate onions on communal fields. These onions are usually exported to neighboring regions and countries.

In contrast to millet, the cultivation of onions requires the use of intensive farming techniques, including certified seeds and fertilizer. The use of these modern inputs increases the demand for credit. Onions are cultivated only from September to April, but Dogon farmers have developed a conservation technique that has allowed them to store the harvest throughout the year, thereby controlling market supply and reducing price swings.

Other high-value crops, such as tomatoes, chilies, and tobacco, also are cultivated, mostly, according to local tradition, by young people. Because they do not depend on rainfall, onions and other irrigated crops provide the most important stable source of monetary income for plateau villages that have access to the dams. In villages far away from dams, households rely mostly on off-farm activities, such as trading and handicrafts, as their major sources of monetary income during the dry season. If there are no roads, such trading is limited to local markets.

For villages both in the plain and on the plateau, seasonal migration has always been an important activity during the dry season. Attracted by the chance to find work in big cities and the desire to discover new horizons, young people typically leave the villages after the millet harvest in October and come back in April, before the planting season. Because of the recent economic recession in neighboring countries, however, permanent migration has lost its importance, and according to the villagers, seasonal migration also is on the decline.

Since the construction of dams and wells on the plateau, young people now have the means to develop profitable gardening activities during the dry season. In addition, the natural beauty of the region lends itself to the development of an important tourism business for villages located on the cliffs. The tourist season peaks during the coolest time of the year, from December to February, and calls for the use of many young males as guides.

RISK AND SOCIAL ORGANIZATION IN THE VILLAGE ECONOMY

The biggest threats to the village economy come from major, negative systemic shocks. The possibility of such events significantly constrains the development of microfinance, because the covariant reduction in incomes simultaneously reduces most borrowers' ability to repay, while depositors want to withdraw large amounts of funds to brave the resulting emergency. These negative events, therefore, threaten an MFO with liquidity and solvency problems. Liquidity problems would emerge mostly from large, unanticipated withdrawals of deposits, while loan default may threaten the solvency of the organization. In contrast, positive shocks, such as improved opportunities to trade, would create a demand for—and a supply of—financial services.

Interviews with members of the committees managing the CVECAs, village chiefs, and groups of old people in the Dogon region revealed that several important systemic events took place in the last three decades (Ouattara et al., 1997). These events affected either the economy or the social organization of the villages.

The first set of events includes major natural disasters and outbreaks of disease. The last outbreaks of measles and smallpox happened in the 1960s, before the government launched extensive vaccination programs, and they were particularly disastrous for some villages. The most often cited dramatic events in recent history are droughts. The droughts of 1974 and 1984 created such severe household food deficits that the government and private organizations had to provide food aid to complement the supply of food from regional markets. Many of the households interviewed were forced either to deplete their savings or to migrate. In 1989, a plague of locusts caused major harvest losses, and government and private organizations, such as the Catholic Mission, again intervened with food aid and pesticides.

The villagers remember education, health, and agriculture interventions as having a positive impact on their welfare. Since the early 1970s, the Catholic Mission and GTZ have played an important role in structuring village groups on the plateau. In the 1980s, with the technical and financial assistance of the Catholic Mission, these village groups were responsible for building wells, pumps, schools, pharmacies, and public buildings. These groups are now organized into an informal association called Molibémo.

In the plain, there is no single organization like the Catholic Mission. Instead, many local and foreign organizations—SOS Sahel, GTZ, CARE, and French NGOs—have contributed in the 1990s to the improvement of village infrastructure (such as wells and schools) and to the promotion and financial support of group activities. These organizations mostly complement the CVECAs' activities.

Villages are usually located where underground water is closest to the surface. Typical villages have from 200 to 600 inhabitants between the ages of 14 and 60. These figures correspond to a total of 400 to 1,200 inhabitants, considering that in 1995 the dependency ratio in Mali was equal to one (World Resources, 1996).

Organized in neighborhoods according to their membership in a lineage, households within a village fall under the authority of an administrative chief, a traditional chief, and a religious leader. The administrative chief, chosen by the government, represents the state and is only in charge of affairs related to the official government, such as collecting the annual tax. The traditional chief, who is designated by the villagers, is responsible for addressing all village problems, with the help of a committee of elders representing different lineages. All collective actions require the agreement of the traditional chief and his committee. The traditional chief also plays a role in conflict resolution. Incorporation of CVECAs into these traditional structures thus facilitates the enforcement of contracts.

Village cohesion is one of the criteria used by the CVECA project in deciding whether to establish its microfinance operations in a given village. Village cohesion can be evaluated in part through the respect that the traditional chief is accorded. Frequently, the traditional chief also represents the administrative authority. Conflicts and disputes between a CVECA and its members actually require the intervention of the traditional chief.

In each village, there are several groups, mostly organized according to gender or age. These groups operate at the village or neighborhood level. Some semiformal groups are the result of external interventions, such as farmer organizations, women's organizations, or various committees for management of pumps, cereal banks, or health centers. The majority of informal groups, however, are indigenous groups coming from long existing self-help traditions in a hostile environment. It is these indigenous groups who cultivate collective lands and work at people's fields for a fee, and they constitute a group fund for lending to their members. CVECAs have learned a lot from the ways these groups operate to design a mechanism that will appear familiar to the villagers and, therefore, facilitate adoption of the financial institution in a village setting. The semiformal organizations coming from external interventions are usually ad hoc and the funds that they constitute are generally allocated to a specific use—that is, maintaining a pump, storing grain, or running a health center. Both informal and semiformal groups deposit at CVECAs because the interest rates are attractive. They also can receive loans from CVECAs if needed.

Although these groups do not engage in any collective activities (for example, constructing an assembly hall, digging a well for the neighborhood, or organizing village festivals) because these are the whole village's responsibility, semiformal groups nonetheless play an important role within the village since they allow groups of individuals to enjoy economies of scale by working together. Most often, the groups construct houses or granaries for a fee, or they engage in agricultural tasks, such as planting and harvesting a common field. The income earned from these sales is kept at the group level and is used to make loans to group members. The dynamism of these village groups is the second criterion used by the CVECA project to discern which villages exhibit strong social cohesion.

HOUSEHOLD DEMANDS FOR FINANCIAL SERVICES

Households are organized in extended families composed of one or more nuclear families. Such organizational arrangements are both individually and collectively rational (Nguyen, 1998). Extended households create opportunities for exploiting economies of scale and for diversifying risks since family members cultivate scattered fields and engage in different productive activities. Extended families also are able to accumulate wealth faster.

Extended households are institutional arrangements that emerge to deal with risk where insurance markets are missing (Alderman and Paxson, 1992). In bad years, family income can be pooled and redistributed among members. Nuclear families that are temporarily better off can also transfer wealth in the form of gifts and informal loans to those families less well off for the moment. Besides their private fields, nuclear households cultivate a common field, and the products are used for common meals within the extended household.

An extended family can be characterized, therefore, as a production-consumption unit or a social risk-sharing organization (Haddad, Hoddinott, and Alderman, 1997). Extended families can comprise as many as 50 people.

Labor and other responsibilities within a household are divided along gender lines. In the Dogon, men and women share the farm work during the rainy season. Their off-farm activities—whether carried out daily or seasonally—differ, however. Cooking, fetching water, collecting firewood, spinning cotton, fattening animals, and preparing food are some of the tasks that fall under the responsibility of women.

The type and scale of trading businesses also are specific to gender, with the exception of the sale of agricultural products from private fields in local markets. Dogon women are usually involved in market exchanges on a daily and weekly basis at the village level, where they sell products from their private fields and cottage industries to meet immediate consumption needs. Whether they are wholesalers or retailers, men tend to develop trading businesses on a larger scale. One of the challenges for microfinance in many countries is to offer equivalent access to financial services to both women and men. Differences emerge, nevertheless, not necessarily because of gender, but because of the different enterprise size and streams of cash flow associated with their typical activities.

Similarly, some activities are age specific. Only young people migrate during the dry season, and only elderly men weave and make cords. Men are usually in charge of securing the family's basic needs (buying food beyond what the household grow, school supplies, and clothing, and covering expenses in cases of illness or other emergencies) and of covering expenditures for specific social events such as baptisms. Women, in contrast, take care of buying condiments for cooking and extra clothing for their children and themselves.

Household activities follow a seasonal pattern highly dependent on rainfall. Consequently, income flows and investment demands for production are seasonal, while the household's overall consumption level remains fairly constant throughout the year. In an environment characterized by high production risks and strong seasonality, the household's primary objective is to smooth its income and consumption flows. This determines, in turn, its demands for financial services.

Coping with production risks calls for *ex ante* strategies, such as activity diversification and saving and borrowing, which allow resource allocations across seasons. To smooth income and consumption seasonally, households must be able to allocate purchasing power over time, through saving and borrowing. Well-designed, cost-effective financial services can facilitate these intertemporal household strategies and thereby improve household welfare.

Informal financial arrangements have facilitated these household strategies for a long time. Structural transformation and the breaking up of extended families, however, strain many of these informal arrangements. A supply of semiformal financial services bolstered from outside can thus play a key role in supporting these critical activities of a household facing acute risk and seasonality.⁴

⁴ For a more detailed discussion on household risk management strategies, see Sebstad, Jennifer, and Monique Cohen, "Synthesis Report on Microfinance, Risk Management and Poverty" (forthcoming). AIMS Project. Washington, D.C.: Management Systems International.

For the majority of the households in the plain, peak income inflows take place in October-November, after the harvest, and March-April, after the dry season. The same is true for households on the plateau, except that income also peaks in May-June after the onion harvest. Income is primarily used to cover the basic needs of the household. The surplus is lent out or most often saved for future consumption and investment purposes.

Income outflows for agricultural input purchases are usually observed for all households during the month of June, before the millet season, and the month of September, for households on the plateau that cultivate onions. For all households there is, moreover, a demand for investment in dry-season activities during the last months of the year. Finally, basic expenditures are highest at the end of the dry and the beginning of the rainy seasons, when granaries are almost empty and calorie needs for fieldwork are important. Figure 2 shows the seasonal patterns of income and expense flows. The demand for loans and deposit services mirrors these patterns of income and expenditures.

FINANCIAL MARKETS IN MALI

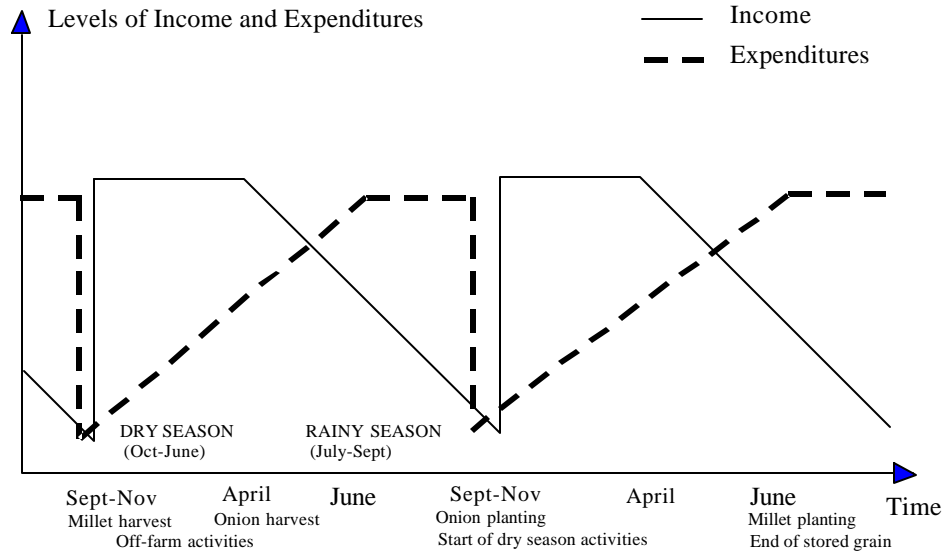
An examination of the performance of financial markets in Mali reveals the limited outreach of formal finance in this country, and it highlights the difficulties that must be overcome to expand the frontier of microfinance. As a semiformal intervention, CVECAs represent an interesting innovation in this financial environment, while at the same time they help link the village economy to the formal financial system.⁵

In 1984, Mali was readmitted to the West African Monetary Union, joining Benin, Burkina Faso, Côte d'Ivoire, Niger, Senegal, and Togo under a common monetary authority, the Central Bank of the West African States, with headquarters in Dakar and with national branches in each member country. Members of the union use the CFA franc (CFAF) as their currency.

The CFAF has been pegged to the French franc (FF 1 = CFAF 100) since the devaluation of 1994. Common monetary policies and banking regulation influence currency stability. Recent legislation concerning prudential regulation and supervision, applicable in all countries of the union, has attempted to regulate microfinance operations. As discussed below, some of the provisions of the PARMEC law represent threats to CVECAs.

Mali's financial sector is still rudimentary, even by African standards. The conventional financial deepening indicator (M2/GDP) reached only 22 percent for Mali in 1995, while this indicator ranged from 18 to 30 percent for other West African countries. A few commercial banks, including the Bank of Africa and the Banque Malienne pour le Commerce et le Développement, reach mostly an urban clientele of well-established clients. Development banks include the Banque de Développement du Mali and the Banque Nationale de

⁵ There are several formal, semiformal, and informal financial organizations in Mali. For a comparative analysis of CVECAs and other credit union and village banking initiatives, see Ouattara, Gonzalez-Vega, and Graham (1999).

Figure 2: Seasonal Patterns of Income and Expense Flows

Développement Agricole (BNDA). The commercial banks have few or no branches in the rural areas. Only BNDA grants loans to semiformal institutions such as CVECAs.

CVECAs, along with other semiformal financial institutions, have been created to fill the gap left by the absence of formal financial institutions in rural areas. The 52 CVECAs in the Dogon region were created in 1986 by CIDR with Kreditanstalt für Wiederaufbau (KfW) financing. International NGOs, such as Save the Children and Freedom from Hunger, also offer financial services in the rural areas of Mali through credit unions and village banking programs. Prominent among these is the Kafo Jiginew network, which has combined its credit union activities with village banking operations (Ouattara, Gonzalez-Vega, and Graham, 1999).

By 1996, there were 24 registered microfinance organizations identified in Mali with about 160,000 members, deposits mobilized of CFAF 5 billion (US\$10 million), and loans outstanding of CFAF 5.8 billion (US\$11.4 million). According to Chao-Béroff and Ellsasser (1997), these MFOs reached about 3 percent of the economically active population of Mali.

In August 1994, Mali approved the PARMEC law, designed to provide a legal framework for the operation of semiformal financial institutions. The law has been intended to apply to mutualist or cooperative savings and credit organizations as well as to the components that make up their networks—that is, unions and federations. Microfinance organizations without a mutualist or cooperative organizational design are not covered by this law.

The law offers such benefits as protection for the name of the organization, exemption from taxes, and a legally recognized right to operate. Under the PARMEC law, however, semiformal institutions are subject to the usury law, thereby limiting the interest rates charged for their services. This repressive intervention can seriously retard the expansion of

microfinance in Mali. So far, however, the law has not been vigorously enforced, and the intense domestic and international debate on its consequences may trigger revisions or adjustments at the time of implementation.

Despite the high risks involved, the traditional strategy of saving through livestock holdings remains the preferred form of accumulation of precautionary reserves for the majority of rural households. Each family, according to its means, holds a more or less diverse portfolio of animals, including chickens, goats, sheep, and cattle. The type and number of animals chosen to be sold are correlated to the amount of money needed and the event to be financed by the sale. Cattle, for example, are sold only in case of important expenditures for food or social events.

Under normal circumstances, the effective return earned on livestock is a function of the number of offspring. The herd's fertility rate is usually high, but it can be completely offset by a mortality rate that can reach 60 percent in drought years. The introduction of deposit facilities in rural Mali, therefore, must offer deposit products that are competitive with these other forms of holding wealth.⁶ If successful, these deposit facilities would improve the welfare of the rural poor.

In addition to jewelry, rotating savings and credit associations (tontines) represent another form of savings popular among women. Tontines are formed by groups of women who are engaged in the same activity and who belong to the same neighborhood. Men, in contrast, typically lend surplus funds to relatives and friends.

Since most of these traditional forms of savings are relatively illiquid and cannot be rapidly mobilized and since money-keepers are rarely found in villages, households tend to keep part of their income as cash under the mattress to prepare for emergencies. CVECA deposit services offer an alternative to these traditional ways of holding savings.

Asymmetric information⁷ and the fear of losing one's reputation usually restrict informal lending to a network of parents and close friends. These loans can be described as contingent contracts, because their term to maturity is usually flexible (that is, it depends on the state of nature), and the interest rate, when it exists, takes the form of gifts.

The second source of informal lending comes from semiformal village groups. Although they do not offer deposit services, these village groups operate like small banks and supply loans to their members at a fixed interest amount in lieu of an interest rate. That is, interest payments are given regardless of the term of the loan. In the village of Kani-Komolé, for example, by using funds accumulated through collective labor, village groups charge borrowers CFAF 500 for every CFAF 5,000 loan made, independent of the term to maturity.

⁶ According to CIRAD, a French research institute, the net growth rate for cattle in Sahel, over a period of 10 years, is an average of 17 percent per year, including a drought in the period. This means that an interest rate lower than 17 percent will not attract villagers and divert them from saving in animals.

⁷ Asymmetric information refers to the unequal exchange of information between the lender and the borrower. Because the lender tends to have inadequate information about the borrowers, the lender is subject to more risk.

Thus, for a one-month loan (the typical loan term), the implicit interest rate is 10 percent per month, but the effective rate declines with longer terms of the loan.

Most loans from the village groups are small and are used for financing seasonal migration and emergencies. CVECA loans represent an alternative source of credit for this clientele and are typically devoted to productive activities. Many of these groups deposit their funds with CVECAs. These large deposits help CVECAs dilute their costs of funds mobilization, while CVECAs further intermediate these funds by lending them to individuals beyond the particular group. The arrangements are, therefore, complementary and appear to increase the efficiency of financial intermediation within the village.

THE ROLE OF THE ENVIRONMENT

The performance of microfinance organizations is heavily influenced by the environment in which they operate. A limiting environment can be a particularly binding constraint to the emergence of sustainable microfinance. In Mali, an inhospitable environment has indeed constrained the development of microfinance, but the relatively successful development of CVECAs represents a promising route toward overcoming these limitations.

Several conclusions can be drawn from the description of the socio-economic and financial environment where CVECAs operate:

- # Individuals and households live in a risky environment, where negative income shocks, such as droughts and locusts, are relatively frequent and unpredictable. Survival depends largely on the household's ability to accumulate wealth (save) or borrow. Moreover, income and expenditure flows follow a pronounced seasonal pattern, forcing households to develop effective income and consumption smoothing strategies.
- # The Ohio State University (OSU) team's field survey revealed ways in which CVECA financial services have been integrated into these individual risk-coping strategies.
- # The OSU evaluation suggested that the relative success of CVECAs springs from the adaptation of their services to these key features of the environment.⁸
- # Villagers have created many indigenous institutions to promote community welfare and support their individual risk-management strategies. Extended households, village groups, and tontines are among the most frequently observed village institutions.
- # The internal organization and interconnections of these groups exhibit a high degree of complexity. This is a reflection of the multiple strategies developed by individuals in a high-risk, resource-constrained environment.

⁸ Before conducting individual interviews to evaluate the impact of CVECAs, the researchers developed a classification of individuals and households according to their ability to develop strategies to smooth consumption and accumulate wealth, their initial endowments, and their membership with CVECAs (Ouattara et al., 1997).

- # CVECAs have played an important role in the management of these risks, which complements the role of other informal institutions. CVECAs have engaged in dynamic relationships with these other institutions and may offer a viable alternative to some informal organizations increasingly under strain from the structural transformation of the village economy.
- # Villages in the Dogon region are far from being totally isolated from external interventions. These interventions not only have provided the villages with public goods, but they also have promoted a multitude of village groups, which even today are particularly active in the village's daily life.
- # If CVECAs have had any impact on the villages and the region, this impact can only be observed when viewed within the context of the other external interventions. It appears, however, that CVECAs have engaged in productive synergies with these other interventions.

CHAPTER THREE INSTITUTIONAL EVOLUTION

EVOLUTION TOWARD AUTONOMY

CIDR, a French NGO, launched the CVECAs in 1986, with funding from KfW. CIDR had started a research program to design and implement decentralized financial systems that would respond to genuine demands for financial services by the poor (Chao-Béroff, 1997). These efforts led to the creation of a number of networks of self-managed village savings and loan associations. One of these systems is the CVECA in Mali.⁹

The basic assumption in the development of the networks was that the high costs of creating MFOs in poor rural areas can be decreased if client-members take part in managing the organization. The consequences of this approach were twofold. On the one hand, the strategy offered an opportunity to contain operating costs, which otherwise would have made it impossible to bring semiformal financial services to the villages. On the other hand, this approach carried with it the problems of property rights and governance structures typical of mutualist, client-owned MFOs.

The tasks for the researchers in this case study were to evaluate the net effects of these positive and negative features of the design of the intervention on the MFO's outreach and sustainability, to understand how limitations of the institutional design have been addressed in practice, and to anticipate any future threats from these shortcomings. If the effects of these limitations get worse over time, as the organizations grow and can no longer rely on informal village arrangements, new institutional innovations may be needed to guarantee the sustainability of the system.

In microfinance, the combined challenges of outreach and sustainability call for innovations in financial technologies and in institutional design. CVECAs have introduced important institutional innovations, discussed in this chapter, which have contributed to their outreach and sustainability. These innovations include that CVECAs are highly decentralized, they use village institutions to enforce financial contracts, and they provide links to the formal financial system through the formation of associations of CVECAs and their access to loans from BNDA.

Moreover, CVECAs took a step forward in their organizational development in July 1997, when CIDR withdrew and left the system in the hands of the villagers, with technical support provided by a Service Commun run by a team of Malians. If a key question for microfinance donor interventions is the timing of the withdrawal of external assistance and the extent of

⁹ CIDR has been operating two other CVECA projects in Kita and Bafoulabé since 1991 and in Niger (Niono region) since 1994. In addition to Mali and Niger, *caisses villageoises* can be found in Burkina Faso, Cameroon, Ethiopia, Gambia, Madagascar, and Sao Tomé et Príncipe. Of these, the Mali system has achieved the highest level of maturity (Chao-Béroff, 1999).

the domestic structure left behind when the donor leaves, then the evolution of the CIDR experiment highlights important lessons about these issues.

In effect, after more than 11 years, the cooperation between CIDR, the Direction Nationale de l'Action Coopérative (DNACOOOP) of Mali, and the KfW ended in June 1997, when the CVECA system was handed over to permanent, financially independent and technically autonomous Malian organizations.

The length of the gestation period, 11 years, before full national autonomy was achieved, and the costs incurred by donors in obtaining this outcome reflected substantial limitations to the development of microfinance in environments such as the Dogon region. Given these costs, it is critical to implement an efficient approach in the development of a self-sustainable system. These costs, described below, resulted mostly from CIDR assistance in organizing CVECAs at the village level and from equipment subsidies.

Autonomy was the last in a sequence of three phases in the development of the system (Chao-Béroff, 1997). During the first phase, the CVECA network was developed through a combination of research and a strong CIDR field presence. Both components were important. The research efforts generated a better understanding of the environment where CVECAs operate and made it possible to adapt their activities to the actual demands of the clientele. Adaptation to the environment was then combined with an intense CIDR commitment in the field, including the presence of competent long-term advisers.¹⁰

The objective of the initial pilot phase was to confirm the validity of the design for the Dogon region and to establish a handful of CVECAs. During this phase, which lasted for six years (1986-92), most of the costs of the intervention were associated with training. These costs were shared between the foreign donor and the Malian government, including expenses for project personnel (the expatriate adviser, Malian officers, and support staff), vehicles, and training costs. Their own operating costs were covered by individual CVECAs (Fruman, 1998).

The objectives of the second phase were to expand and consolidate. During the second phase (1993-97), the functions performed by the project, along with the associated costs, were gradually transferred to CVECAs. Given the rapid expansion of the system, however, the project still covered some of the costs of structural design and training. Three associations of CVECAs were created as forums to discuss issues of common interest and to gain access to the BNDA funds (Fruman, 1998). The CVECA associations financed their own operations. During this phase, costs were shared between the donor and the clients of the organizations.

Autonomy, achieved during the third phase (1995-1997), implies that the system is financially self-sustainable and that permanent Malian organizational structures have been created. A Service Commun that charges for its services was created to provide training, monitoring, and supervision services to CVECAs. A reduced project structure, based first on seven people and then eventually on only four Malian organizers who had been trained during the earlier phases, completed the development of the system.

¹⁰For example, Cécile Fruman was field director of the project from 1991 to 1995.

This achievement does not necessarily imply, however, that there will be no threats in the future to the sustainability of the system. Some of these threats may come from major systemic shocks, given the features of the environment, while other threats may be intrinsic to the institutional design of the system. Successful linkages to wider networks of financial intermediation (such as the connection to BNDA) may alleviate the dangers from the first type of threat (exogenous shocks). Nevertheless, in the case of threats coming from within, given intrinsic weaknesses in the organizational design, additional adjustments to property rights and governance structures may be needed. These structures are described below.

It seems that this success in institution building resulted from a sufficiently long-term donor commitment, based on a clear understanding of the nature of the demands for financial services in this environment and of the challenges faced in responding to them (obtained through applied research), and from the continuity of the actors in the process. KfW was the source of the funds throughout the life of the project, while the KfW project officer was the same person from the beginning. The same is true for the CIDR direction, while only two Malians led DNACOOOP for the whole decade it took to achieve this outcome (Fruman, 1998).

OPERATING PRINCIPLES

Following a careful study of the socio-economic environment of the Dogon region, CIDR identified three principles as guidelines for the design of CVECAs (*Rapport d'Exécution et Etude de Faisabilité*, CIDR, 1985):

- # Financial self-sustainability;
- # Self-management; and
- # Integration into the institutional environment of the village.

First, from the beginning, the goal of creating permanent organizations permeated the CIDR project.¹¹ Concern for permanence was not merely a response to the volatility of donor and other forms of external assistance; it was a recognition of the importance that permanent institutions have on village life. The expectation of permanence would thus significantly influence the behavior of all participants in the system. Permanence, in turn, required financial self-sustainability.

To achieve self-sustainability, CVECAs adopted a *savings-first* approach and thereby shunned the use of externally provided loanable funds in the beginning of their operations. This strategy helped avoid some of the negative consequences of client-owned organizations as an institutional design since the use of local savings for lending would help in the

¹¹This was an important contrast to the FINCA approach to village banking, where the concept of *graduation* was based on the assumption that after a few cycles the village banks could become independent, but where the organizational elements for permanence were not developed.

achievement of financial discipline and would contribute to a better monitoring of borrowers (Ouattara et al., 1999).¹²

Nevertheless, after one year of operation, CVECAs can access external funds from BNDA. Funds available at BNDA for this purpose have come mainly from a line of credit from KfW. At the beginning of their operation, CVECAs also receive subsidized funds from CIDR that can be used only for office construction, training activities, and office materials.

Because of these arrangements, the credit operations of CVECAs are funded from member deposits and with funds from KfW channeled through BNDA. This mix of funds allows CVECAs to alleviate the deficit-unit situation at the village level while still providing deposit facilities to its surplus-unit clients.¹³ That is, since wealth constraints at the village level limit the extent of local intermediation, external funds received by CVECAs would be highly valued as a complement of local deposit mobilization. At the same time, the system has been designed to prevent the disincentive effects of external funds on the provision of deposit services.

Deposit mobilization introduces liquidity management challenges in any MFO. To match the term structures of assets and liabilities and avoid risks from duration gaps, CVECA policy has been to attract long-term deposits while disbursing small loans with maturities of less than nine months. These rules on terms to maturity closely match the nature and timing of the demand for financial services (deposits and loans) in the villages and, therefore, allow CVECAs to provide valuable services while conservatively managing their liquidity.

Second, CIDR researchers had observed the vulnerability of financial systems (such as credit unions) that operated in a highly centralized fashion (Chao-Béroff, 1997). This observation suggested it might be desirable to design a fairly decentralized system (PRAOC, 1996). A decentralized design was compatible, in turn, with the objective of empowerment, by giving villagers *ownership* of CVECAs. Although this approach eliminated the threat of heavy external intervention, it also carried with it the shortcomings of client-owned organizations as an institutional design and the threat of disintegrating village mechanisms during a process of structural transformation.

CVECAs are managed, without outside intervention, by a committee of villagers. The committee is elected by a general assembly involving the whole village, both members and non-members of CVECAs. This management committee includes a president elected for three years, a committee of 12 to 16 male and female members who make all loan decisions, two cashiers responsible for bookkeeping, and one auditor who controls the accounting

¹² Some of these effects are obtained mostly from the mobilization of savings from genuine net depositors or at least from the supply of voluntary deposit facilities. These effects should not be expected in other village banking programs that require forced savings as a component of borrowing. These savings are perceived by the members as just another condition for the loans and do not create the same incentive effects. Some of these incentive effects are associated, however, with the management of the internal accounts of village banks (Ouattara et al., 1999).

¹³ Surplus unit—where a village bank as a unit is able to mobilize deposits at a higher level than the demand for loans. Deficit unit—where the village bank as a unit is providing loans at a higher level than the amount of deposits.

books. Similarly, all internal regulations as well as interest rates, actions against borrowers in default, and allocations of surpluses are discussed and decided upon by all villagers at the annual meetings.

Because villagers manage CVECA financial transactions, CIDR has not interfered in their lending and deposit-taking operations. All funds mobilized locally are lent within the village. CIDR, for instance, has not imposed any policies targeting services, clientele, or loan uses because it recognizes the high transactions costs that result from such targeting efforts. Instead, CVECAs have provided services adapted to the demands of their clients, although these services are subject to the inevitable constraints that emerge in this risky environment.

Third, local management of CVECAs implies that they are integrated into the institutional environment of the village. The traditional chief of the village, for example, plays an important role in agreeing to the creation of the local CVECA and in resolving disputes between a CVECA and its members. This is an important function, given the weaknesses of the formal structures for the enforcement of contracts in Mali. Successful microfinance programs in other countries have made extensive use of village authorities in screening borrowers and in enforcing contracts (Chaves and Gonzalez-Vega, 1996). Although village authorities are not as deeply involved in CVECAs as they are in Indonesia, for example, they are a mechanism that represents the interest of the whole village in the sustainability of CVECAs.

NETWORK EXPANSION

As CIDR gradually reduced its support, two elements became critical in the institution-building process. The first one was the creation of second-tier organizations, CVECA *associations*. There are three of these associations, one per *cercle* in Bandiagara, Bankass, and Koro. The second element was the creation of the Service Commun.

CVECA Associations

With the creation of regional associations, a link was established in 1989 between the CVECAs and BNDA. This link was first used to channel BNDA's own funds to CVECAs and then to channel funds from KfW to increase CVECAs' lending capacity. Although these links have expanded CVECA lending capacity, some observers fear that access to external funds may discourage deposit mobilization, particularly because of differences in the cost of funds to CVECAs from the two sources.

Indeed, BNDA provides loans to the regional associations at an annual interest rate of 8 percent.¹⁴ The associations, in turn, lend these funds to individual CVECAs at an annual interest rate of 18 percent. The loan amounts received by CVECAs are a function of the

¹⁴ Interbank interest rates ranged from 5 to 7 percent, while the loan rates offered by commercial banks ranged from 12 to 13 percent per year.

amount of deposits mobilized by each one of them (during the first two years, these loans are equal to 150 percent of the CVECA's deposits; thereafter, the loans are equal to 200 percent of their deposits). This regulated link between loans and deposits may in part compensate for the negative incentive on deposit mobilization that may be associated with access to BNDA funds. The appropriate mechanism has been created; the only remaining issue is the proportion of debts to deposits allowed.

The associations submit loan requests on behalf of CVECAs to BNDA, and they guarantee the loans granted to CVECAs. This introduces an organizational mechanism of peer monitoring among CVECAs in a regional association, since any losses will have to be shared by all of them. The loans also require a security deposit from CVECAs of 10 percent of the amount borrowed. Although this deposit may represent a form of collateral, it actually increases the effective interest rate charged on the BNDA loan to CVECAs.

The associations adopted three criteria for CVECAs to be eligible for BNDA refinancing scheme. CVECAs must:

- # Have been operating for at least one year;
- # Have high quality management; and
- # Have a loan default rate of less than 15 percent of the volume of their loans.

The criteria have made it less costly for BNDA to screen CVECAs and have made it more attractive for BNDA to lend to CVECAs. The system appears to have escaped most of the shortcomings and threats usually associated with apex mechanisms (Gonzalez-Vega, 1998).

The BNDA refinancing scheme has helped CVECAs in two ways. First, CVECAs have been able to expand their lending services substantially in terms of both the number and average size of their loans. This has made them more valuable to their clientele and has thereby created additional incentives to repay loans. This has enhanced the sustainability of CVECAs.

Second, CVECAs have become part of the institutional landscape of Mali's formal financial market. This has deepened the scope of financial intermediation in the rural areas. In effect, CVECAs represent both a mechanism for the mobilization of local savings that are lent at the local level, rather than being transferred to the urban areas, and a mechanism to attract funds from elsewhere to the villages, to alleviate their deficit-unit condition.

The Service Commun

The second critical element in the institution-building process was the creation of an independent structure called the Service Commun. The main role of this entity, run by a team of highly qualified Malian personnel, has been to take over all of the CIDR responsibilities, including the training and financial auditing services. The Service Commun team also conducts feasibility studies to justify the creation of new CVECAs.

The Service Commun offers its services to all CVEECAs, and it is paid by receiving 15 percent of CVEECAs' profits and 75 percent of the intermediation margin realized by the associations when channeling funds from BNDA to CVEECAs (7.5 of 10 percentage points).

It is important to recognize that this design separates the institution-building functions of technical assistance and supervision performed by the Service Commun from the financial intermediation role of the regional associations in their operations with the BNDA. This separation of functions contributes to the success of the arrangement (Gonzalez-Vega, 1998).

Two other important elements for success are present here. First, the Service Commun charges for its services, which contributes to its own sustainability. Second, the charges are linked to the profits of the system. This rule, similar to one used for cashiers at the CVECA level, can be viewed as part of an incentive scheme designed to keep the whole system cost-effective and free of moral hazard problems (Chaves and Gonzalez-Vega, 1996).

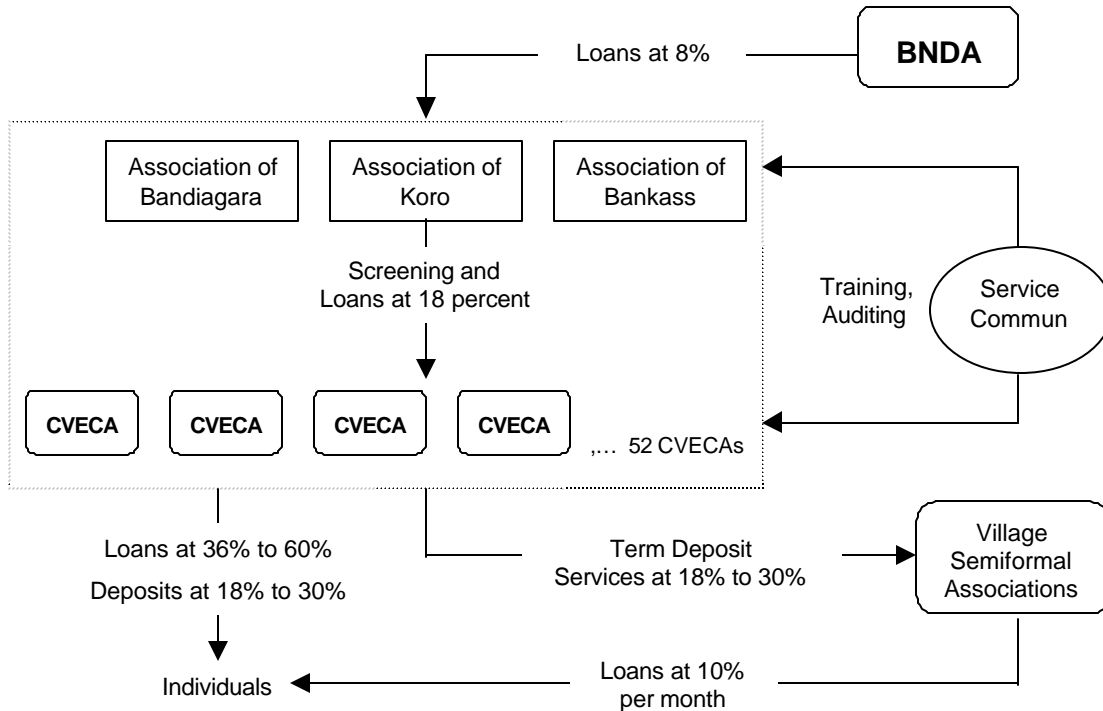
As the sustainability of the Service Commun and the employment expectations of its staff are linked to the generation of profits by CVEECAs in the system, staff have strong incentives to promote the profitable performance of CVEECAs. The rule, however, does not impose an onerous burden on non-profitable CVEECAs; instead, it shifts the costs of bailing out struggling CVEECAs to the organizations with better performance.

On the one hand, this rule does not penalize poor performance directly, which may attenuate its incentive effects. In effect, it may promote free riding by poorly performing CVEECAs. On the other hand, the threat of having to bail out some organizations induces peer pressure among CVEECAs, and this helps in controlling free riding. As long as there are well-managed CVEECAs in the association, they will have incentives to monitor weaker members.

The current organizational structure of CVEECAs and how they fit into Mali's institutional landscape are presented in Figure 3.

The first level represents individual CVEECAs, which together form an association in the *cercle* where they are located. In Dogon, there are three associations, which constitute the second level of the system. The Service Commun, the common technical support structure, completes the organizational chart. Links of CVEECAs with the informal financial system are created mostly through term deposit accounts of village groups in the CVECA. CVEECAs also are linked to the formal banking sector through the BNDA refinancing scheme.

Figure 3: Organizational Structure of CVECAs



GOVERNANCE

The governance and administrative structures in CVECAs are simple and extremely cost-effective. These structures rely entirely on inexpensive human resources available in the village. The only governance body of CVECAs is the management committee (Comité de Gestion), which also plays the role of credit committee (CGAP, 1998). The management committee has between 7 and 13 members, depending on the size of the village. All members of the management committee are elected in a village-wide general assembly.

Because the management committee is elected by all the villagers, both members and non-members of the CVECA, it is accountable to the village at large and not just to the organization's clients. This accountability may reduce some of the threats of a client-owned organization as an institutional design. The effectiveness of this accountability depends, in turn, on how valuable the CVECA is to the village at large. Given the tight social networks and small size of most villages, collective monitoring of the members of the management committee is a powerful mechanism of control.

All active members of the management committee receive monetary compensation based on the profit of the CVECA. Cashiers and auditors are elected but are not members of the management committee. The compensation given to cashiers and management committee members should not exceed 30 percent of the profit. If the organization is not profitable, no remuneration is paid.

Profit-based remuneration has been shown in other cases, such as in Indonesia, to provide compatible incentives that contribute to the sustainability of MFOs based in villages (Chaves and Gonzalez-Vega, 1996). The behavior of key members of the management committee is constrained, therefore, by the incentive of profit-based remuneration (carrot) and by intense monitoring by the whole village (stick).

In the past, all committee members received extensive training from CIDR (the Service Commun is now responsible for training). The two cashiers and the auditor are the only officers required to know how to read and write, since they are responsible for reporting all individual transactions and recording operations. Annual accounting statements are, however, prepared under the supervision of an external auditor, in order to constrain the opportunistic behavior of the literate members of the committee and to ensure the quality of reporting.

The behavior of a CVECA's management committee is constrained, therefore, by monitoring at three levels. First, committee members are subject to village-wide monitoring, with the villagers interested in protecting a permanent village institution. Second, financial transactions are overseen by an external auditor. Third, each CVECA's profitability is monitored by its peer organizations within the regional association and, at least implicitly, by the Service Commun. The Service Commun does not possess, however, formal regulatory powers, but it earns its remuneration only when CVECAs are profitable.

The combination of these monitoring and control mechanisms has so far prevented opportunistic behavior at CVECAs. Few instances of fraud (a total of four) had been reported, and default is almost nonexistent. Village-wide monitoring will continue to be successful, however, only as long as the village is small and the villagers are linked by strong personal and social ties. The decline of these social arrangements during a process of structural transformation, therefore, is the major threat to this delicately balanced governance structure.

Although the management committee is chosen by the villagers to perform a function of general interest, its powers come from the village itself and from the village chiefs. In case of conflict, the management committee may seek the arbitration of the village chiefs and the elders. Anyone who challenges the decisions of the management committee (for example, on foreclosure on collateral) defies the whole village (CGAP, 1998). The gravity of this implicit threat arises from the possibility of social marginalization by the villagers. In turn, the possibility of abuse of power by the chiefs and notables is lessened by the transparency of all procedures.

The experience of CVECAs has shown that, in this context, there are more advantages than threats from the full integration of the governance structure of the organization into the village's traditional arrangements. Rather than an exogenous, modern structure devoid of social significance, the CVECA is a genuine village institution, endogenized with all the contract enforcement and monitoring advantages attached to these arrangements. These arrangements, in turn, are rooted in the strong Dogon tradition of solidarity, which emerged as a network of social mechanisms for survival in a highly risky environment.

Although all villagers participate in the governance of the organization, a villager must pay a membership fee to have access to its services. This fee ranges from CFAF 500 to CFAF 1000 (equivalent to US\$1 or US\$2), according to the village. The CFAF 500 do not represent, therefore, an important barrier to entry.

A member is not required, moreover, to make a deposit to receive a loan. These rules have allowed CVECAs to attract both net depositors and net borrowers. In this sense, CVECAs have managed to generate more genuine financial intermediation flows at the village level than is true in other village banking programs, which rely on compulsory rather than voluntary savings for the mobilization of funds within the organization (Ouattara, Gonzalez-Vega, and Graham, 1999).

In turn, the value added by these financial intermediation activities has made CVECAs valuable to villagers. Appreciation of this value contributes to their interest in monitoring and protecting the sustainability of their organization. Given the proximity in which villagers live, the costs of required monitoring are reasonable. The sense of value added and permanency, therefore, brings new meaning to the concept of ownership of the organization. Indeed, when OSU researchers asked the question, “To whom do the CVECAs belong?” all

In summary, CVECAs appear to be genuine village financial institutions, not simply in the restricted sense of being located in the village, but from the broader perspective of being owned and managed by villagers. These MFOs have been accepted as legitimate village institutions and their services are valued as an important component of the economic strategies of village households and individuals. In this most basic sense, it can be considered that CVECAs have had a positive impact on the village and on its inhabitants.¹⁵

Several important questions are raised by this interpretation of the ownership structure of CVECAs:

- # What is the structure of incentives that springs from this type of ownership and in what ways do these incentives contribute to the sustainability of CVECAs?
- # What are the threats to the sustainability of these organizations that emerge from well-recognized conflicts of interest that are present when the clients of the organization are also its owners?
- # To what extent and in what ways have these potential threats been avoided in the case of CVECAs?
- # What are the sources of the present value for the clients of the services provided by the organization? In what ways is the quality of these services at the root of the structure of incentives that promotes the sustainability of the organization?

¹⁵ There is much debate about the validity of studies of the impact of financial organizations. This statement, however, is immune to such criticism.

- # For how long will CVEECAs be able to maintain the implicit competitive advantages that emerge from this structure of ownership and incentives, if the process of structural transformation accelerates in Mali?

These questions are quite challenging. This case study offers some preliminary answers to these questions.

(1) The competitive advantages of CVEECAs emerge from their clear adaptation to the local environment. Two of their features are evidence of this adaptation:

- The management structure of CVEECAs in effect reproduces the institutional design of the semiformal village groups that, together with existing family networks, had been the most common savings and credit institutions in the villages before the development of CVEECAs, especially in the *cercles* of Bankass and Koro, which are located on the plains. Strong social norms constrain the behavior of these semiformal groups, and these patterns of behavior have been transferred to CVEECAs.

Strong links have been created between CVEECAs and these traditional indigenous institutions, in tandem with the specialization of the other semiformal groups as a source exclusively of small but more flexible and geographically accessible loans for emergencies and minor needs, while CVEECAs can both supply larger loans and offer interest-earning deposit facilities.

- Rather than being dependent on artificially introduced and rigid loan cycles, as in village banking programs, CVEECAs have adapted to the *seasonal* patterns of household production and consumption, which villager households greatly appreciate.

These financial organizations have relied, therefore, on a strong system of social interactions and on mechanisms for the protection of village institutions that are crucial for survival in a highly risky, low-income environment. These circumstances have induced patterns of behavior that are compatible with sustainability.

(2) The perception that CVEECAs are valuable and permanent financial organizations creates strong incentives to repay loans. The borrowers will avoid strategic (willful) default in order to protect both their reputations and to keep viable an institution that offers valuable services not easily accessible otherwise. The present value for clients of this long-term relationship with the CVEECA will be sufficiently high as long as there are no other competitive sources of credit, CVEECA services remain of high quality, and CVEECAs are perceived as sustainable.

The challenge for these microfinance organizations, therefore, will be to keep up with the modernization of the rural economy and to offer a menu of competitive services as the villages become integrated into broader markets. Addressing this challenge may require additional formalization of CVEECAs, which may then conflict with their current semiformal governance structure.

(3) Client-owned organizations suffer from potential conflicts of interest when their members are both clients and owners. This is particularly true when the organization becomes dominated by borrowers (Poyo, 1986). Borrower-owners may attempt to dictate interest rates that are too low to cover costs and may press for leniency in the collection of loans in arrears. Credit unions have been particularly vulnerable to this threat (Chaves, 1994). Thus far, CVECAs have been successful in minimizing these threats, however. Several reasons may explain this. One important explanation may be the CVECAs' savings-first approach. By lending only deposits mobilized within the village at the beginning of their operations, CVECAs have embraced portfolio management policies compatible with the protection of deposits. It is important to emphasize that these loanable funds come from the deposits of *other* villagers, not from the forced savings of the borrowers themselves.

The policies and attitudes associated with a deposit-based financial operation are already in place when the external funds from BNDA are added to the liabilities of CVECAs, as moderate multiples of the deposits already mobilized. It is not difficult, at that point, to accept responsibility to honor these new liabilities.

In practice, villagers consider their loans from BNDA as more senior liabilities than the deposits themselves, possibly in reflection of the importance of outside funds in villages that are deficit units.¹⁶ These incentives will remain in place as long as large volumes of donor funds, which may be perceived as quasi-grants, do not become available and as long as locally mobilized deposits continue to be a substantial portion of the liabilities of the organization.

Another reason for the absence, so far, of evidence of conflictive behavior and borrower domination may be the effectiveness of the numerous layers of formal and informal monitoring that constrain the behavior of CVECA officers as well as the existence of compatible incentives for key decision makers. These compatible incentives emerge from the status of quasi-residual claimants of most of those involved with the management of CVECAs, and they play the same role as similar arrangements in other places (Chaves and Gonzalez-Vega, 1996). These quasi-owners are:

- # CVECA clients, who have access to financial contracts that would otherwise not be available to them.
- C The financial contracts from CVECAs offer their clients more favorable terms and conditions than those available to them elsewhere. For many clients, equivalent services may not be available at all. This reflects the competitive advantages of CVECAs in offering these services at the village level. The *present value* (discounted over time) of the differences in these terms and conditions and those of alternative sources of financial services represents the *residual claim* (intangible asset) for the borrowing and depositing clients.

¹⁶ A deficit unit has unexploited opportunities to generate marginal rates of return higher than the cost of outside funds.

- C This residual claim will be sufficiently positive if the organization is expected to provide these services for a long time and if it is expected to retain its competitive advantages in providing these services. *Compatible incentives* will then emerge from the interest of the clients in protecting the value of this intangible asset with the timely fulfillment of their obligations. The strength of these incentives will spring from the image of permanence (sustainability) of the organization and from its ability to provide services that respond to the demands of these households.
- C These demands for financial services will change over time, as incomes grow, economic activities are further diversified, and the village economy is further integrated to the national economy, including access to other types of financial intermediaries. CVECAs will have to adjust their services to these changing circumstances to be able to continue adding value in their activities.
- # The members of the management committee, who are paid from the profits generated by CVECAs and who value their reputations.
 - C Monetary incentives reward the actions of key members of the management committee. This remuneration is not fixed; rather, it depends on the level of profits in the organization. The present expected value of this remuneration is the residual claim for these CVECA officers.¹⁷ Thus, in order to protect this remuneration, these key decision makers will have compatible incentives to make sure that profits are earned. This remuneration is not allowed to grow beyond a reasonable level, however, and other residual claimants also benefit from the profits of the CVECA.
 - C Committee members have reputations to protect. These reputations are important intangible assets in a closely linked village economy, where strong reputations are essential for economic interaction in general and, thus, for survival.
- # The village at large, which relies on the performance of its institutions to advance the welfare of its members and which also is a residual claimant of the organization's profits.
 - C The village at large is a residual claimant at two levels. At the more immediate level, after payment of committee remuneration and of fees for the Service Commun, profits from the financial intermediation of CVECAs are invested in community development projects, such as the construction of schools, well pumps, and the like. The village at large is therefore interested in the profitability of the CVECA, and village authorities who are concerned about the potential projects will become more attentive monitors of the CVECA's operations.
 - C At a deeper level, the CVECA represents an important feature of the village's institutional infrastructure, which allows increases in the productivity of local resources and promotes improvements in household welfare. That is, the CVECA is

¹⁷This, as in the other cases, is a residual claim because the remuneration is not fixed or guaranteed; instead, it depends on the performance of the organization.

part of the village's *social capital*.¹⁸ Social capital is frequently threatened by free riding. Given the small size of the village and the closely linked fortunes of its inhabitants, opportunistic behavior and free riding are unlikely, however.

- C This ideal situation may change, however, as the villages become larger and as economic relationships become more impersonal. So far, village monitoring appears to have been strong. This suggests that CVECAs have been appropriated by the villagers as valuable components of the village's institutional environment and social capital.
- # The Service Commun, whose reputation and remuneration depend on the sustainability of CVECAs.
 - C Technical support from the Service Commun is not provided free of charge. Payments for these services, however, depend on CVECA profits. The present expected value of these payments is an intangible asset for the staff of the Service Commun, whose continued employment in this attractive organization depends on their ability to generate profits to cover their payroll. This arrangement also makes the experts at the Service Commun become residual claimants, and it introduces compatible incentives that encourage diligence and the recommendation of policies and procedures that lead to sustainability.
 - C In the earlier CVECA project, CIDR long-term advisers had similar incentives. The success of the project itself had become an intangible asset (in terms of reputation) for CIDR, and the interest of its representatives to protect the sustainability of the system grew over time as this reputation capital accumulated. CIDR officials feel rightly proud of their accomplishment.
- # The CVECA regional associations, which guarantee one another's loans from the BNDA.
 - C Because all CVECAs are liable for BNDA loans, they become peer monitors of one another. Interest in this monitoring function springs from the threat that if a CVECA cannot repay one of these loans, the assets of the other CVECAs will be reduced. Each one of them has, therefore, a contingent liability, and the other CVECAs will make sure that this does not become an actual liability that reduces the value of their equity. Moreover, they fear that generalized default will obstruct continued access to these critical BNDA funds.

(4) Threats to this structure of compatible incentives may come from changes in the environment. There are several sources of potential changes:

- Additional integration of the village economy to outside markets for goods and services and for labor (in part because of the improved physical infrastructure and higher education levels), and the accompanying increased trade and migration, may weaken

¹⁸ Social capital refers to "those features of social organizations such as networks, norms and trust that facilitate coordination and cooperation for mutual benefit. Social capital enhances the benefits of investments in physical and human capital" (Putnam, 1995).

personal and social links within the village and may thereby reduce the value of local reputations.

- Market integration may reduce the transactions costs involved in obtaining financial services from other intermediaries. This may reduce the present value of the client relationships with CVECAs. More important, the availability of these alternative sources of financial services may attract the largest clients of the organization, thereby making it harder to dilute fixed costs, diversify the portfolio, and attract deposits (Navajas, 1999).

These transformations may eventually require that CVECAs adopt more formal mechanisms for contract enforcement and staff monitoring. Given the more formal structure required, free-riding and opportunistic behavior may be more difficult to prevent. These structural transformations, however, make take a long time. CVECAs may have an opportunity, in the meantime, to anticipate these changes and strengthen their sustainability before they become an actual threat.¹⁹

INSTITUTION BUILDING

The final objective of the CIDR project was the establishment of self-sustainable, autonomous, local financial institutions linked by a highly decentralized system. The key input of the donor project, therefore, was not the infusion of funds for on-lending. Rather, the critical input was a process of competent institution building spearheaded by long-term expatriate advisers who designed the system, organized CVECAs, trained their officials, and embarked on a learning experiment with the Malian experts who would eventually take responsibility for the Service Commun.²⁰

The success of the intervention relied on a strong long-term commitment by both the funding agency (KfW) and the provider of the technical assistance (CIDR), the selection of motivated expatriate advisers, and the emergence of compatible incentives for competent institution building.

Central to the comparative success of institution building was the CIDR's commitment to work with CVECAs over a long period (Chao-Béroff, 1997). This long-term commitment has been present in several other successful interventions (Gonzalez-Vega, 1998). Few donor interventions benefit from this horizon.

The long period required by the process of institution building reflected a clear recognition that several stages were needed for the development of the system. These stages included:

¹⁹ A crucial question, however, is the extent to which the national support system may be able to engage in the required organizational adjustments without help from external advisers.

²⁰ The CIDR project also provided some subsidies for equipment.

- # A period of intensive learning;
- # A period of consolidation and gradual shifts in cost-sharing arrangements; and
- # The pursuit of independence and sustainability.

Sustainable microfinance organizations cannot be built instantaneously; their emergence relies on a gestation process that takes a long time.

First, research and experimentation were needed in order to understand both the nature of the demands for financial services in the villages and the environment where CVECAs operate. A client-oriented willingness to respond to the actual demands of the rural poor has been one of the strengths of CVECAs. These learning stages lasted about two to three years (about 25 percent of the project's time commitment). Replication in similar environments could benefit from this learning (externality), but only up to a point, as the essence of the process is learning by doing (Gonzalez-Vega, 1998).

Training was constrained by the villagers' low levels of education. Before CVECA officers could be trained in portfolio management, therefore, the project had to set up programs to teach them how to use numbers and deliver refresher courses in literacy and arithmetic for the cashiers. These tasks absorbed 50 percent of the training budget (Chao-Béroff, 1997). Encouraging women to participate in the membership and management committees of CVECAs required additional effort.

Second, achievement of sustainability has been constrained by the small size of village markets, both in terms of the aggregate volume of business and in terms of the size of the individual transactions. Both fixed and variable costs, in turn, are particularly high. Because of the fragmentation of the economy, the operation of electric generators, for example, costs 30 percent more than the norm, and the limited physical infrastructure (isolation and difficult terrain) means that costs from vehicle depreciation and transportation expenses are very high (Chao-Béroff, 1997).

All these difficulties are typical of poor rural environments. Cautious growth in the presence of these constraints has lengthened the time needed to break even at these low levels of intermediation, and the shifting of responsibilities among the donor, the government of Mali, and CVECA clients, under the cost-sharing arrangements, has been gradual.

CIDR estimates that 45 percent of the institution-building budget (FF 7.1 million of a total of FF 15.9 million over 11.5 years) was devoted to these learning activities and gestation costs (Chao-Béroff, 1997). Experimentation and learning in lending to low-income households cost about FF 3.5 million (about 2.5 years at FF 1.4 million per year).

Contributions to extra project equipment costs were FF 63,000 (30 percent of FF 212,000). Extra amortization for 15 motorcycles (one year sooner) and for six vehicles (two years sooner) cost FF 427,500. About 20 percent of the team's time was spent in travelling time within and outside the region, at a cost of FF 1.2 million.

Another experimentation cost were the studies of villages where the decision was made not to create a CVECA. These studies cost FF 342,000. The costs of supplementary training were FF 1.1 million, while efforts to incorporate women were estimated to cost FF 575,000. Thus, the CIDR project contributed FF 7,140,000 to this dimension of the institution-building process.

Reciprocal commitments are part of the social arrangements found in highly risky environments. In the Dogon region, this is reflected by the weight that collective action has within the life of the villages. CVECAs have built on these existing informal social arrangements and have therefore reduced their costs in two ways. First, the costs needed to avoid strategic (willful) default and prevent fraud have been negligible, given the village's network of monitoring of the behavior of the borrowers.²¹ Second, the physical and administrative infrastructure needed to manage a CVECA has been adjusted to the size of the market, with voluntary committee members incurring the costs of screening applicants for loans. This "dimensioning" of the intervention to the size of the market has been identified as critical in the success of microfinance (Chaves and Gonzalez-Vega, 1996).

Once CIDR had identified the village's economic opportunities, literacy level, social cohesion, and social capital, and determined a potential membership of at least 400 adults, the contributions of the villagers themselves were an important mechanism for cost sharing. The villagers participated in the construction of the CVECA office by providing construction materials (which are not expensive) and labor. CIDR provided the safe, reinforced metal door, and office equipment, at the low cost of FF 5,000 per CVECA.

Volunteer members of the management committee meet at least once a week to screen loan applications and monitor both loan repayment and the managers' performance. This saves costs for CVECAs, and at the same time it adds prestige within the village. Protection of this reputation constrains any free-riding or opportunistic behavior on the part of committee members. After one or two terms (at most six years), committee members are replaced, and other villagers have an opportunity to serve in the CVECA.

The associations cover all of their operating costs from the revenues that they generate. These costs arise from meetings, management of BNDA's refinancing facility, and book-keeping and other administrative functions. Over the duration of the project, these costs were estimated at FF 83,000, and they have been fully covered from the spread of nine percentage points between the interest rates paid to BNDA and those charged to CVECAs on these loans.

The Service Commun has trained the inspectors of CVECAs and associations, has assisted in the transactions with the BNDA, has conducted semiannual inspections and surprise visits to CVECAs, and has provided technical assistance in general. Since 1994, these services have

²¹ Bad loans (FF 139,000) represented only 1.5 percent of the total loan portfolio (FF 9.4 million) for the first 10 years of operation of the system. Losses from embezzlement have amounted to FF 15,000. Family and village solidarity made it possible to recover these losses. These figures and those on costs reported here come from Chao-Béroff (1997) and have been casually confirmed by the observations of the researchers. Given the limited resources available, however, the researchers could not audit or verify these figures.

been paid with 15 percent of the annual profits of CVECAs and 75 percent of the intermediation margin earned by the associations in their transactions with the BNDA. By 1997, these contributions had been estimated at FF 225,000, and the Service Commun had become self-sustainable.

INNOVATIONS IN ORGANIZATIONAL DESIGN

An important innovation of the project has been the incorporation of the informal social and governance structures of the villages in the organizational design of CVECAs. This has been an innovation in that, in contrast with other interventions, no *a priori* organizational design (such as a model credit union), which perhaps may have worked well elsewhere, has been transferred (top down) to the Malian environment.²² Instead, the innovation has been built from the bottom based on existing organizational arrangements.

In this effort, the designers have used to their advantage existing features of the Dogon people (Chao-Béroff, 1997). These have included ancestral values and social mechanisms sustained over time as instruments to deal with a highly risky environment. These values and mechanisms have been successfully incorporated in a structure that reinforces the value of these features and that the villagers can recognize as their own. Created in this context, a CVECA becomes a legitimate village *institution* and, despite the attenuation of property rights, its property structure possesses the positive attributes described earlier.

At the root of these mechanisms is the degree of social cohesiveness within the village. This cohesiveness facilitates the enforcement of the rules that govern the performance of the CVECA. Opportunistic behavior will be considered as an attempt against village solidarity, and manager shirking or borrower defaulting will not be tolerated.

This concept of ownership is expressed in the choice of policies (types and pricing of loan and deposit instruments) by the village at large. Rules concerning membership and appointment of officers are decided on during village-wide meetings. In designing products, the villagers borrow from the features of existing contracts and recognize the true opportunity cost of funds at the village level. Access to external funds, however, allows them to expand the range of contract terms, in ways that improve the village's welfare.²³

These decisions are regularly revised, on the basis of accumulated experience, and approval in village-wide assemblies provides absolute transparency about the terms and conditions of CVECA contracts. This facilitates the enforcement of these contracts within the village's institutional framework.

²²This is an important distinction from those village banking programs that bring a predesigned structure from outside.

²³The promoters provide technical assistance to draw villagers' attention to the possible consequences of certain decisions, but villagers make the final decisions.

CHAPTER FOUR

PRODUCTS, POLICIES, AND TECHNOLOGIES

The comparative success of CVECAs can be in part attributed to the choice of products that are well adapted to the demands of the clientele, the adoption of policies that protect the sustainability of the organizations, and the implementation of cost-effective financial technologies that resolve well many of the traditionally difficult information and contract enforcement problems of financial markets at the frontier. Because of the intimate correspondence between product choices, pricing and collateral policies, and financial technologies, these three elements are discussed simultaneously here.

DEPOSITS

CVECAs offer their members several types of deposit instruments: demand deposits, different types of term deposits (from 3- to 12-month deposits), and savings accounts that mimic the mechanisms of the tontines. Although the vast majority of the deposits are small, a few large deposits are held by the village's semiformal groups and by some traders.

Demand deposits earn no interest, but a safe asset is made available that facilitates household liquidity management. In nominal terms, the interest rates paid on term deposits range between 18 and 30 percent per year. With average annual inflation at 4 percent, the entire range of interest rates paid on deposits are positive in real terms. Term deposits offer, therefore, an attractive reward, comparable to the high opportunity cost of funds at the village level.

Term deposits are, by far, the most popular instrument, and they account for about two-thirds of the total deposits mobilized. This popularity is due to the high interest rates earned and to the seasonality of household income and expenditure flows. Seasonality forces households to keep liquid balances in order to smooth their consumption over time.

The deposit instruments offered by CVECAs possess several of the attributes that are generally believed to be important for depositors: convenience, safety, and remuneration for the sacrifice of present consumption. These attributes make these deposit services valuable in their own right.

Convenience results from liquidity and low transaction costs. Although CVECA offices are open for transactions only once a week (which reduces operating costs for the organization), withdrawals can be made on demand. Because CVECA offices are located in villages, transaction costs of depositors are sharply reduced compared to other alternatives. For bank deposits, savers would have to travel long distances to a main town. There are typically no other deposit-takers at the village level.

Safety is influenced by a number of factors. Because CVECA offices are made of brick, villagers perceive that their funds are safe.²⁴ Two different committee members hold the keys to the safe as a prudential measure. Theft and fraud are unusual events.

Generally, more important threats to depositors come from mismanagement of funds. The pricing policies of CVECAs, however, generally avoid losses, while loan repayment is protected by the strong incentives in place. Lending decisions are based on significant amounts of information since applicants live nearby. Socially based enforcement makes the risk of strategic default almost negligible.²⁵ Several layers of monitoring create early warnings about potential repayment problems, and immediate action is taken.

During the period of the CIDR project, only 2 of 54 CVECAs had to be closed. When a given organization showed signs of distress, CVECA managers in neighboring villages (frequently through the regional association) diagnosed the problems and made relevant recommendations. Informal social mechanisms within the village successfully implemented the recommendations.

Threats to the stability of CVECAs may come, however, not from idiosyncratic risks of lack of repayment but from systemic risks. Any major covariant income shock would threaten repayment by a majority of the borrowers. No mechanisms have been created to confront this type of risk. CVECAs do not keep excess liquidity, and they have not developed any risk-pooling arrangements amongst themselves. That is, CVECAs are not expected to financially assist one another in case of difficulties. There is no central liquidity fund either. This in part reflects CIDR's strategy of creating autonomous local organizations that would survive even if the system broke down. The goal has been to protect local institutions from system-wide organizational shocks. The potential for survival in case of a major systemic income shock is a mute question.²⁶

The threat of these shocks means, however, that villagers are willing to deposit only a small proportion of their total wealth. This reduces the potential volume of deposit mobilization (that is, the size of the market) and constrains the expansion of these MFOs. In case of negative shocks, however, the loans tend to be sufficiently small that repayment is possible despite the difficulties that borrowers experience.

²⁴ CVECA offices were initially made of mud or stones, depending on the location. Only recently, when some CVECAs grew bigger and started holding larger amounts and after a few cases of robbery, have individual CVECAs started getting loans from the associations to build larger brick offices with tin roofs.

²⁵ In one case, all the warnings issued to a borrower in arrears had no effect. The management committee sent its women members to sit in front of his door in the morning. The whole village knew what this meant, and the borrower in arrears quickly canceled the obligation.

²⁶ The assumption implicit in CIDR's strategy is that organizational shocks are more threatening than income shocks. Although villages have already developed mechanisms to deal with income shocks, organizational shocks can have devastating effects on CVECAs. In other systems (such as credit unions), "when there is a crisis, either at the intermediate level or at the top, the repercussions are felt throughout the system and serious malfunctions occur, even at the level of the individual *caisses villageoises*" (Chao-Béroff, 1997, p. 99).

Moreover, BNDA does not play the role of lender of last resort. On the contrary, BNDA loans enjoy the status of senior claims among the liabilities of a CVECA. That is, the villagers recognize BNDA loans as formal commitments and are prepared to honor these commitments by servicing BNDA loans before any other liability.

What the deposits with CVECAs do not offer their clients is a strong loan expectation. Access to loans is not linked to the condition of depositor, nor are loans any multiple of existing deposits. This delinking of the CVECA's deposit-taking and lending activities is central to its role as a financial intermediary at the village level. Deposits are made by genuine surplus units, who find the terms offered on the deposits attractive compared with other savings-holding opportunities. Loan applications (from deficit units), in turn, are evaluated on their own terms, independent of the deposit activities of the applicant.

In this fashion, a CVECA becomes a true intermediary between surplus and deficit units within the village. This allows surplus units to make their purchasing power available to deficit units at interest rates that reflect the opportunity cost of funds at the village level without fearing the potential conflicts or entitlements that may emerge in direct lending. The CVECA acts as a delegated monitor for these surplus units.

CVECAs, in turn, can mobilize these deposits at comparatively low costs. In absolute terms, deposit *handling* costs are very low. The CVECA office is open once a week, and the only costs incurred are the low salaries of the cashier and the bookkeeper. The costs of liquidity management also are low for CVECAs. There are no reserve requirements, and liquidity risks are handled by strictly matching the terms to maturity of assets and liabilities. That is, most of the deposits are longer term (from 3 to 12 months), while the corresponding loans are granted at shorter terms (from 1 to 9 months). Thus, loans come due before the supporting deposit liabilities come due. In these circumstances, there are no interest-rate risks resulting from duration gaps.

An important question is the extent to which access to BNDA loans might reduce incentives for vigorous deposit mobilization at the village level. This is unlikely, for a number of reasons. First, there is a fixed coefficient between the volume of deposits mobilized and the maximum loan size from BNDA to a particular CVECA. This coefficient (150 to 200 percent of deposits) sets a ceiling on the share of the liabilities with BNDA in the total mobilization of funds. This ceiling is equivalent to a leverage ratio (assets to equity) of three at a maximum. Second, the demand for loans is high and, since the village as a whole is a deficit unit, could not be satisfied only from local deposit mobilization.

LOANS

CVECAs grant loans mostly to individuals. This recognizes the heterogeneity of demands for credit from individual households. Contractual terms and conditions (loan sizes and maturity terms) are in all cases negotiated between the individual borrower and the CVECA management committee.

The terms and conditions of the loan contract depend on the borrower's demand and on the value of the collateral offered. The average term to maturity of a loan is six months. All loans require some form of collateral. Typically, this collateral differs from traditional bank collateral; instead, livestock, tools, farm implements, and women's jewelry are accepted as collateral. The rule of thumb adopted in the villages visited by the researchers is that the value of the collateral should be at least equal to the amount of the loan. A value of collateral twice the amount of the loan seems to be typical, particularly in the case of first-time borrowers, but collateral requirements may be eased for established clients.

Pledging collateral represents a credible threat for the borrower. In case of default, the asset pledged is repossessed. Contract enforcement is implemented according to common law, and usually the village chief is involved in seizing the asset. Cases of public repossession are used to make example and to reinforce the credibility of the threat. This ruins the reputation of the borrower and blocks access to other informal sources of credit.

The interest rates charged on the loans range from 36 to 60 percent per year, depending on the village. This wide range of interest rates reflects the autonomy of individual CVECAs. Interest rates are set during village-wide meetings, and they are based on the profitability of the most common economic activities in the village. In this sense, they are a good thermometer for the opportunity cost of funds at the village. Interest rates also reflect those commonly used by indigenous village groups (CIDR, 1989). Clearly, these interest rates are highly positive in real terms.

The margin between the interest rates paid on deposits and the interest rates earned on loans ranges from 16 to 30 percentage points across CVECAs. The usual margin is 20 percentage points. This intermediation margin, also decided on in the general assembly of all villagers, is established so as to cover all operating costs of the CVECA (including the payment of auditing services and the purchase of office materials). Profits, whenever they exist, are allocated to committee members, who then have the incentive to run the CVECA efficiently. It so happens that this intermediation margin tends to increase over time because of rising operating costs (Ouattara et al., 1997).

Borrower transaction costs are insignificant. No documentation is required for loan applications. The CVECA office is right there in a central location within the village. Decisions about loans are made within 24 hours of the application. The terms and conditions of the loans are well known by all villagers.

Lending costs also are low. All lending decisions are made locally by a committee of volunteers, with no external presence, regardless of the size of the loan. By living in the village, committee members possess all the information that is needed to assess creditworthiness and to negotiate the size and term to maturity of the loans. The committee meets frequently. Each week, after repayment, the committee meets to make loan decisions, and the funds are back in the lending portfolio within 24 hours.

The cost of funds for borrowers are mostly represented by the interest rates charged. These rates are sufficient, in turn, to cover the costs and risks of lending. In the absence of systemic

negative income shocks, these pricing policies are attractive to borrowers and protect the sustainability of the organization.

CHAPTER FIVE OUTREACH

Researchers often evaluate the success in the supply of financial services to the poor by using the dual criteria of outreach and sustainability suggested by Yaron (1994). These criteria are adapted here to evaluate the comparative success of CVECAs. *Outreach* represents the provision of a wide array of quality financial services to large numbers of the poor. *Sustainability* is achieved through the generation of enough revenues (excluding subsidies) to cover the costs of all factors of production and loanable funds used by the organization. In addition, a sustainable microfinance organization must be able to honor all the contractual obligations implied by its liabilities, and it must adopt a structure of incentives that maintains its mission over time.

Outreach has several dimensions (Gonzalez-Vega et al., 1998):

- # *Breadth* of outreach refers to the numbers of clients and to portfolio volumes.
- # *Depth* of outreach connotes success in overcoming the difficulties of supplying financial services to the poor. It is proxied by the evolution of loan sizes and by indicators of the level of poverty of the clients.
- # *Quality* of outreach is reflected in the range of financial services offered, the level of transactions costs levied on clients, and the extent of client satisfaction with the match between the terms and conditions of loans and deposits and client demands.

BREADTH OF OUTREACH

The breadth of outreach of CVECAs in Mali is inevitably constrained by the small size of the villages and by the low population density. Within this environment, however, the outreach of CVECAs has been important.

By the end of 1996, 52 autonomous CVECAs offered financial services in as many villages spread over the Dogon region of Mali. As Table 1 shows, these services reached 21,495 members, compared to 12,515 who had already been reached by the end of 1993. This number of members, which is significant, grew at an average annual rate of 19.8 percent over the three-year period.²⁷ (The rate of growth slowed in 1996 because two CVECAs closed.) Female membership ranged between 20 and 50 percent of the total membership for the individual CVECAs, for an average of 29 percent. The proportion of members not from the village had increased from 19 percent at the end of 1993 to 34 percent by the end of 1996.

²⁷This is about the same number of clients as CAM-FINCA has reached in El Salvador.

Table 1: Performance Indicators of CVECAs

	1993	1994	1995	1996
Membership	12,515	15,330	18,819	21,495
Penetration (%)	19.0	25.0	28.0	34.0
Membership growth (%)	--	22.5	22.8	14.2
Total deposits collected	74,533,720	143,495,430	247,996,000	346,438,000
Deposit growth (%)	--	92.5	72.8	39.7
Average term deposit amount	22,100	38,055	49,648	62,500
Number depositors	1,752	2,453	2,823	2,794
Total loan amount granted	122,045,000	211,095,000	378,903,000	652,770,650
BNDA loan funds	21,957,000	56,227,500	99,785,000	231,000,000
BNDA funds in total loan portfolio (%)	18.0	26.6	26.3	35.4
Average loan amount	14,600	21,613	33,567	49,405
Number of loans granted	8,354	9,767	11,288	13,213
Number of borrowers	5,506	6,438	7,334	8,383

Source: Unpublished records of the CIDR project in Mali.

The average number of members per CVECA is 422. Although this is a small number in absolute terms, in relative terms CVECAs reach a large proportion of the population of the villages. The *penetration* rate, defined as the proportion of the adult village population who belong to the CVECA, is often higher than 50 percent and in some cases it reaches 80 to 95 percent. The average penetration rate was 63 percent in 1996.

Not all of the members of CVECAs, however, have outstanding loan balances. Rather, only about 50 percent of the membership are borrowers at any given point in time. Similarly, not all of the members are depositors, and some depositors never borrow.

The numbers of borrowers and of loans disbursed grew rapidly. In 1996, CVECAs granted 13,213 loans for a total of CFAF 652.7 million (about US\$1.3 million) to 8,383 of their members (Table 1). Over that period, the number of loans disbursed grew at an average annual rate of 16.5 percent, from 8,354 in 1993.

Similarly, the number of borrowers grew at an annual average rate of 15.0 percent, from 5,506 in 1993. These rates of growth are lower than the rate of growth of the total membership. In turn, the flow of funds disbursed grew at an average annual rate of 74.9 percent, from CFAF 122 million in 1993.

These figures imply an average of about one-and-a-half loans per borrower disbursed during the year. These figures also imply that an average of 254 loans were disbursed to 161 borrowers per CVECA during 1996 as compared with an average of 154 loans for 101 borrowers per CVECA during 1993. The burden of screening and monitoring loans by the management committee, therefore, is not too large.

Loans from CVECAs are very small. At the end of 1996, the average size per loan disbursed was CFAF 49,405 (US\$99), which is equivalent to about 40 percent of the per capita GDP in Mali. Average loan size had increased at an average annual rate of 50.1 percent, from CFAF 14,600 in 1993.

Growth in the portfolio of CVECAs during this period can be attributed, therefore, more to average loan size increases and less to increases in the number of borrowers. These increases in loan size appear to reflect less conservatism on the part of the management committees, as they have learned about the creditworthiness of their clientele, and may have been facilitated by access to BNDA funds. As discussed later in this chapter, the profile of the membership mirrors the profile of the population in the villages.

The majority of these loans were used in trading activities (78 percent in 1994-95) and the rest were used for crops and livestock rearing (16 percent), social functions (3 percent), handicraft activities (2 percent), and seasonal migration (1 percent). The role of these loans in the economic management of the households is discussed below.

There are fewer depositors than borrowers. By the end of 1996, total deposits outstanding amounted to CFAF 346.4 million (about US\$692,800) from 2,794 members. The number of depositors grew at an average annual rate of 16.8 percent, from 1,752 in 1993, while the amount deposited grew at an average rate of 66.9 percent, from CFAF 74.5 million in 1993. This was due more to larger deposit sizes than to increases in the number of depositors.

Deposits in CVECAs are small too. At the end of 1996, average deposit size was CFAF 62,500 (US\$125), which is equivalent to about 50 percent of per capita GDP in Mali. The average size of deposits had grown at an annual rate of 41.4 percent, from CFAF 22,100 in 1993. As with loans, the growth in deposits is explained more by larger average deposits than by increases in the number of depositors. Almost three-quarters of these liabilities were term deposits. Even the average balance of a large depositor at CFAF 137,678 (US\$275) is not large.

These figures reveal severe constraints on the ability of the village economy to generate a large volume of local financial intermediation. Both the small number and the poverty of the members limit the maximum volume of business that can be captured by CVECAs. These organizations could only grow further by extending their services to neighboring villages (CIDR, 1996). In effect, some of CVECAs already accept members from neighboring villages.

This is, however, a risky proposition because CVECAs loaning to other villages do not possess the same information and social mechanisms for contract enforcement they enjoy in their own villages. All successful local organizations, however, face a trade-off between economies of scale and the low costs resulting from local information and contract enforcement advantages (Poyo, Gonzalez-Vega, and Aguilera, 1993).

DEPTH OF OUTREACH

CVECAs are located in one of the poorest regions of Mali and their services, in particular their loans, are meant for poor people in remote rural areas. The resulting depth of outreach is revealed by the average size of loans and deposits reported above. That is, because of their location, CVECAs reach very poor people. In the villages where CVECAs are located, there is, however, an unequal distribution of wealth, with about two-thirds of the wealth being held by about one-third of the households (Ouattara et al., 1997). The position of the members of CVECAs within the villages is discussed below. This skew is more pronounced in Koro and Bandiagara, where 64 percent of the households had wealth of less than CFAF 1 million. Wealth is more equally distributed in Bankass, where 42 percent of the households had wealth of less than CFAF 1 million.

A survey of 175 CVECA members and non-members undertaken by the researchers can be used to further determine the depth of outreach of these organizations (Ouattara et al., 1997). Data from four CVECAs were used for the analysis: CVECAs of Djombolo and Daga-Tiréli (in the *cercle* of Bandiagara), the CVECA of Pomorodiodiou (Koro), and the CVECA of Kani-Komolé (Bankass). The first two CVECAs were created in 1990, and the last two in 1992.

Residents of three villages without CVECAs also were surveyed: Sinkarma in Bandiagara, Ogodengou in Koro, and Kouroundé in Bankass.²⁸

As Table 2 illustrates, the relative importance of agricultural and non-agricultural sources of income varies in the three subregions. In the *cercle* of Bandiagara, on the plateau, cropping is by far the most important family enterprise, generating 75 percent of household total income.²⁹ In this subregion, onion cultivation constitutes a substantial and regular source of income. In comparison, revenues from food crops account for 49 and 56 percent of household total income in the *cercles* of Koro and Bankass, in the plain. There, income from agriculture consists mainly of the sale of millet surpluses and associated rain-fed crops. The latter however, are not as profitable as onions and are more sensitive to rainfall deficits. The other source of agricultural income for households in the plain is extensive and intensive livestock raising, which represents 4 and 10 percent of total income in Koro and Bankass, respectively.

Off-farm activities, which account for 39 percent of total income, are the second most important source of income for households in Koro and Bankass (see Table 2). Located on the main crossroads for trading activity, most of the households are engaged in the small trade of consumption goods and handicraft products or the more substantial business of trading grains and livestock. In contrast, income from off-farm activities on the plateau of Bandiagara accounts for only 15 percent of total household income. Only households not engaged in the cultivation of onions actually develop trading businesses or migrate during the dry season. In Bandiagara, migration is the third most important source of income, providing

²⁸The results are illustrative but not necessarily representative of the whole system.

²⁹*Total income* is obtained here by the summation of all monetary income from agricultural and non-agricultural activities and the monetary value of agricultural items produced and consumed by the household.

7 percent of total household income, while remittances represent only 2 and 1 percent of total income in Koro and Bankass, respectively.

Livestock continues to be the most popular traditional form of holding savings among rural households in all three *cercles* and especially among households in the plain, where grazing land is more abundant (see Table 3). The value of livestock represents more than 80 percent of total savings holdings in Bankass and Koro and 62 percent in Bandiagara. In fact, livestock raising is a minor activity on the plateau because of the scarcity of arable land, and it is most often restricted to the fattening of several sheep per household. The alternative form of holding savings is cash and deposits. Except in Bandiagara, financial savings are a very small proportion of the holdings of total household savings.

Table 2: Composition of Household Total Income in 1996 (in percent)

Sources of Income	Cercle of Bandiagara (plateau)			Cercle of Koro (plain)			Cercle of Bankass (plain)		
	Total Sample	CVECA Member	Non-member	Total Sample	CVECA Member	Non-member	Total Sample	CVECA Member	Non-member
Cropping	75	80	70	49	41	55	56	48	63
Livestock sales	3	2	4	10	10	11	4	4	4
Remittances	7	6	8	2	1	3	1	0	2
Off-farm activities	15	12	18	39	48	31	39	48	31
<i>Total</i>	100	100	100	100	100	100	100	100	100

Source: OSU survey, April 1997

Table 3: Composition of Household Savings Holdings in 1996 (in percent)

Types of Savings	Cercle of Bandiagara (plateau)			Cercle of Koro (plain)			Cercle of Bankass (plain)		
	Total Sample	CVECA Member	Non-member	Total Sample	CVECA Member	Non-member	Total Sample	CVECA Member	Non-member
Livestock*	62	63	60	81	76	86	94	97	92
Funds	38	37	40	19	14	4	6	3	8
<i>Total</i>	100	100	100	100	100	100	100	100	100

Source: Individual surveys, April 1997

* Market value of the household's herd.

Differences in the structure of income across households with or without members in CVECAs are not pronounced. In Bandiagara, the composition of income for households that are members is similar to the rest of the population. As shown in Table 2, when comparing members with non-members, agriculture and gardening are apparently somewhat more important as a source of income for members (80 percent) than for non-members (70 percent). In Koro and Bankass, in contrast, income from off-farm activities tends to represent a larger share of total income for members (48 percent) than for non-members (31 percent), while the opposite is true for income from agriculture, a less profitable activity in these *cercles*.

The members of CVECAs are generally poor, even by the village standards. Table 4 shows that in the *cercles* of Bandiagara and Bankass a greater share of CVECA members than of non-members are among the low class (CFAF 500,000 to CFAF 1 million) and very low class (below CFAF 500,000) of wealth.³⁰ Seventy-three percent of households that are members of CVECAs in Bandiagara and 48 percent of those in Bankass have levels of wealth below CFAF 1 million (US\$2,000), compared to 54 percent and 38 percent, respectively, for non-members.

In the *cercle* of Koro, the wealth classes below CFAF 1 million count slightly more for non-members (65 percent) than for members (62 percent). It is important to recognize that the distribution of wealth within the sample is skewed towards low levels of wealth and that the rate of penetration of CVECAs in the villages is high, ranging from 52 to 95 percent. Thus, it is quite understandable that members of CVECAs are representative of the village population—i.e., that they are among households with low to very low levels of total wealth.

Table 4: Distribution of Households across Wealth Categories in 1996 (in percent)

Categories of "Wealth" (000s of CFAF)	Cercle of Bandiagara			Cercle of Koro			Cercle of Bankass		
	Total Sample	CVECA Member	Non-member	Total Sample	CVECA Member	Non-member	Total Sample	CVECA Member	Non-member
0-100	15	20	9	6	10	3	6	5	7
100-500	25	29	21	22	14	28	10	19	3
500-1,000	24	24	24	36	38	34	26	24	28
1,000-1,500	13	12	15	12	10	14	14	10	17
1,500-2,000	11	5	17	16	19	14	8	9	7
2,000-3,000	5	0	12	0	0	0	16	9	21
> 3,000	7	10	2	8	9	7	20	24	1
<i>Total</i>	100	100	100	100	100	100	100	100	100

Source: OSU survey, April 1997. Wealth is defined in a broad sense to include financial assets as well as human capital. US\$1 = CFAF 500

The analysis shows, however, that not only do CVECAs offer services to a majority of poor households but that they also succeed in attracting some clients who are wealthy within the village context, including those who have a level of wealth above CFAF 3 million (equivalent to US\$6,000). These wealthier clients represent 10 percent of the total in Bandiagara, 9 percent in Koro, and 24 percent in Bankass. They are either big borrowers able to provide sufficient collateral to obtain loans ranging between CFAF 500,000 and CFAF 1 million (from US\$1,000 to US\$2,000) or big depositors who can deposit up to CFAF 1 million. For this clientele, CVECA financial services represent access to loan amounts that are larger than those they can obtain from the informal system as well as a way to earn high interest on deposits.

³⁰To derive a measure of wealth that would reflect the criteria used by the villagers to separate the poor from the wealthy, a special variable was constructed incorporating total income, as a proxy for human capital, the value of physical assets, including all durable goods and production tools highly valued by the households, and the value of savings holdings, including monetary savings and livestock. These three variables were weighed by the number of people within the household and added up to yield a unique variable called *total wealth*. This variable was used to classify households along a scale from the poorest to the richest (Ouattara et al., 1997).

Table 6 suggests that CVECAs in the sample tend to supply a large number of small loans and to collect few (but large) term deposits. CVECAs attract big borrowers as well, who are able to commit high-value collateral, such as motorcycles and cattle, and who ask for loans up to CFAF 1 million (US\$2,000). The average loan size at CFAF 30,000 (US\$60) is small, however, while the median size is CFAF 10,000 (US\$20). The average deposit ranged from CFAF 53,503 to CFAF 137,678 (US\$107 to US\$275), with a majority of deposits being small as shown compared with the median deposits reported in Table 6. Some large amounts deposited in the four CVECAs reflect the existence of important depositors, mainly informal village groups and big traders.

Table 5: Distribution between Term Deposits and Current Accounts Registered for the 12 Months of 1996

Type of Account	Cercle of Bandiagara				Cercle of Koro		Cercle of Bankass	
	Djombolo		Daga-Tiréli		Pomorododiou		Kani-Komolé	
	Amount (CFAF*)	%	Amount (CFAF)	%	Amount (CFAF)	%	Amount (CFAF)	%
Term deposits	1,431,920	28	6,140,160	74	4,424,295	86	7,576,000	84
Current accounts	3,654,105	72	2,181,495	26	689,135	14	1,476,255	16

Source: Activity Report CIDR, March 1997.

* US\$1 = CFAF 500

Table 6: Characteristics of Term Deposits and Loans Disbursed Since 1993

	Djombolo	Daga-Tiréli	Pomorododiou	Kani-Komolé
Term Deposits (CFAF*)				
Mean	136,678	53,503	59,271	107,798
Median	30,697	15,000	20,665	50,000
Maximum	1,500,000	2,000,000	760,000	1,030,905
Minimum	5,500	250	1,000	1,000
Loans (CFAF)				
Mean	18,543	38,402	39,542	29,941
Median	10,000	15,000	25,000	10,000
Maximum	500,000	650,000	800,000	1,000,000
Minimum	2,500	1,000	1,000	500

Sources: CVECA Individual Saving and Credit Records, April 1997.

*US\$1 = CFAF 500

Finally, informal discussions confirmed the researchers' expectations that non-members are, for the most part, people who are too old or who have major handicaps and, therefore, are not economically active, adolescents who still depend on their family, and villagers who either

are afraid of being indebted or are not interested in CVECA services because they have access to other sources of microfinance or sufficient savings of their own. These individuals are not creditworthy and must rely on friends and relatives for their financial needs. With this exception, therefore, CVECAs reach a large proportion of the rural poor population in the villages where they operate. CVECAs could achieve further breadth of outreach only by expanding into new villages, while further depth of outreach is impossible, since CVECAs already reach the poor.

QUALITY OF OUTREACH

One important dimension of the quality of an MFO's outreach is its capacity to respond to the actual demands for financial services from its target clientele. To evaluate this attribute, the researchers compared the history of the individual clients' financial transactions (loans and deposits) to the patterns of their income and consumption flows (Ouattara et al., 1997). Because both loans and deposits are voluntary, clients' financial transactions should reflect their preferences. This study of the transaction histories of individual clients allowed the researchers not only to trace the use of financial services by CVECA members but also to identify differences in transactions across types of clients.

Deposits exhibit a seasonal pattern of inflows and outflows that coincides exactly with household income and consumption cycles in each *cercle*. In Djombolo and Daga-Tiréli, villages located on the plateau, an important peak of deposits is shown from May to June, which corresponds to the end of the onion season. In Daga-Tiréli, many members also deposit their money in March, after they finish their dry-season activities and before they start planting millet at the end of June.

In the absence of onion cultivation, most deposits in Pomorododiou and Kani-Komolé are made from March to May, at the end of the dry season, and from September to October, after the harvest of millet and other rain-fed crops. Periods of high withdrawals coincide, in turn, with the beginning of the planting season (September to October for onions, June to July for millet), the start of off-farm enterprises during the dry season, and periods of household seasonal food deficits (May to August).

Thus, with the exception of some big depositors, who are net savers and who hold 9- to 12-month term deposits, most savers use the deposit services offered by CVECAs as a means to smooth out seasonal variations in their income. During the rainy season, rural households engaged in cultivation used to save working capital for their dry-season activities exclusively through livestock accumulation. This strategy became highly risky after the droughts of 1974 and 1984. Others used their working capital to satisfy immediate consumption needs.

Therefore, the CVECA deposit services have been attractive to both a few big depositors and a majority of smaller savers. Big savers view their deposits as more profitable than alternative illiquid assets, while the majority of smaller depositors treat their accounts as an efficient and less risky means to secure with their own funds the start of an activity at a specific time or to take care of expected consumption needs.

In all CVECAs visited, however, the number of deposit accounts is two to eight times less than the number of loans disbursed, and the majority of the deposits are relatively small, as shown by the median sizes reported in Table 7. In fact, loans are funded not only with deposits and membership fees but also with loans granted by the BNDA. Thus, although deposit services can play an important role in liquidity management, the majority of households still prefer to save in livestock, which is, above all, an indicator of high social status and also is used for agricultural production (see Table 3).

Moreover, access to credit from CVECAs may actually be the second reason why livestock savings remain predominant. Households that have access to a source of liquidity like the CVECA loans may tend to hold more livestock instead of cash as access to these loans reduces their liquidity preference and the need to accumulate liquid precautionary reserves.

Table 7: Total Loan Demand, Total Disbursed Loans, and Term Deposits Since 1993

	Djombolo	Daga-Tiréli	Pomorododiou	Kani-Komolé
Term Deposits				
Total (CFAF ¹)	8,884,120	15,087,881	17,959,235	16,708,645
Mean (CFAF)	136,678	53,503	59,271	107,798
Median (CFAF)	30,697	15,000	20,665	50,000
Number of deposits	65	282	303	155
Loans				
Average loan size demanded ² (CFAF)	NA	49,608	53,278	NA
Median (CFAF)	NA	20,000	30,000	NA
Total disbursed (CFAF)	9,568,000	20,814,025	35,429,600	37,875,800
Average loan size disbursed (CFAF)	18,543	38,402	39,542	29,941
Median (CFAF)	10,000	15,000	25,000	10,000
Number of loans disbursed	516	542	896	1,265

Source: CVECA Individual Saving and Credit Records, April 1997.

¹ US\$1 = CFAF 500

² This represents the average of all loan applications recorded.

Saving through deposits at CVECAs appears to be sparse among female clientele, in terms of both size and number of accounts. They either have access to diversified forms of savings such as animals, jewelry, and their daughters' wedding trousseaus or they generate a level of income just sufficient to cover their expected expenditures.

Indigenous village groups, whether they are gender or age specific, constitute by far the most significant depositors in CVECAs. This is especially true in villages in the plain. Deposits collected from these village groups can account for more than half of total annual deposits in a CVECA. The rationale behind this behavior lies in the fact that these groups, by design, support individual risk-coping strategies through the supply of individual loans and that these loans are limited by the amount that these groups can earn from collective efforts and from savings.

Village groups, therefore, view interest-earning deposit services as an opportunity to increase their lending capacity while depositing part of their funds with the CVECA. In this sense, CVECAs have succeeded in deepening financial intermediation in the villages.

Credit flows also tend to coincide with seasonal patterns of household income and—to a lesser extent—consumption flows. Periods of high demand for loan disbursements are at the beginning of the onion season in September and October in villages located on the plateau, at the start of the millet season in the plain in June and July, and at the end of the rainy season, in September-October, when everybody starts their dry-season activities. These disbursement peaks also correspond to periods of high withdrawals from deposit accounts, reflecting important cash needs at specific moments during the year. These peaks may challenge a CVECA's capacity to smooth cash flows in the same way households do.

It cannot be claimed that the loans disbursed are used exclusively for production based merely on these observations. In fact, periods of high demand for credit may not coincide only with production cycles but also with consumption cycles. The patterns of household income and consumption and the fact that informal credit institutions such as village groups grant loans only for emergency reasons strongly suggest, however, that most of the credit demanded is meant for production rather than consumption. Nevertheless, loans that are likely to be used for both purposes are those disbursed at the beginning of the millet season, since this period corresponds to the time when grain reserves are low. Thus, any inflows of cash into the household at that time will likely be allocated to food consumption as well.³¹ It is worth noting that households in the plain have experienced good harvests for the past five years. Thus, they may have not experienced high food deficits for a while.

The likely use of credit mostly for production can be interpreted as a positive impact of CVECA financial services, which unlock opportunities for households to secure the start of seasonally practiced or completely new income-earning activities. In the case of Kani-Komolé, for example, 10 men started a trading business of grain and livestock with CVECA loans.

Given the high risks from activities that depend on climate and villager's limited purchasing power, the development of new productive activities that are less dependent on the climate and directed at larger national markets is important. A parallel CIDR research project investigated opportunities for income diversification (Chao-Béroff, 1997). The project financed trips by groups of Dogon microentrepreneurs to observe activities in other parts of the country and exchange ideas and experiences with others. An innovation fund was used as a venture capital instrument. These efforts appear to have triggered dynamic opportunities, and lending increased as a result.

There is an important difference in credit demand between female and male members of CVECAs. In the village of Kani-Komolé, not only do women demand credit less frequently than men but also loans granted to women are on average much smaller. Informal discussions with women selected for the survey suggested that for a Dogon woman, credit is not the best

³¹ In subsistence agricultural economies, food to sustain the labor force is the most important input into production.

solution to her problems. Many women expressed the fear to be publicly in debt. When they have to borrow to cover an expenditure for the family, they prefer to deal with either their husband or relatives; when they want to invest in an activity such as spinning cotton, they would prefer to participate in a tontine or wait for revenues generated by the sale of agricultural products cultivated on their private fields. In villages like Kani-Komolé, women also receive help from SOS Sahel, an NGO working in the region. The average loan size demanded by women is a function of the activities practiced (for example, food processing, animal fattening, small local trade), which generally require a smaller cash flow than typical male activities. Onion cultivation is an exception to this pattern.

During the past few years, the regions in the survey did not suffer from natural disasters or other village-wide shocks, such as poor harvests, drought, flooding, or insect attacks. Some households, nevertheless, had to deal with idiosyncratic shocks, such as sickness and death in the family. When asked how they dealt with idiosyncratic shocks that had occurred since 1993, most individuals admitted to selling assets, primarily their livestock, to solve the problem.

Up to 135 individuals (77 percent of the sample) indicated that they had suffered some loss during the last drought, and more than half (68 people) sold part of their physical assets to cope with the loss. The same holds true for the 61 CVECA members and 74 non-members who suffered a loss. The preferred way of dealing with the crisis was the sale of assets (34 percent for the members and 44 percent for the non-members). The second most popular way of dealing with shocks was to reduce family food consumption drastically. Nearly 30 percent of all respondents used this strategy (30 percent of members and 29 percent of non-members).

For those 35 individuals who took a loan to deal with the crisis, 24 were members of a CVECA, and almost all of them (23) used CVECA loans. Ten other members also used money from their CVECA savings account. Thus, members appear to use CVECA deposits and loans as an additional choice in times of crisis. Nevertheless, the preferred choice for all, members and non-members alike, is the sale of assets. This explains in part why savings in the form of livestock represent up to 62 percent of individual physical assets for members and non-members alike (see Table 8).

Table 8: Mean and Median of Annual Income and Value of Physical Assets for All Individuals in the Sample (in CFAF¹)

	Total Sample (n=175)		CVECA Members (n=83)		Non-members (n=92)	
	Mean	Median	Mean	Median	Mean	Median
Agricultural Income	270,354	55,500	157,558	48,550	372,116	58,675
Agricultural products	223,450	13,850	108,830	13,300	327,995	18,100
Non-fattened animals	21,814	0	21,455	0	22,138	0
Fattened animals	26,367	0	27,273	0	25,549	0

Non-agricultural Income	41,359	5,400	39,205	4,500	43,303	6,500
Independent work	15,699	0	20,109	0	11,721	0
Remittances	25,660	0	19,096	0	31,582	0
Total Income²	311,713	90,500	196,763	97,000	415,419	83,875
Value of Physical Assets	400,443	222,550	385,997	213,050	413,475	243,812
Animals	248,671	115,000	244,547	110,550	252,392	116,100
Equipment/tools	78,311	31,200	73,413	22,300	82,730	57,800
Cereals and other inputs	15,953	8,500	16,800	8,400	15,189	8,650
Construction	57,507	15,000	51,236	12,000	63,164	20,000

Source: OSU survey, April 1997.

¹ US\$1 = CFAF 500

² Total income = agricultural income + non-agricultural income

OUTREACH AND THE DYNAMICS OF CVECA GROWTH

There is no restriction on access to CVECA services. Any villager who has paid a membership fee (CFAF 500 to 1,500) can benefit from these financial services. In practice, however, the volume of credit disbursed depends on the availability of funds as well as on the value of the collateral that the borrowers can provide. Funds available for lending are, in turn, dependent on the deposits mobilized and on access to external funds (i.e., BNDA refinancing facilities). Table 7 shows that CVECAs that lend the most are also those that are particularly dynamic in mobilizing deposits.

Not all demands for credit are fully satisfied. The CVECA in Kani-Komolé tends to restrict the average loan size so that it can satisfy more clients. It is important to note that the collateral requirement does not necessarily exclude poor villagers from securing a loan. Some CVECAs do accept as collateral pieces of fabric and rudimentary cultivation tools. The availability of collateral limits, however, the amount of the loan.

In contrast to credit, there is no restriction on the amount one can deposit, except that the interest rate may be renegotiated downwards whenever the deposit is a large sum of money. CVECAs in Daga-Tiréli, Pomorodiodiou, and Kani-Komolé experienced significant growth in deposits in terms of both numbers and amounts.

The information available from individual deposit and credit records is summarized in Table 9. The data show positive growth for all CVECAs in terms of the volume of transactions and the number of clients. Average loan size also has been increasing over time. This growth, however, is slowing down, as the capacity of CVECAs to mobilize deposits remains limited (households still keep more than half of their savings holdings in livestock). This has made their lending activities more and more dependent on BNDA refinancing.

Table 9: Financial Assets by Source for CVECA Members and Non-members by Gender in the Sample (average values in CFAF)

	CVECA members (n=83)		Non-members (n=92)		Men (n=94)		Women (n=81)	
	Actual Balance (CFAF)	% of Total Savings	Actual Balance (CFAF)	% of Total Savings	Actual Balance (CFAF)	% of Total Savings	Actual Balance (CFAF)	% of Total Savings
CVECA (n=83)	1,763	38.8	--	--	1,174	15.4	691	38.3
Money keeper or groups ¹	1,958	43.1	826	16.5	1,851	24.3	796	44.2
Loans granted to others	820	18.1	4,219	83.5	4,581	60.2	315	17.5
Total savings	4,541	100.0	5,045	100.0	7,606	100.0	1,802	100.0
Tontine	8,046	--	1,424	--	2,119	--	7,404	--

Source: OSU survey, April 1997.

¹ Money-keepers, such as friends and relatives, and deposits in informal institutions, such as village groups, are summed together.

Questions also can be raised about the ability of the village economy to develop and absorb a larger volume of financial transactions. In all the villages selected for the study, penetration rates are already reaching a ceiling, ranging from 55 to 95 percent of the number of adults in the villages (CIDR, 1996). CVECAs can grow further only by extending their services to neighboring villages. Some of the CVECAs surveyed, like Daga-Tiréli and Kani-Komo already accept many neighboring villagers as their members (Ouattara et al., 1997).

The rates of growth of lending not only are slowing down but deposit growth rates also are declining—and they are declining faster than lending operations. It should be noted, however, that in recent years the deposit base is much larger than what it was when the program was launched. Hence, one would expect the rate of growth of deposits to decline.

Nevertheless, two hypotheses can be formulated about the causes of the decline in the growth rate of CVECAs' deposit mobilization. First, it seems that households in the area have reached a certain limit in their propensity to save at CVECAs. Livestock is still the most preferred form of savings holdings for the majority of households and there is no incentive for them to increase their deposits as loans received by a CVECA member are not directly linked to savings as is the case in credit cooperatives. Finally, outside funds from BNDA may have discouraged the deposit mobilization efforts of CVECAs in recent years.

One important question, therefore, is whether CVECA members have better access to financial markets compared to non-members. According to the profile of financial asset holdings reported in Table 9, CVECA members deposited 39 percent of their financial savings in CVECAs in comparison to 43 percent deposited with money-keepers and village groups. Another 18 percent of the liquid financial assets of CVECA members were given out as loans to others. For non-members, most of their liquid assets (83 percent) are used to grant loans to others, while a smaller portion (16 percent) was deposited with money-keepers and village groups.

which the CVECA members appreciate, thereby allowing for a broader diversification of household asset holdings.

According to the figures in Table 10, the principal uses of financial assets by CVECA members in the sample were buying animals (48 percent), engaging in trading activities (35 percent), and paying children's school expenses (24 percent). The scenario was similar for non-members, for whom buying animals came first (37 percent), followed by investment in trade (29 percent) and children's schooling expenses (22 percent). It is interesting to note that education ranks among the priorities for the heads of household in the sample. It is clear, however, that CVECA members and non-members alike invest considerably in livestock as a savings mechanism and, at the same time, disinvest by selling off those animals in emergencies.

Table 10: Multiple Uses of Financial Assets and Savings Habits of Individuals in the Sample

	Total Sample (n=175)		CVECA Members (n=83)		Non-members (n=92)		Men (n=94)	Women (n=81)
	Frequency	% of Sample	Frequency	% of Sample	Frequency	% of Sample	% of Sample	% of Sample
Liquid Savings ¹								
Keep at home	81	46.3	30	36.1	51	55.4	47.9	44.4
CVECA savings account	39	22.3	39	47.0	--	--	24.5	22.2
Save in a tontine	21	12.0	8	9.6	13	14.1	3.2	22.2
Save in a village group	23	13.1	11	13.3	12	13.0	17.0	8.6
Keep with someone	9	5.1	2	2.4	7	7.6	4.3	6.2
Spending and Investments ¹								
Buy animals	74	42.3	40	48.2	34	37.0	45.7	38.3
Engage in trading activities	55	31.4	29	34.9	26	28.3	27.7	35.8
Reimburse debts	44	25.1	22	26.5	22	23.9	28.7	21.0
Buy durable goods	43	24.6	17	20.5	26	28.3	34.0	13.6
Pay children's school expenses	40	22.9	20	24.1	20	21.7	28.7	16.0
Grant loans to others	26	14.9	12	14.5	14	15.2	18.1	11.1
Organize a wedding	19	10.9	11	13.3	8	8.7	14.9	6.2
Engage in artisanal work	18	10.3	7	8.4	11	12.0	8.5	12.3
Start a new farm	3	1.7	2	2.4	1	1.1	2.1	1.2

Source: OSU survey, April 1997.

¹ Answers are not mutually exclusive.

As shown in Table 11, CVECA members held an average loan size of CFAF 10,402, which was almost twice the average loan size of non-members (CFAF 5,239). This difference in average loan size suggests that members have access to credit twice as much as non-members. This difference was found to be statistically significant. The higher loan size amount per members came principally from loans obtained at CVECAs (CFAF 9,278), with an average loan term of 120 days.

Table 11: Loans Received by Individuals in the Sample over the Past 12 Months by Gender and CVECA Membership Status

Source	Total Sample (N=175) Actual Debt in CFAF	Men (n=94) Actual Debt in CFAF	Women (n=81) Actual Debt in CFAF	CVECA Members (n=83) Actual Debt in CFAF	Non-members (n=92) Actual Debt in CFAF	Length in Days
CVECA	4,401	6,390	2,092	9,279	0	120
NGO	160	255	49	48	261	--
Village group	2,197	4,010	93	48	4,179	42
Relatives	907	1,601	101	1,027	799	25
Total debt	7,688	12,300	2,335	10,402	5,239	--

Source: OSU Survey, April 1997.

The CVECA, thus, appears to be the sole source of loans for members in the sample. Non-members, in contrast, had to rely exclusively on the informal financial system, obtaining most of their loans from village groups. The average loan size for informal loans was CFAF 4,179, for an average term to maturity of 45 days. Annual interest rates on loans in CVECAs averaged 40 percent, substantially less than the annualized interest rate of 120 percent charged by village groups.

It is apparent that CVECAs are responsible for their members having better access to credit, with larger and longer term loans at lower cost than those obtained by non-members from informal financial sources, in particular village groups. As shown in Table 12, CVECA members relied exclusively on relatives (58 percent), friends (18 percent), and tontines for women (6 percent) for deposit and loan services before the emergence of CVECAs.

Table 12: Sources of Savings and Loans for CVECA Members before the Creation of CVECAs

Source	% of Sample (n=83)	% of Men (n=47)	% of Women (n=36)
Relatives	57.8	55.3	61.1
Friends	18.1	25.5	8.3
Trader	4.8	6.4	2.8
Money lender	1.2	2.1	0.0
Money keeper	2.4	0.0	.6
Tontines	2.4	0.0	5.6

Source: OSU survey, April 1997.

When asked about the most important reasons for becoming a CVECA member, the three most common responses were:

- The possibility of securing loans (93 percent);
- Interest earned on savings accounts (68 percent); and
- A secure place to save for 66 percent of the sample (see Table 13).

Among the most important advantages members expect from CVECAs, 60 percent cited the possibility of obtaining longer term loans, while 57 percent expected to have access to larger loans and 43 percent appreciated the choice of several types of savings accounts (see Table 14). Thus, the results on access to credit confirm that CVECAs mostly fulfilled their members' expectations.

Table 13: Most Important Reasons for Becoming a CVECA Member

Reason ¹	% of Total Sample (n=83)	% of Men (n=47)	% of Women (n=36)
To secure a loan	92.8	93.6	91.7
Interest earned on savings	67.5	72.3	61.1
Secure place to save	66.3	76.6	52.8
Confidentiality	59.0	61.7	55.6
Proximity/convenience	47.0	53.2	38.9
To discipline oneself	31.3	38.3	22.2
To act like others	26.5	25.5	27.8
Pressure from authorities	13.3	12.8	13.9

Source: OSU survey, 1997.

¹ Answers are not mutually exclusive.

Table 14: Perceived Advantages of CVECA Membership Expressed by CVECA Members

Benefits ¹	% of Sample (n=83)	% of Men (n=47)	% of Women (n=36)
Long-term loans	60.2	57.4	63.9
Larger loans	56.6	53.2	61.1
Choice of several types of savings accounts	43.4	48.9	36.1

Source: OSU survey, 1997.

¹ Answers are not mutually exclusive.

In summary, despite the difficulties inherent in trying to measure the direction and magnitude of changes induced by CVECAs (how to separate the influence of other economic factors from that of CVECAs) and the absence of data on the situation before CVECAs were launched, research results confirm a positive impact of CVECAs in the Dogon region. At the individual and household levels, CVECA members have a larger and more diversified access to sources of credit and deposit facilities.

CVECA loans are distinct from informal sector loans by their longer terms, larger amounts, and relatively lower interest rates. This explains why CVECAs remain almost the exclusive source of loans for their members. Informal savings and loan services cannot easily compete with these terms and conditions.

CVECA loans also have allowed investments in farm and commercial enterprises for those members whose borrowing schedules fit the cycles of agricultural and trade activities. Since loans are not targeted by loan use by CVECAs and most loans are taken at the time when the household's food stock is at its lowest, CVECA loans also are likely used to smooth consumption throughout the year. Thus, CVECA loans are used for production as well as consumption-smoothing purposes. Although most individuals (members and non-members alike) prefer to disinvest by selling animals to deal with emergency situations, most members who borrowed to deal with adverse shocks obtained their loans from CVECAs. Because individual deposits at CVECAs remain relatively low compared to total liquid savings, CVECA management should create more incentives for people, especially women, to make a CVECA their primary savings institution.

At the village level, the CVECA has become a valuable complement to the informal financial system, since it has become the sole source of loans for villagers who are CVECA members. The CVECA also has successfully attracted savings from village groups, which in turn serve the other segment of the village population—that is, non-members. Thus, CVECAs are the true financial intermediary in the village, connecting surplus units with deficit units on a village-wide level, a role that the informal system finds very difficult to play.

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