

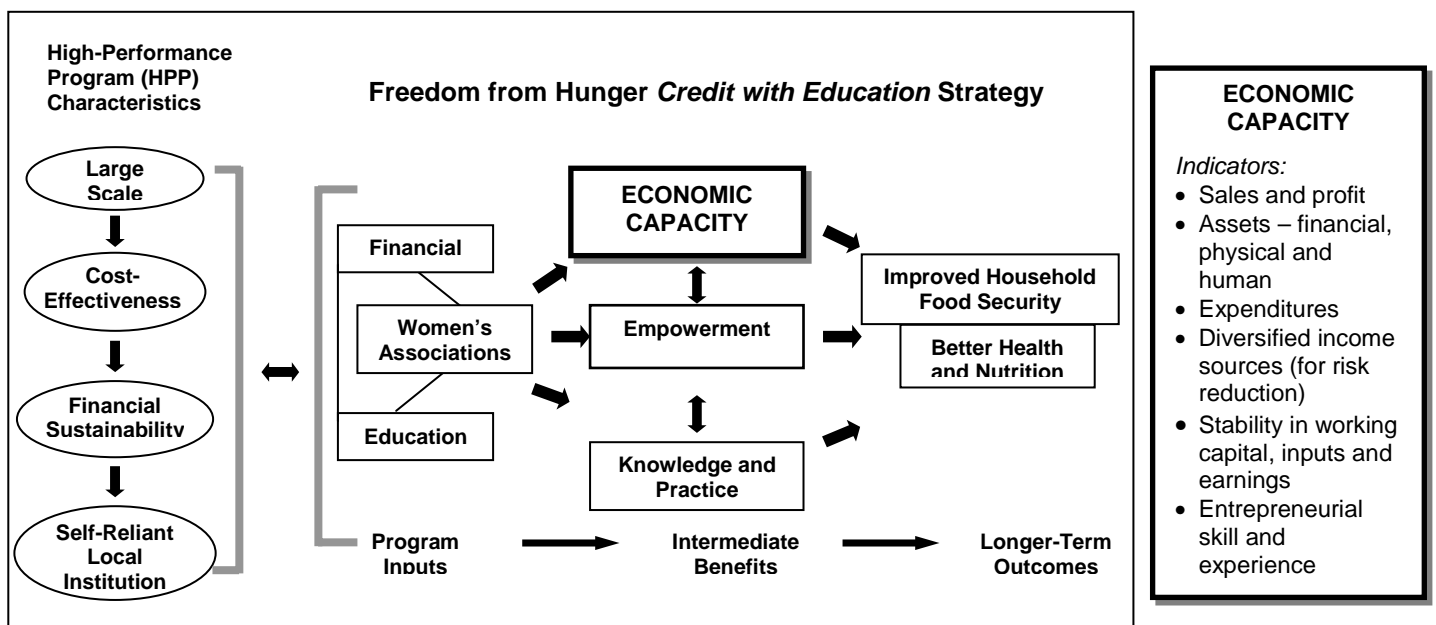
**CREDIT WITH EDUCATION IMPACT REVIEW NO. 2:
ECONOMIC CAPACITY AND SECURITY**
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Introduction

In the field of microfinance, considerable effort and attention have been invested in defining “best practices” for financial sustainability and scale. Arguably, less attention has been paid to defining and testing microfinance “best practices” for poverty alleviation. Certainly microfinance has the *potential* to provide the poor with greater economic security and in doing so may be a catalyst for poverty alleviation. But there is still much to learn about the impact of microfinance on poverty alleviation and which design and implementation features most effectively contribute to this goal. Over the past decade Freedom from Hunger and its partners have undertaken a variety of evaluations to explore and test the impact of the *Credit with Education* strategy. This paper draws from and summarizes some important studies whose findings pertain to the economic impact of *Credit with Education*. It further consolidates the key learnings Freedom from Hunger and its partners have gleaned about impact in this area.

Freedom from Hunger’s work has been characterized by design innovations, such as integrating nonformal education into a microfinance delivery system as well as integrating impact evaluations and operational learning. A conceptual framework depicting the hypothesized self-help benefit process for *Credit with Education* is diagrammed in Figure 1. In some cases, the goal of the impact evaluations undertaken by Freedom from Hunger was to assess the entire benefit process. In others, a specific impact area or question was the focus of the study.

Figure 1: *Credit with Education* Benefits Process



The desired results from *Credit with Education* are threefold: 1) **financial**—increased income, assets and security; 2) **psychological and social**—increased self-confidence, social support and status within the family and community; and 3) **behavioral**—increased knowledge and use of better health and nutrition practices. Directly and by interaction with each other, these changes are hypothesized to yield in the longer-term **better household food security** and **better health and nutrition**, particularly for young children. These benefits are realized within the context of an institution that seeks to reach large numbers of very poor women and cover the costs of doing so with interest paid by the women on the loans they receive. *Credit with Education* programs focus on women exclusively because of the tendency demonstrated in literature that economic or productive resources controlled by women tend to more directly lead to nutritionally beneficial outcomes than those controlled by the household in general.

The economic capacity of women in this conceptual framework increases family resources necessary for improvement in household food security and health and nutrition. Each of the three programmatic components—credit, nonformal education and group solidarity—potentially contributes to a woman's enhanced economic capacity. The goal of this paper is to examine how and to what extent increased economic capacity and security are achieved by reviewing relevant studies and by summarizing Freedom from Hunger's own research results. The first section of this paper provides context by highlighting key learnings from some of the most influential and rigorous evaluation studies of microfinance interventions conducted to date.

I. REVIEW OF LITERATURE

Major evaluation efforts influential in understanding economic impact of microfinance institutions and their role in poverty alleviation include the studies reviewed below:

Household-Level Impacts—AIMS Project

A five-year USAID-funded AIMS Project (Assessing the Impact of Microenterprise Services): The AIMS project includes over a dozen desk reviews on impact evaluation topics, in-depth longitudinal impact studies in three program sites and the development and testing of a range of practitioner-oriented client-assessment tools. The AIMS conceptual framework departs from the conventional approach in that it starts with the household rather than the enterprise. Traditionally, evaluations of small-enterprise credit programs typically focused on enterprise returns and employment creation or hired labor. This is because historically the target clientele was of a higher socioeconomic status and was typically engaged on a full-time basis in a single enterprise activity that used hired labor.

Microfinance programs with a poverty alleviation focus aim to serve relatively poorer clientele. The vast majority of their client households do not have a single source of livelihood support, but rather pursue a mix of activities depending on seasons and market opportunities, among other factors. The clientele of poverty-lending microfinance is also less likely to make a distinction between household and enterprise funds. The AIMS conceptual framework recognizes that decisions about microenterprises can be understood more clearly when considered in relation to the overall household economic strategies. It clarifies how microenterprise interventions can contribute to household security, enterprise stability and growth, individual well-being and the

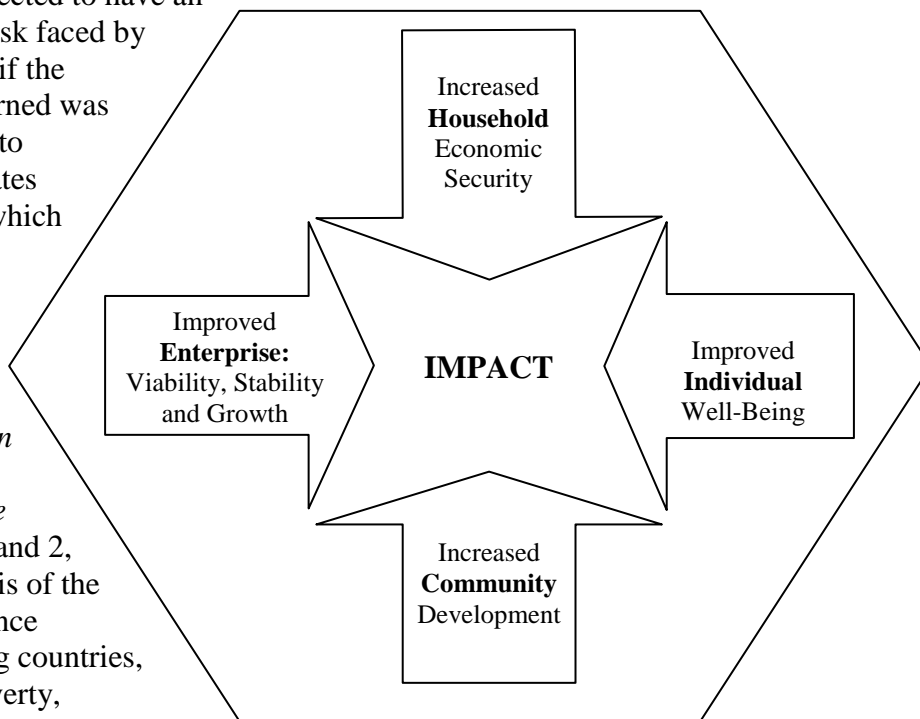
economic development of communities (USAID, 1995). Figure 2 below identifies the four impact pathways represented in the AIMS analytical framework.

According to the AIMS framework, a key area in which microfinance is expected to have an impact is a reduction in the risk faced by very poor households. Even if the weekly amount of income earned was relatively unchanged, access to microfinance services facilitates regular and secure earnings which allow for consumption-smoothing and improved ability to plan for the future.

Impacts on Poverty, Vulnerability and Deprivation

Hulme and Mosley's *Finance Against Poverty*, Volumes 1 and 2, include a comparative analysis of the performance of 13 microfinance programs in seven developing countries, including their impact on poverty, vulnerability and deprivation.

Figure 2: AIMS Impact Pathways



Two general and very influential conclusions the authors drew pertaining to the topic of this paper are as follows:

- ❖ Well-designed microfinance programs can improve the incomes of poor people, and for a proportion of cases, can move the incomes of poor households above official poverty lines in large numbers.
- ❖ Impact of a loan on household income is greater for what may be termed the “middle” and “upper” poor households. These households have a greater range of investment opportunities, more information about market conditions and can take on more risk than the poorest households without threatening their minimum needs for survival. Hulme and Mosley further state that in order to use credit effectively, households need to have already reached a “minimum economic level.”

Hulme and Mosley (1996) propose that, “While microcredit may not alleviate extreme poverty in terms of income measures, in terms of non-income measures it may still provide important benefits such as consumption-smoothing and income diversification which ‘protect’ the existing statuses of households by providing a safety net that contributes to crisis-coping capabilities.”

Impacts on Risk Management and Vulnerability

Similarly, in their synthesis study *Microfinance, Risk Management and Poverty*, Sebstad and Cohen propose that, especially for the extreme poor, the key impact is not necessarily income level but their ability to deal with risk and vulnerability. They further suggest that in order for households to survive, they generally need a minimum level of assets and a minimum ability to cope with risk. In their study, risks were defined as shocks and economic stress events that result in an economic loss. Vulnerability was the inability of individuals and households to deal with risk. Assets were also included and defined in terms of their ability to reduce vulnerability by assisting individuals and households to protect against risks ahead of time and manage economic losses following a shock or economic stress event. The study focused on clients and practitioners from seven microfinance programs operating in Bangladesh, Bolivia, the Philippines and Uganda. Overall, the results of their study support that microfinance helps clients protect themselves against risk. They emphasize the important role that assets play in reducing poverty and vulnerability of clients and include several key strategies that clients use with program loans. These strategies include the following:

- ❖ To build a mixed base of physical assets that can be drawn upon in times of hardship. Assets include investment in housing, vehicles and equipment or items such as jewelry or livestock that can be readily liquidated.
- ❖ To diversify sources of household income through investment in new opportunities as they arise in order to smooth, increase and stabilize income and consumption.
- ❖ To strengthen other coping mechanisms by building social networks, saving, minimizing expenditures and maintaining access to multiple sources of credit.

Differential Impacts by Gender of the Borrowers

Hulme's and Mosley's work demonstrated that the socioeconomic status of the borrower influences the ultimate impacts of microfinance. Research conducted by Pitt and Khandker provides evidence that the gender of the borrower is also very influential to the ultimate outcomes. World Bank-funded research focuses on the household and intra-household impacts of the Grameen Bank and similar credit programs in Bangladesh. A methodological contribution of this study is that the analysis is able to separate the estimates of the impact of borrowing by men and by women.¹ The study concludes that program participation had a positive effect on household expenditures, asset accumulation, self-employment, children's schooling, food consumption and contraceptive use. Credit provided by the Grameen Bank had the most significant impact on variables associated with household wealth, women's power, girls' and boys' schooling, women's labor and assets and total household expenditure (Pitt and Khandker, 1995). However, the effect was greatest when women were the program participants, even in terms of raising household expenditures. A dollar loaned to women raised household expenditures by a greater absolute amount than did a dollar loaned to men. The authors

¹ This study is also noteworthy for the design and econometric techniques that were used to minimize the potential biases and confounding influence of self-selection and endogeneity of study variables.

concluded, "Program participation benefits the poor, especially women and children" (Pitt and Khandker, 1995).

II. FREEDOM FROM HUNGER STUDY RESULTS—PROGRAM IMPACTS

"Before joining the program, after harvest, I used to sell millet to get some money to start my commerce, but now I can keep the millet stored to feed the children."

Credit with Education member

Over the past five years, Freedom from Hunger has conducted numerous impact studies and evaluations of the *Credit with Education* strategy. Multi-year impact studies in Ghana (July 1999) and Bolivia (December 1999) were the most rigorous research efforts of those undertaken to date. Carried out in collaboration with the University of California, Davis, Program in International Nutrition, these studies provide the most conclusive results because of their longitudinal and quasi-experimental design. (For additional methodological detail, see Annex 1.) While the central study question was the impact of *Credit with Education* on children's nutritional status, women's economic capacity was conceptualized as having important mediating effects. In addition, this section draws from in-depth qualitative research of *Credit with Education* conducted in Burkina Faso and an assessment conducted with clients in Mali using the various quantitative and qualitative SEEP/AIMS practitioner tools, e.g., impact and exit survey, in-depth interview about loan use, empowerment and client satisfaction.²

Relationship Among Loan Use, Context and Impacts

The type and degree of impact *Credit with Education* makes depends on how women use their loans and the relative returns on their investment strategies. Risk, market opportunities, overall household productive strategies, the age of her children and individual entrepreneurial experience are a few factors that may influence how women use a progression of loans over time. The various impact evaluations provide an opportunity to examine the similarities and differences in loan-use strategies and economic impact among *Credit with Education* participants in rural Ghana, Bolivia, Burkina Faso and Mali.

Ghana—The Coast:

The study site was situated in the western region of coastal Ghana where fishing, farming and commerce are principal productive strategies. The villages are relatively closely situated to each other, so and there is generally good access to commercial markets. The loan-use strategies of clients of the Lower Pra Rural Banks *Credit with Education* program reflected women's long and active tradition in commerce. In fact, women dominate markets and it is relatively rare to see men managing a stall or small store. The predominate loan activities include selling cooked food, making and selling coconut or palm oil, selling fresh and smoked fish or trading foodstuffs such as vegetables, maize or rice.

In the follow-up survey, the great majority of *Credit with Education* participants (over 90 percent) in Ghana reported that their incomes had increased since joining the program, with 28

² Full reports and briefs for each evaluation are available on the Freedom from Hunger Web site at www.ffhtechnical.org/publications/index.html

percent reporting their incomes had increased greatly. Participants identified the following reasons their incomes had increased:

- ❖ Expanded scale of income-generating activity (53%).
- ❖ Reduced cost because no longer dependent upon obtaining inputs on credit basis (36%).
- ❖ Reduced cost because now able to obtain inputs in bulk (30%).
- ❖ Undertook new activity or new products (28%).
- ❖ Sold to new customers (8%).

The most common effect of program participation, over a relatively short period of 1.5 years on average, was allowance for the expansion of existing activities and increased profit margins. Only about one-quarter (28%) of the participants attributed their increased incomes to new activities or products. During the in-depth interviews, borrowers commonly spoke of the improved profit margin they were able to earn after borrowing from the program. Before joining, women often obtained all or part of the inputs they needed on credit because they lacked working capital. Operating a microenterprise on what is called "credit basis" is very widespread in the program area. Producers will make arrangements to get inputs in advance and pay for them only after the product is sold and the producer has cash. Given women's limited options for cash credit, either formal or informal, the current level of women's active and widespread involvement in commerce would not be possible without these types of arrangements.

Information from the baseline survey indicated that the effective interest rate in this type of arrangement was on average 17 percent for a two-week period or approximately 442 percent per annum. In some cases, there is no additional cost for receiving inputs on credit; however, such arrangements depend on familiarity or social ties and may offer less reliable access to inputs. In some cases, women were able to make informal arrangements at what they considered to be a reasonable rate but this involved greater "search costs." For example, one woman explained that when she got coconuts on credit to make oil, she did not typically pay more than the going rate. However, she often had to "go around" and solicit many farmers until someone would agree to this rate.

Participants in the *Credit with Education* program were much more likely than randomly selected nonparticipants or residents in control communities to have engaged in an income-generating activity in the last four weeks. Participants were also more likely to have more diversified income sources, since almost one in four had earned income from more than one activity as compared to only approximately one out of ten women from the other two survey groups. Even after joining the program, some *Credit with Education* members continued to obtain a portion of their inputs on credit because their program loan was not large enough to finance the scale or variety of activities in which they were engaged. Still, despite their greater tendency to engage in more than one income-generating activity, the 1996 program participants were significantly less likely to obtain their inputs on credit than nonparticipants and residents in control communities.

Bolivia:

The study communities in Bolivia were located on a high-altitude plateau called the Altiplano. Vegetation is relatively sparse due to the scanty rainfall, poor soil, winds and rapid temperature changes common to such high elevation. The principal livelihood on the Altiplano is farming

and animal-raising (sheep, cattle and llamas); a major source of income in many of the study communities was the sale of milk and/or cheese. There is a single growing season and potatoes, *habas* (beans), corn and quinoa are the most common crops. Due to the proximity of a particular natural resource, certain communities also engaged in specialties such as fishing (especially those living near Lake Titicaca), selling blocks of salt from the natural salt flats and mining.

In comparison to the Ghana study site, the population density in the Bolivia study site is much lower with communities and homesteads more dispersed. There is also less of a tradition of women acting as the principal managers and operators of their own income-generating activity on the Altiplano in contrast to Coastal Ghana. The majority of loan-funded enterprises were classified by women as being “family” rather than “primarily their own” income-generating activities. In declining order of frequency, participants reported using their most recent *Credit with Education* loan in the following ways:

- ❖ Buy and sell goods—Commerce (34%)
- ❖ Purchase animals for family (31%)
- ❖ Buy items like food, clothing or building materials for family (30%)
- ❖ Purchase animals to fatten and resell (19%)
- ❖ Purchase inputs for agriculture or animal husbandry (10%)
- ❖ Engage in artisan activities (9%)

A striking feature of many of the common loan-use strategies is that they do not generate steady income. Clearly, money used to make the required weekly loan repayments often comes from alternative sources such as the sale of milk and cheese or perhaps a husband's wage. During in-depth interviews, many *Credit with Education* members described an ideal progression whereby the first relatively small loans would be used to buy animals such as sheep, but over time, as the loan size increased, so would the purchase of larger animal stock such as milk cows. It is also common for members to invest some of their loan in activities that will generate a steady income, such as commerce, and use another part to buy animals. However, almost one-third of the *Credit with Education* borrowers reported using at least part of their loan directly to purchase items for the family, with food being mentioned most frequently.

The direct-income effect seems to be less evident in Bolivia where *Credit with Education* borrowers commonly use loan capital to buy animals for the family or directly for consumption. Only 67 percent of the participants in Bolivia, as compared to 90 percent in Ghana, reported that their incomes had increased since joining the program and almost one-quarter (23%) reported no change in the amount of income they had been able to earn. Of those who reported higher incomes, they attributed them to:

- ❖ Expanded scale of income-generating activity (41%)
- ❖ Reduced cost because able to obtain inputs in bulk (30%)
- ❖ Having undertaken new activity or having sold new products (10%)
- ❖ Having sold to new markets (8%)
- ❖ Reduced cost because able to obtain inputs with cash instead of on a credit basis (3%).

Like *Credit with Education* participants in Ghana, clients in Bolivia had used their first one to two years of loans to expand existing activities and reduce the costs of inputs. However, they

were less likely than the women in Ghana to undertake a new activity. The *Credit with Education* loan did not appear to alter informal credit arrangements for obtaining inputs in Bolivia as it did for women in Ghana, where informal credit sources are more expensive.

Burkina Faso—The Sahel:

Although similar to the Bolivian Altiplano, the study site in Burkina Faso is less populated and not as commercially active as the Ghana program area. Farming, primarily sorghum or millet, is the principal productive strategy among households. Unlike coastal Ghana, the Sahel has only one period of rain. As a result, the growing season is relatively short and the yield from the single crop cycle is all the more critical for the survival of the agrarian household. While it is common in the Sahel for women to engage in their own income-generating activities, they tend to concentrate on fewer activities, largely owing to less-developed markets and a more narrow range of agricultural products. Common loan activities include brewing *dolo* (sorghum beer), preparing *soumbala* (a flavoring and additive to stew) and selling cooked food such as *bouroumansa* (deep-fried fritters), *coura-coura* (fried peanut paste) and *fora* (a peppery doughball).

In terms of loan progression over time, women typically invest their first loan in a single activity. Subsequent loan capital is spread across several activities carried out on a very small scale. The latter loan-use strategy is particularly interesting because only a handful of women used much more than 10,000 FCFA for variable expenses, but many were taking loans of 50,000 or 100,000 FCFA. It would appear that women invest some of the loan in a microenterprise and reserve the remainder to take advantage of seasonal price fluctuations of agricultural products. Many women described using part of their loan to buy agricultural products at a lower post-harvest price for use or resale when the prices rise later in the year. Three other possibilities for the use of the excess credit funds borrowed include the following:

- 1) Women need to take larger loans to preserve a smaller amount of working capital, since repayments commence immediately (one week) after loan disbursement.
- 2) Husbands appropriate the extra funds for use on their own activities.
- 3) Both men and women have tremendous pressures to hold ready cash or “liquid” commodities, such as grain. Emergency situations and market opportunities are ever present, and credit on a short-term basis is unavailable.

Most likely, a combination of all three reasons explains the large discrepancy between sums borrowed and sums used on income-generating activities. In any case, the most common effects of access to the program loans included the following:

- ❖ Increased the scale of income-generating activity—on average, borrowers have increased the scale of their activity by 80 percent.
- ❖ Invested in increased or improved productive capacity—bought aluminum and clay cooking pots (fixed assets) and established regular market sites (thatch shelters and *dolo* cabarets).
- ❖ Purchased large amounts of inputs—often when prices are low to take advantage of seasonal price fluctuation and/or to ensure themselves of supplies at current prices.

Mali—The Sahel:

With the exception of the prevalence of cotton as a cash crop and consequently more money in the economy, the Mali study site is very similar to the Burkina Faso study site. Similar to its Sahelian neighbor, the Mali program area experiences a long dry season and has less developed markets with relatively narrow commercial activities. Additionally, as with *Credit with Education* in Burkina Faso, *Credit with Education* in Mali is implemented by a local credit union network as a strategy to expand outreach to rural communities.

Loan activities in Mali and Burkina are similar—food processing or foodstuff commerce—which is not surprising, as both areas are strongly dominated by agriculture. Specific common loan activities in Mali include selling condiments (soubala, magi cube, shea butter), preparing and selling cooked food and beverages, buying and selling cereal(s) and making and selling clothing. As with the other study sites, the in-depth interviews on loan use revealed that women typically used their initial program loan to expand an existing enterprise, but in later loan cycles they tended to diversify their enterprise activities or take on a new activity.

The Mali survey intentionally examined the issue of diversion, which involved in-depth interviews about loan use. A client’s duration in the program and loan size are factors that were influential to loan use. Two-year clients were significantly more likely than one-year clients to use part of their loans to buy clothing and other articles for their family (see Table 1). This latter finding may indicate that as women stay with the program, they lack the options, the ideas or the desire to work larger loans. Or, women choose to take their profit “up front” by spending some of the loan and making their repayments from the return on the remainder of the loan.

Table 1: Percentage of clients who had used all or some of their last loan nonproductively

	One-year Clients n=33	Two-year Clients N=30
Bought clothes or other articles for the family	39*	67*
Saved for emergencies or repayment of the loan	24	34
Gave or lent to husband or somebody else	15	21
Bought food for the family	18	7

*Chi square—significant difference between two-year and one-year client samples (p<.05). Throughout the report, p-value of less than .05 is considered statistically significant. In this test, the p-value is a measure of the statistical significance of the difference in prevalence for the two client samples.

In sum, it seems that clients taking larger loans were significantly more likely to channel at least part of that loan to another person, typically their husbands or other family members. However, loan size or a client’s location was less influential than length of participation on whether a client used loan capital to purchase clothes or other items for the family. It may be that successful completion of several loan cycles gives women confidence in their ability to repay the program loan. In later loan cycles, they may be more willing to incur the potential repayment risk of spending some of their loan capital up front.

BOX 1: KEY LEARNINGS ABOUT LOAN USE

- **Loan activities reflect the livelihood strategies and traditional work of women in the program area.** In West Africa, *Credit with Education* loans were typically invested in trading and food processing. In Bolivia, loans were commonly used for animal-raising and family rather than women's own enterprises.
- **Loans, especially early ones, are commonly used to expand an existing income-generating activity.** In all areas, the ability to expand the scale of an activity was identified as the predominant initial effect of access to loans and the principal link to increased income.
- **Over time, loans are used to diversify income by adding new products or undertaking new activities.** This pattern was seen in all the study sites. In Ghana, participants were significantly more likely than non-participants to have engaged in several income-generating activities in the last four weeks. In Mali, Bolivia and Burkina, in-depth interviews revealed how participants divided their loan across several activities or uses.
- **Cash credit allows women to buy more inputs, often at lower unit costs.** In Ghana, buying inputs with cash rather than on a credit basis enhanced participants' bargaining power and their profit margin. In the Sahel, where food prices are highly variable over the year, it was common for *Credit with Education* participants to buy bulk foodstuff at low, post-harvest prices
- **A certain amount of each loan is channeled directly to consumption.** In Bolivia, as many as one in three borrowers used at least part of their loans for family needs. In Mali, 2-year participants commonly used loans to purchase clothing.
- **Loans were also used to augment assets.** In Bolivia, it was common for *Credit with Education* participants to use their loans to buy animals for the family, and in Burkina many participants invested in equipment and items for their business.

Clearly, loan-use patterns and social and environmental context heavily influence the ultimate impacts. The income effect is likely to be greater in Ghana than in Bolivia because of market opportunities and cultural norms. In Bolivia, many participants used their loans to buy animals (a family asset) and/or used at least part for consumption purposes.

Enterprise Returns

Efforts to quantify changes in household income are time-consuming and these changes are notoriously difficult to measure. Also, as discussed previously, income effects will be minimized when loan-use strategies entail risk reduction and consumption-smoothing such as the following:

- ❖ Using loans to purchase animals, and other assets and for direct consumption
- ❖ Spreading loans over several activities
- ❖ Using loans to maintain more steady incomes over the year rather than increased earnings

Still, income estimates are a common and comparable proxy for economic capacity. With these limitations in mind, several of the impact studies attempted to measure enterprise returns while also taking steps towards reducing error (see Box 5). Since the loans are most likely to affect enterprise earnings, efforts were concentrated on quantifying women's own income earned from enterprise activities rather than household income overall. Enterprise returns were measured in two ways: 1) clients were asked to estimate their "profits" from up to two income-generating activities in the last month, and 2) net income was calculated based on clients' estimates of their costs and revenue. In Ghana, "profit" estimates were adjusted based on follow-up questions to

determine whether the women had deducted the cost of food for the family from her initial estimate and, if so, how much. In Ghana, the difference in participants’ net enterprise monthly income between the baseline and follow-up periods was significantly greater (approximately \$36) than for nonparticipants (approximately \$18) and for residents in control communities (approximately \$17) (see Table 2). In Bolivia, where family rather than women’s own enterprises are much more common, participants’ own monthly estimated profit was not significantly different between the years as compared to nonparticipants or residents in control communities. In fact, less than one-half of the *Credit with Education* participants in Bolivia had even engaged in their own income-generating activity in the preceding month. For the follow-up period, information on family enterprises was also collected in Bolivia. When pooled (women’s own and general family enterprise earnings), participants earned significantly greater monthly profits than the other two groups. The median monthly enterprise profit for the Bolivian participant sample was two-and-a-half times more than the profit earned by the nonparticipants and more than five times the profit earned by the residents in control communities.

BOX 2: OVERCOMING THE CHALLENGES OF MEASURING INCOME

- Because few women actually kept accounting records, the recall period was limited to four weeks preceding the survey.
- Women were allowed to report costs and earnings in a time period meaningful to their business—per week or biweekly, etc.
- For uniformity, the cost and revenue information was converted to monthly estimates.
- In order to attach a level of confidence to the specific results, interviewers rated each respondent in terms of their ability to recall the information.

Table 2: Ghana & Bolivia—estimated profits from women’s own enterprise earnings in the preceding four weeks in U.S. Dollars—mean (and standard deviation)

	Participants		Nonparticipants		Control Communities	
	Baseline	Follow-up	Baseline	Follow-up	Baseline	Follow-up
GHANA	n=44	n=86	n=145	n=103	n=94	n=99
Net income from micro-enterprise or wage income	\$6 (8)	\$42 (47)	\$4 (9)	\$22 (44)	\$6 (11)	\$23 (53)
BOLIVIA	n=76	n=71	n=78	n=85	n=93	n=96
*Estimated monthly profit from women’s own enterprises	\$12	\$11	\$9	\$24	\$10	\$9
**Estimated monthly profit from women’s own and family enterprises	n/a	\$30	n/a	\$11	n/a	\$5

*Controlling for distance from major market, no significant difference in the log value of respondents’ own estimated monthly profit for any of the groups.

**Controlling for distance from major market, significant difference in the log value of monthly enterprise profit for participants versus nonparticipants (p<.05) and participants versus controls (p<.05) but not for nonparticipants versus controls.

In Burkina Faso, borrowers increased the scale of income-generating activity by 80 percent, with roughly one-third more than doubling the scale. However, within villages there were sizable fractions of women who changed very little. Similarly, in Ghana and Bolivia there was

considerable range in monthly profit, sometimes even within the same Credit Association. In Ghana, some participants had net monthly enterprise incomes as high as \$200 or \$300 per month, while 10 percent had net incomes of \$10 or less. Some participants in Bolivia reported profits as high as \$150 to \$220 per month, while other participants (one-quarter) reported profits of \$10 or less per month.

Variability in income earnings across *Credit with Education* participants, even in the same borrower group, is one of the striking findings from each of the studies. Local commercial development and market opportunities are also a very influential context factor. In Mali, median enterprise profits were six times higher for one-year clients living in towns (\$60) than they were for those in small villages (\$10). Loan sizes are also smaller in the villages, given more limited investment options for working-capital loans.

The impact assessment completed in Mali was the only study that tried to estimate client productivity (see Table 3). Clients’ estimates of time spent on their enterprise were converted to days per month, assuming an 8-hour day. Time allocation is notoriously difficult to measure, since women don’t keep records and often are engaged in more than one activity at a time (for example, boiling brew for beer while minding children and completing household tasks). While the estimates of time spent on enterprise activities do not seem out of the ordinary, the enterprise returns per day are extremely low (a dollar or less a day).

Table 3: Days worked in primary enterprise

	One-year Clients n=30	Two-year Clients n=28	Incoming Clients n=29
Average days worked per month*	19	16	13
Median profit per day (in US \$)	\$1.00	\$.90	\$.87

*Anova—marginally significant difference between incoming and current clients (p=.07)

A striking finding across the various studies is the relatively small enterprise returns for *Credit with Education* clients. This finding is particularly true in the Sahelian programs, where relatively undeveloped rural markets and limited commercial opportunities have meant that even after several years of implementation, average loan size across programs remains below \$100. The principal livelihood strategy for many client households is farming, with loan activities representing only a secondary source of income. Nonetheless, the low monetary return for women’s enterprise labor is humbling.

BOX 3: WOMEN’S CONCEPT OF “PROFIT” IN GHANA

Forty-five percent of the women interviewed in Ghana provided “profit” estimates after deducting what they had spent on food for their families. Women engage in enterprise activities so that they can better feed and care for their families. Therefore, they consider their “profit” to be the amount remaining after business expenses and the cost of feeding the family. This conceptualization of “profit” highlights the considerable integration and interaction of the welfare of women’s businesses to the welfare of their families.

BOX 4: KEY LEARNINGS FOR ENTERPRISE RETURNS

- Although not a complete picture of household income, *Credit with Education* participants in Ghana and Bolivia exhibited significant positive difference in enterprise earnings between the baseline and follow-up rounds relative to women not in the program. In Burkina Faso, participants also reported increased enterprise earnings.
- Although significant improvements were evident, a striking feature was the relatively small enterprise earnings. On average, monthly nonfarm earnings for *Credit with Education* participants were approximately \$42 in Ghana, \$30 in Bolivia (family) and even lower in the Sahelian programs, where loans are typically smaller.
- There was great variability in enterprise returns across participants and even within the same Credit Associations. Some participants in Ghana and Bolivia were earning \$200 per month, while 10–25 percent earned less than \$10 per month. A woman's loan-use strategy, resource endowment and the commercial development of the community most likely influenced the degree of economic benefit she enjoyed.
- The remoteness of certain program communities and the limited commercial opportunities also a major factor that mediates impacts for clients especially on the Altiplano and in the Sahelian countries.

Assets

Assets (financial and physical) are an important economic resource for coping with family emergencies, developing an income-generating activity or making significant investments in quality-of-life improvements. The studies provide insight into program impact on the various types of assets—financial, consumer and business.

Both in Ghana and Bolivia there were significant differences in the percentage of participants with their own cash savings between years versus controls and nonparticipants. There was also a significant difference in log value of amount saved between years for participants versus nonparticipants and controls. The amount that participants had in savings also varied, again indicating the range in economic success among those borrowers living in the same communities and participating in the same program. For example, in Ghana, participant savings varied from \$0 to \$118. In Bolivia, participant savings varied from \$0 to \$132. And in Mali, the impact survey found evidence of positive impact on whether women reported having personal savings.

In addition to examining personal savings, the Mali study included consumer goods. Survey respondents were asked to report on whether they owned any of 14 different consumer goods, including appliances, furniture, animals and means of transportation.³ Overall scores were constructed for the consumer goods households owned and acquired over the last two years. No significant differences were found between current and incoming clients or between two-year and incoming clients for assets acquired or assets owned, with the latter indicating that the socioeconomic status of the three groups was comparable. However, two-year clients were significantly more likely than incoming clients to report owning a bed frame and mattress ($p=.04$) and a macaroni (pasta) machine ($p=.04$). Program participation seemed to be more directly related to the latter item. All of the two-year clients owning a macaroni machine,⁴ had acquired it since joining the program. *Credit with Education* participants in Bolivia were more

³The list includes items valued at less than \$50, items valued between \$100 and \$300, and items valued at approximately \$1,000 or greater.

⁴Field agents explained that women value these machines (with an estimated cost of approximately \$40) both for their enterprises and for home use.

inclined to invest in animals, either for their families or to fatten and sell. One-third also reported using loan capital to buy animals such as sheep, pigs, cows and bulls, which are perhaps the most important stock of wealth on the Altiplano.

In terms of business assets, many participants in Burkina Faso had made significant investments in increasing or improving their productive capacity by buying fixed assets, such as aluminum and clay cooking pots, and by establishing regular market sites. In Ghana, participants and residents in control communities were significantly more likely to have spent their own money on business assets in the last 12 months than were nonparticipants. However, there was no significant difference between the log values of the amount spent among the groups. And in Mali, two-year clients were significantly more likely than incoming clients to have acquired business assets in the last 12 months (see Table 4). Yet, when the responses of the one-year clients are combined with those of the two-year clients, there are no significant differences indicating that a certain duration of program participation is required before impact on enterprise assets will occur.

Table 5: Acquisition of enterprise assets in Mali

	One-year Clients n=32	Two-year Clients n=26	Incoming Clients n=30
Percentage who had purchased a small tool or accessory, such as cooking pot, utensils, basins, barrels, storage container, etc.	46	87	45*
Percentage who had made a minor investment in their marketing site, such as a chair, table or shed	33	67	26*

*Chi Square—significant difference between incoming and two-year clients (p<.05)

BOX 6: KEY LEARNINGS FOR ASSETS

- Participation in *Credit with Education* influences clients’ ability to build assets indirectly through enterprise earnings and directly through loan use (especially animals in Bolivia) and program policy (own savings).
- A major impact was seen in all sites on participants own savings. Similarly to enterprise returns, there was great variability across participants in the amount of their savings.
- In Mali, impact on consumer goods and business assets was related to duration of program participation and was evident after two years. In Burkina, despite the relatively small scale of women’s enterprises, many clients made significant investments in items such as cooking pots, storage containers and their marketing site.

Entrepreneurial Skill

How the program loan is invested will greatly influence the return and economic benefits a borrower enjoys. A basic assumption of the *Credit with Education* strategy is that the borrowers know best what activity would be most profitable for them, given their personal considerations and tradeoffs. However, it is also recognized that *Credit with Education* is serving women operating in a survival economy, many of whom might benefit from the practical entrepreneurial and credit-use skills development that *Credit with Education* provides, such as loan-feasibility assessments and nonformal learning sessions about profits, sales and management strategies. One characteristic associated with what has been referred to as pre-entrepreneurial behavior is

that the producer focuses more on “supply” considerations, such as his or her own familiarity or seasonality of the work, rather than “demand” considerations, such as market demand or the likely profit or return.

In Ghana, there was evidence that the program was fostering the entrepreneurial skills of participants, who were significantly more likely to consider demand and profitability when deciding to invest in income-generating activities than were nonparticipants and residents in control communities. Similarly, two-year clients in Mali were significantly more likely than incoming clients to consider demand or profitability factors when deciding on an income-generating activity to undertake. This effect was not significant in a comparison between incoming and current clients in Mali. And in Bolivia, where the education had been less systematically and consistently delivered, there was no difference between the years (see Table 5).

Table 5: Ghana and Bolivia mentioned they would consider profit and/or demand when selecting an income-generating activity

	Participants		Nonparticipants		Control Communities	
	Baseline	Follow-up	Baseline	Follow-up	Baseline	Follow-up
GHANA	n=48	n=86	n=152	n=105	n=98	n=97
Demand for product/profitability of activity	33%	72%	38%	53%	43%	60%
BOLIVIA	n/a	n=70	n/a	n=81	n/a	n=91
Demand for product/profitability of activity	n/a	49%	n/a	40%	n/a	36%

BOX 7: KEY LEARNINGS FOR ENTREPRENEURIAL SKILL

- Where education was consistently applied, program participation improved entrepreneurial skill, especially in terms of greater attention to client demand and the potential for enterprise profitability.

Expenditures

A major assumption underlying the design of the *Credit with Education* strategy is that if women are assisted in earning increased incomes, they will invest their increased profits in nutritionally beneficial items such as food, healthcare, shelter, clothes and other basic necessities. In addition, it is hoped that the strategy’s education component will increase awareness and appreciation for nutritionally beneficial expenditures and make these investment decisions more likely. The Ghana and Bolivia studies included information about spending on food and other household needs although few differences were seen across the groups.

Food

Estimates of spending in the last week on basic foodstuffs (maize, rice, potato, vegetables, oil) as well as meat and fish common to each program area was collected from respondents. To obtain per capita figures, these amounts were divided by the number of persons in the family (counting an adult as one and a dependent under 17 years of age as 0.75). The per capita food expenditures

for *Credit with Education* participants (for specific types of food and overall) were not significantly greater than for the other groups or between the baseline and follow-up periods for either study site. In fact, in Ghana, the nonparticipants in program communities showed the most dramatic increase in per capita food expenditures between the baseline and follow-up studies. The per capita amount nonparticipants spent on vegetables were significantly greater than participants. The total per capita food expenditures of nonparticipants in Ghana were also larger than participant and control-group expenditures.

In Bolivia, there was a positive and significant difference between the baseline and follow-up studies that participants would have spent at least some amount on meat or fish in the preceding week as compared to residents in control communities ($p < .05$), and a marginal difference in the per capita amount spent ($p = .07$). The fact that a great majority of households included in both the Ghana and Bolivia studies are farming households that provide a significant portion of their own food complicates interpretation of food expenditure information. For example, it is possible that over the study period nonparticipants in Ghana have a greater dependency on purchased food rather than higher per capita food consumption. Still, it is interesting that program impact was most evident on meat/fish, which is typically among the most income-sensitive categories of food.

Household—clothing, housing improvements, medical and school costs and agricultural inputs
In Bolivia, some differences were seen in household expenditures across the three groups. Participants were significantly more likely than residents in control communities to have spent money on medical care during the last year ($p < .05$). Participants also spent a significantly greater per capita amount on clothing than nonparticipants or controls ($p < .05$). However, no differences were evident in participants' spending on education or housing improvements. In Ghana, there were few differences across the groups in household expenditures, although there was a marginally significant difference that participants would have spent their own money on clothing for their children in the last 12 months relative to nonparticipants ($p = .06$).

BOX 8: KEY LEARNINGS FOR EXPENDITURES

- There were significant and positive differences in participants' per capita spending on clothing in general in Bolivia and clothing for children in Ghana. In Bolivia, participants were also significantly more likely to have spent at least some amount on medical care over the last 12 months than residents in control communities.
- Program participation **was not** associated with significant impacts on per capita food expenditures in total or for any specific category of food, although in Bolivia participants were significantly more likely to spend at least some amount in the last week on meat/fish.
- Program participation **was not** associated with significant impacts on expenditures for schooling or housing improvements.

Vulnerability and Ability to Withstand Difficult Times

OSU Rural Finance Program conducted a study of the poverty level of *Credit with Education* clients in Bolivia which included interesting insight into the various shocks influence their welfare and place pressure on their income and expenditure flows. Among the various shocks to a household, illnesses were found to be the most frequent. In 37 percent of the households, at

least one member was sick during the 12-month period. Another type of frequent shocks were “production shocks,” which include higher-than-expected input prices, lower-than-expected output prices and loss of crop or livestock.

In coping with these shocks, 46 percent of CRECER client households had used their own savings. Additionally, 14 percent liquidated assets (mostly livestock), a form of past savings. Institutional loans (17%) and loans from family and friends (10%) were also important coping mechanisms. Still, as the above percentages indicate, borrowing had not been as important as using savings.

As would be anticipated, the poorest of the CRECER client households were found to be the most vulnerable to many of these shocks. They were more likely to sell assets (58%) or borrow (15%) than the non-poor, because of shocks. The proportion of the poorest who reported problems with output prices was 35 percent compared to 17 percent among the non-poor. Loss of crop among the poorest was 28 percent compared to 4 percent among the non-poor, and death of livestock was 32 percent among the poor compared to 4 percent among the non-poor.

In Mali, client households are better able to reduce risk by diversifying income-earning strategies over the year and at a given point in time. During the long dry season when agricultural obligations decline, *Credit with Education* borrowing tends to increase and women’s enterprise activities expand. The increased personal income, savings and assets made client households better able to cope with economic or seasonal shocks. Current clients were significantly less likely than incoming clients to report experiencing an acute food-insecurity period (when they had to eat less or eat less well). The mean duration of such a period was also significantly shorter (see Table 6). Current clients were also significantly less likely than incoming clients to have been forced to stop their enterprise activity due to a lack of working capital.

Table 6: Periods of hardship in the last 12 months—household level

	One-year Clients	Two-year Clients	Incoming Clients
Percentage experiencing period of acute food insecurity	12	10	29*
Length of acute food insecurity (in months)	.25	.39	1.2**
Percentage unable to conduct a business due to a lack of money	21	10	45*
Length of enterprise duration (in weeks)	.9	.5	3.2**

*Chi Square—significant difference between current clients and incoming clients (p<.05).

**Non-parametric test—significant difference between current clients and incoming clients (p<.05).

Similar to Mali, *Credit with Education* in Ghana had enabled client households to better cope with economic or seasonal shocks. For the participant sample, the percentage of families who had experienced a period when they had to eat less or less well during the preceding 12 months was cut almost in half between the baseline and follow-up period. Virtually no change was evident for either nonparticipants in program communities or for residents in control communities. The mean duration of the “hungry season” for participants was less than one month during the follow-up period compared to a mean of almost two months for residents in control communities. The coping strategies for dealing with the hungry season were similar across all groups. However, participants (5%) were less likely to have borrowed money at no cost from family or friends as compared to nonparticipants (22%) and residents in control

communities (24%). Additionally, nonparticipants and residents were more compelled to sell assets to deal with food insecurity, 6 and 8 percent respectively, than participants.

In Bolivia, the *Credit with Education* program had no significant impact, using similar measures of household food security as the Mali and Ghana studies. All three study groups saw a decline in the percentage of households reporting that they had experienced a period when they had to eat less or less well during the preceding 12 months. The mean duration of the hungry season in the follow-up period was also very similar—on average, two month—for each of the three survey sample groups. While the incidence and duration of a hungry season was similar for the three survey sample groups, the coping mechanisms were different. *Credit with Education* program participants were significantly less likely to have sold off animals as a coping strategy than residents in control communities ($p < .05$). Participants were also significantly more likely to have been able to use profits from their business to help them cope ($p < .05$) than were residents in control communities.

BOX 9: KEY LEARNINGS—VULNERABILITY

- *Credit with Education* client households, especially the poorest among them, are extremely vulnerable to “shocks,” particularly illness, and “production shocks”—higher-than-expected input prices, lower-than-expected output prices and loss of crop or livestock.
- *Credit with Education* services help client households better avoid economic and seasonal shocks by diversifying their income-earning strategies and through the health education.
- Clients’ increased income, savings and assets also help households cope with economic and seasonal shocks when they occur.
- In Mali and Ghana, program participation was associated with reduced food insecurity in terms of those reporting a “hungry season” and the duration of this period.

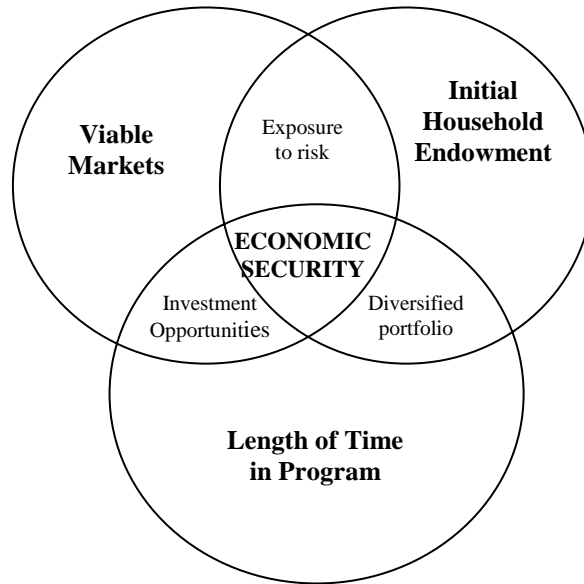
III. CONCLUSION

In many ways the findings from our own studies support the emerging conventional wisdom about the impact of microfinance. Sebstad and Cohen found that clients used program loans to build assets that are critical in protecting against risk and vulnerability shocks at the household level. Likewise, Hulme and Mosley state that in terms of non-income measures, microfinance provides important benefits such as consumption-smoothing and income diversification. The Bolivia impact study results, in particular, underscore the reality that the principal economic effects of access to financial services may be increased livelihood security and consumption-smoothing rather than an increase in income. Perhaps even more than an income effect, clients’ diversified loan-use strategies in Bolivia, Ghana, Mali and Burkina Faso suggest that *Credit with Education* allowed participants to augment household assets—chiefly animal in Bolivia—and smooth consumption needs by purchasing food in bulk and meeting other basic needs at the household level. Additionally, our findings support the claim by Sebstad and Cohen that clients use various strategies to manage risk and smooth consumption, including obtaining program loans and using savings to get through difficult months.

It is obvious from the various studies that *Credit with Education*’s effectiveness in a woman’s economic security has the greatest potential when favorable economic and sociocultural factors are prevalent. Within specific Credit Associations and villages, there was great variability in

impact on a woman's economic capacity. Some women enjoyed considerable improvement in their activities while others experienced little change. From the impact studies, several internal and external factors related to each other stand out as contributing to a woman's economic success: 1) viable markets nearby to take advantage of increased opportunity; 2) initial endowment of the household, which dictates the level of risk clients can comfortably assume; and 3) length of time a client has invested in the program, which contributes to a more diversified portfolio versus a single income source. See Figure 3 for a conceptual diagram.

Figure 3: Conceptual diagram of contributing factors to economic capacity



A better understanding of these and other factors that allow some women to be relatively more successful, such as individual attributes, entrepreneurial flair, investment strategies, local commercial development or program loan terms, could lead to changes in program implementation that might enhance the economic impacts for other, less successful, borrowers.

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Annex 1: Research Design

GHANA AND BOLIVIA IMPACT STUDIES (MkNelly and Dunford, 1998):

Following baseline data collection, study communities were assigned to either a program or control group, with the latter not receiving *Credit with Education* until the evaluation research was completed. Baseline respondents were later classified as future “participants” or “nonparticipants,” depending on whether they joined the program (when and if it was offered in their community).

Three sample groups of women with children under three years of age were included in the follow-up research: *Credit with Education* program participants of at least one year; nonparticipants in program communities; and residents in control communities selected **not** to receive the program for the period of the study. Women for the two nonparticipant groups were randomly selected from comprehensive lists of all women with children younger than three years of age.

Program impact was evaluated by comparing the magnitude and direction of change in the responses and measurements between the two data collection rounds—program participants versus nonparticipants and residents in control communities.

BURKINA FASO QUALITATIVE IMPACT STUDIES (Kevane, 1996):

This study was conducted with participants in the *Credit with Education* program of Réseau des Caisses Populaires du Burkina (RCPB). The objective of this qualitative study was to investigate and document program effects for participants and program communities after two years of activities. Three communities were visited for approximately one week each, and an attempt was made to interview all current members of the Credit Association in each village as well as community leaders and other nonparticipants. In-depth, qualitative, retrospective interviews were conducted with nearly all members of three caisses villageois (Credit Associations) in operation for at least two years, in three district rural communities of the Central Plateau region around Ouagadougou. A number of questions were addressed, including those related to economic impact of loans.

MALI PRACTITIONER-LED ASSESSMENT (MkNelly and Lippold, 1998):

This research tested “practitioner-led impact assessment” tools with Kafo Jiginew, a credit union federation implementing *Credit with Education* in Mali, as part of the AIMS (Assessing the Impact of Microenterprise Services) project funded by the USAID Office of Microenterprise Development. The purpose of the study was to further develop a set of tools which could be used by practitioners to generate useful and credible assessments which capture the range of social and economic impact of their microenterprise programs on clients, their businesses, households and communities. Five assessment tools were designed by a team of PVO practitioners to collect quantitative and qualitative data addressing a set of AIMS project hypotheses about impact as well as information about client satisfaction.

The five tools are as follows:

- 1) An impact survey to collect information to test AIMS project hypotheses.

- 2) A client exit survey to determine reasons clients left the program and whether motivating factors were related to the program or not.
- 3) In-depth individual interviews about loan use over time.
- 4) In-depth individual interviews about empowerment.
- 5) Client satisfaction group discussions about program and their suggestions for improvement.

The objectives of field trials were as follows:

- 1) Test a process of training, data collection and analysis conducted by and for practitioners.
- 2) Assess whether the tools applied were simple, credible, useful and cost-effective.
- 3) Analyze all the data collected and document, to the degree possible, the impact of the *Credit with Education* program on its clients.

The tools tested in Mali compared new with long-term program participants in three categories: incoming clients (women interested in the program who had not yet received any services), one-year clients and two-year clients. Because the purpose of these tests was to assess the practitioner tools themselves, only a minimal number of interviews were conducted.