

Evidence of Microfinance's Contribution to Achieving the Millennium Development Goals

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By Christopher Dunford¹

Getting to “The Question”

Modern microfinance has roots in the cooperative movement dating from the nineteenth century, in the rural finance experience post-World War II and in the microenterprise development sector starting in the 1970s. These diverse roots intertwine with at least five common objectives:

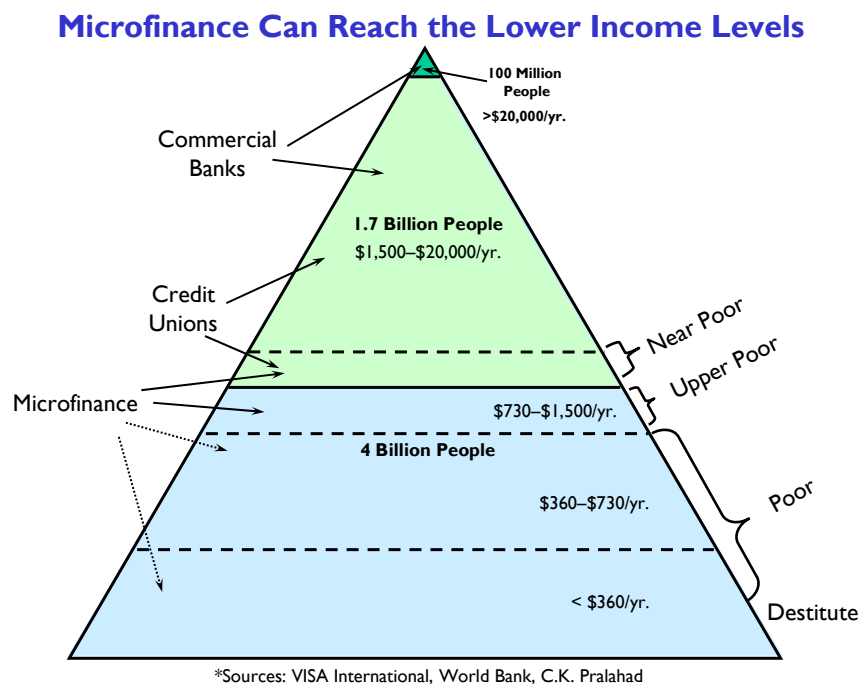
- a. microenterprise development: by providing financial inputs and services to informal-sector entrepreneurs building their tiny businesses to the point of employing not just family members but others as well.
- b. innovation/investment promotion: by offering credit as both incentive and enabler; for example, to small-scale farmers to adopt new inputs, practices and technologies to increase productivity of labor and land leading to more food production and/or farm income—or more broadly in the population, to promote behavior change for better health and nutrition.
- c. consumption-smoothing: by providing poor families with relatively inexpensive credit and convenient savings services that effectively help the family have enough cash through the year to reduce the impact of the annual hungry season; major expenses, such as school fees or weddings; and/or the devastation of major economic shocks due to family illness, death of a breadwinner, loss of livestock or a crop, or a natural disaster.
- d. women's empowerment, and more generally, building of social capital, to support self-help efforts at the family and community levels and to strengthen the voice of women and other marginalized groups as rights holders and agents of local development.
- e. financial systems development, or financial sector deepening, both of which seek to lower the cost and increase the convenience of financial services so that the “unbanked”—even the very poor—can be reached by commercially viable enterprises.

All five are important intermediate steps toward the international goal of poverty reduction. The wonderful feature of microfinance is that it can achieve all of these objectives. That is, a single microfinance product delivery system can satisfy most of these, and a combination of products and delivery systems can satisfy all of these objectives. However, microfinance practitioners and supporters often differ in their motives; the order of priority they give to the common objectives may differ widely. The differences in relative emphasis affect design and management of microfinance products, delivery systems and institutions. In short, different motives lead to different methods.

The differing heritages and priorities have driven a long-term, ongoing debate within microfinance circles. It is sometimes caricatured as a contest of commitment to poverty

outreach and impact vs. institutional sustainability and scale. However, people who fall solely into one of these ideological camps are mostly unaware of—much less interested in—this debate. The true contestants are searching for efficient and effective ways to improve the lives of the disadvantaged, and all are motivated by a mix of social justice activism and commitment to market-based approaches to development. The true question in the debate is not whether impact is more or less important than sustainability or whether poverty outreach is more or less important than scale. The true debate is between those who would answer “yes” or “no” to the question: Can sustainable microfinance bring substantial benefit even to the very poor at large scale? Put another way: **Can microfinance reach very large numbers of the very poor and still be sustainable and have important impacts?**

Figure 1



The question is presented graphically in Figure 1, which shows the wealth pyramid popularized by C. K. Prahalad’s book, *The Fortune at the Bottom of the Pyramid*. The numbers of people and their annual per capita expenditures are taken from VISA International and The World Bank. The solid horizontal line approximates an international poverty line. The dashed lines below the poverty line correspond to 2 dollars-a-day and 1 dollar-a-day expenditure per capita. Commercial banks have traditionally, and mostly still do, reach only the top of the pyramid. Credit unions, especially those based on community rather than workplace, have done better in reaching further down the pyramid through their cooperative principles and lower cost structures, but even they do not generally reach below the international poverty line. The innovations of microfinance (notably group lending with joint responsibility, flexible approaches to collateral requirement, frequent and public installment payments, future access to credit denied in the event of default, focus on women, credit officers getting out into the communities they serve)ⁱⁱ have made it commercially

feasible to reach further down still, whether it be done by a specialized microfinance institution (MFI) or as a distinct line of service offered by a commercial bank or a credit union seeking to go down market. It is generally agreed that financially sustainable microfinance operations reach the “near poor” and the “upper poor.”^{xiii} Further down the pyramid, there is **The Question** (symbolized by the dotted-line arrows from “microfinance” on Figure 1) about the sustainability and impact of microfinance when offered to large numbers of the “poor,” especially those living on the borderline of destitution; that is, those living on a dollar a day or less.

Some believe the answer is already obvious. The problem in microfinance circles is the honest disagreement of reasonable people regarding whether the “obvious” answer is “yes” or “no.” My purpose is to examine, with openness to the possibility of surprise, what the credible evidence may tell us or not tell us.

The answer to this key question has profound implications for the relevance of microfinance to the global achievement of the Millennium Development Goals (MDGs) by 2015:

1. Reduce the proportion of people living in extreme poverty by one-half.
2. Enroll all children in primary school.
3. Eliminate gender disparities in primary and secondary education.
4. Reduce infant and child mortality rates by two-thirds.
5. Reduce maternal mortality ratios by three-quarters.
6. Provide access for all who need reproductive health services.
7. Reverse the loss of environmental resources.

As presented in the next section, microfinance (and its attendant services, such as group formation, training and social capital-building) offers opportunities to contribute to the achievement of all seven goals, primarily through its direct impact on poverty, which can support improvements in schooling, gender equity, health and even resource conservation. However, the first MDG is *first* for a good reason. To enroll *all* children; to *eliminate* gender disparity; to reduce infant, child and maternal mortality by *two-thirds* to *three-quarters*; to provide access to reproductive health services for *all*; and to *reverse* loss of environmental resources requires inclusion of those people who live in extreme poverty at the bottom of the pyramid. **Microfinance is only a major contributor to achieving these seven goals when it creates direct and positive impacts on the lives of the “extreme poor”** (meaning: the very poor, people living on one dollar a day or less). What evidence is there that microfinance can and does create such impacts for these people?

Impact and Its Measurement

Talk about “impact” is too often vague about *what kind* of impact *for whom* and from *whose perspective*. Given the list of five common objectives above and my contention that microfinance products and delivery systems can achieve all of them, even all at once, we have to be clear about which impacts we are discussing and how they can be measured. Given the diversity of people represented in Figure 1, we also must be clear about which people we are talking and how they can be classified into the various levels of poverty. We also must be careful to specify the product in question. And which perspective applies—that of the client or that of the society that supports microfinance.

The client's perspective involves a subjective assessment of net gain (value of the product to the individual client or household *minus* the sum of "price costs"—direct cash payments for interest and fees, and "transaction costs"—both non-cash opportunity costs, such as time to apply for a loan, and indirect cash expenses, such as for transport, documents, food, taxes needed to use a financial contract)^{iv} which translates into strong or weak demand for the MFI product in question.

The society's perspective seeks an objective assessment of cause and effect—the particular product and/or delivery system causing the particular impacts among the specified type of people—with an underlying question: Is this intervention worth subsidizing, whether through grants or through loans/investments that yield below-market rates of return or no return at all? Objective assessment of cause and effect is very difficult in practice. It must cleanly distinguish change due to participation in microfinance from what would have happened *without* microfinance.

The research design must somehow avoid "self-selection" bias—the personal differences that make one person more or less likely than another to become a microfinance client may be the same differences our assessment is looking for. For example, financially better-off people have more self-confidence to try new and risky adventures, such as borrowing from an unknown lender, yet we want to know if microfinance helps people to become financially better-off and more self-confident. Our assessment must ensure that *prior* differences between clients and non-clients are not taken to be the *result* of participation in microfinance.

Another major, common bias relates to "program placement." Rather than select their program sites randomly from all possible villages or neighborhoods, microfinance providers typically and reasonably choose sites for program placement because of characteristics associated with program success, such as economic activity level. This means the sites not chosen cannot be valid "control" or comparison sites because they are already different in a key characteristic our assessment aims to examine, such as economic activity level. To counter program placement bias, the researcher must collaborate with the microfinance provider prior to program placement in the area to be researched to ensure random selection of sites for program placement. Randomized selection from a large number of possible sites means that program sites are very likely to be similar to, on average, non-program ("control" or comparison) sites before microfinance enters the scene. Subsequent differences between the two types of sites can then be attributed to the microfinance service.

This "randomized control trial" design ensures that a new client or a new program site is unlikely to differ statistically from the control people or communities due to self-selection or program placement biases. From the start of the "trial," the only differences over time should be due to the program itself.

In their thorough, insightful presentation of the methodological issues, Armendáriz de Aghion and Morduch point out that these research design problems and solutions do not simply distinguish the "good" from the "perfect" impact assessments—the biases in these studies can be large enough to reverse the conclusions about impacts entirely. Challenges to the conduct of rigorous research are formidable—maintaining the integrity of an intervention model and its randomized delivery over a long enough period to see impacts,

obtaining sufficient sample size for statistical power, and so on. One study can answer only a very limited number of questions, and usually it generates more questions than answers. Even when clear evidence of impacts is obtained, it is difficult to understand what happens in the “black box” that transforms inputs/intervention into outputs/impact, and thereby to know why we get the impacts we get. Even credible evidence seldom gives us much detail or guidance regarding which product/service design features work better than others to achieve particular impact objectives or to serve particular types of clients. Yet, despite the difficulty in obtaining it, this information is essential for rational resource allocation among alternative approaches to development or, more specifically, among alternative approaches to microfinance.

I looked for specific cases of sustainable microfinance outreach to large numbers of the very poor, over extended periods of time, with credible evidence of impact on poverty or its correlates.

Some cases are well-known and documented, such as the Grameen Bank and BRAC, but there are many more cases that qualify—from various regions of the world—at least in terms of scale of deep outreach and sustainability of the institutions doing the work. Credible evidence of impact is harder to come by. The few good studies that have been done indicate a wide variety of positive and very few negative impacts (see the next section). But there are very few of these good studies because of little interest in good impact evaluation among microfinance practitioners and donors/investors alike during the first decades of the microfinance movement. The market-based nature of microfinance tends to (or should) emphasize the client perspective, manifested as demand (willingness to pay and come back for more), rather than the society’s perspective. Nonetheless, the microfinance movement was started and has been maintained mainly by donors and social lenders and investors, who should be asking the tough questions about cause and effect through rigorous research studies. For the most part, they have not been asking these questions in the right way, but there are a few good attempts to report.

A Benchmark Analysis of Two Major Databases

To estimate the number of cases there may be around the world, I applied three benchmarks to two large databases for microfinance programs: Microcredit Summit Campaign^v and the MIX Market^{vi}:

- **Scale** (number of “very poor” served: at least 10,000)
- **Sustainability** (number of years at least 10,000 of the very poor are served profitably: at least two consecutive years at Operational Self-Sufficiency [OSS] greater than 100 percent)
- **Impact** (evidence of poverty-reducing impacts for very poor clients: at least one credible study showing positive impacts on poverty or one of its correlates)

Only MFIs and other microfinance providers that are included in *both* databases are included in Table 1. Many programs, even well-known ones, do not choose to report to both the

Microcredit Summit Campaign and the MIX Market, so there are some obvious omissions. I also set high benchmarks to focus on cases that are truly compelling examples of sustainable microfinance for large numbers of the very poor.

The unique feature of the Summit reports is that many programs submit estimates (of varying quality) of the percentage or absolute number of their clients who were “very poor” (living on US \$1.08 per person per day, adjusted for purchasing power parity, or among the bottom half of people living below their national poverty line) when they *entered* their programs. The quality of tools available to microfinance practitioners for measuring poverty in relation to a standard poverty line (international or national) is remarkably poor. The Summit secretariat attempts to compensate for this huge estimation problem by minimizing willful misreporting, through independent verification by a credible expert or institution familiar with the microfinance program in question. Only estimates verified in this way are reported by the Summit in Appendix 1 of its 2005 annual report.

To allow for the unknown but certainly large error of estimation, I accept only an estimate of 20,000 or more “very poor” clients as a proxy for a minimum of 10,000 “very poor” clients. This proxy also increases the likelihood that the program has been serving at least 10,000 “very poor” clients for the two years prior to the reporting date.

A useful feature of the financial data presentations on the MIX Market website is a time series spanning two or more years for each program’s Operational Self-Sufficiency (OSS) ratio (cash income earned from program operations is sufficient to cover cash expenses to maintain the program, including the cost of funds and loan-loss provision). This ratio reflects only one dimension of institutional performance, but it is the most widely understood and reported performance ratio. An OSS greater than 100 percent is widely accepted as the standard benchmark of potential sustainability. I proxy for sustainability by including only programs reported by the MIX Market to have achieved OSS (at least 100 percent) for at least the most recent two years.

Table 1 lists all the microfinance programs that were serving at least 20,000 “very poor” clients (as reported to the Microcredit Summit Campaign up to the end of 2004) and that had two or more consecutive years of OSS over 100 percent (as reported to the MIX Market for the years up to the end of 2004—the table shows the actual number of consecutive years of OSS reported over 100 percent). In addition, the table shows which of these programs has been the subject of a reasonably credible impact study—involving some kind of comparison group to estimate the difference between the experience of those who participated in the program and those who did not but were otherwise similar to the participants. I indicate “Yes” there is “credible data” when the program was the subject of an impact research study credible enough to be reported by Goldberg.^{vii}

Table 1

| | Number Very Poor | Years OSS>100% | Credible Evidence |
|--------------------------------|------------------|----------------|-------------------|
| Grameen Bank Bangladesh | 4,060,000 | 2 | Yes |
| BRAC Bangladesh | 3,630,000 | 7 | Yes |
| ASA Bangladesh | 2,490,000 | 7 | Yes |
| Amhara CSI Ethiopia | 344,134 | 5 | |
| SHARE India | 328,846 | 5 | Yes |
| Dedebit CSSC Ethiopia | 326,764 | 3 | |
| BRI Indonesia | 321,625 | 6 | |
| TMSS Bangladesh | 250,664 | 3 | |
| BURO Tangail Bangladesh | 221,366 | 5 | |
| Kafo Jiginew Mali | 176,102 | 2 | |
| Spandana India | 174,673 | 6 | |
| CREDIAMIGO Brazil | 146,644 | 3 | |
| BEES Bangladesh | 115,000 | 2 | |
| CARD Philippines | 109,580 | 8 | Yes |
| SSS Bangladesh | 106,998 | 2 | |
| TSPI Philippines | 97,021 | 5 | |
| ACLEDA Cambodia | 91,556 | 8 | |
| Zakoura Morocco | 88,949 | 6 | |
| ACEP Senegal | 83,030 | 8 | |
| Jagorani Chakra Bangladesh | 82,582 | 2 | |
| CODEC Bangladesh | 68,728 | 2 | |
| RCPB Burkina Faso | 57,124 | 4 | |
| Negros WTF Philippines | 52,120 | 6 | |
| UDDIPAN Bangladesh | 50,259 | 3 | |
| RIC Bangladesh | 50,000 | 2 | |
| IDF Bangladesh | 45,294 | 5 | |
| PRIDE Tanzania | 42,332 | 4 | |
| Paschimanchal GBB Nepal | 39,293 | 3 | |
| Pro Mujer Bolivia | 38,796 | 7 | |
| PMUK Bangladesh | 38,500 | 2 | |
| PADME Benin | 37,661 | 7 | |
| WAVE Bangladesh | 33,698 | 3 | |
| Nirdhan Utthan Bank Nepal | 32,678 | 2 | |
| FMM Popayan Colombia | 30,000 | 9 | |
| BIRDS India | 28,900 | 2 | |
| FINCA Tanzania | 24,297 | 2 | |
| Coastal AST Bangladesh | 22,354 | 2 | |
| ASKI Philippines | 21,272 | 3 | |
| RRC Bangladesh | 21,148 | 2 | |
| S.B. Bank Nepal | 20,680 | 2 | |
| ADPODEM Dominican Rep | 20,039 | 8 | |

Table 1 shows 41 microfinance programs that meet or exceed the first two benchmarks (for scale and sustainability). These programs are found mostly in Asia (28 in six countries), as expected, but also in Africa (9 in seven countries) and Latin America (4 in four countries). **Only five programs (bolded in the table) achieve all three benchmarks—Grameen Bank, BRAC, ASA (Bangladesh), SHARE and CARD.**

The estimated numbers of very poor clients (even using a minimum of 20,000 as a proxy for “at least 10,000”) are no doubt very rough figures. And I am aware that the OSS ratio does not apply just to the delivery of services to the “very poor” clients; however, the OSS being greater than 100 percent for two years in a row indicates that serving substantial numbers of the very poor can be sustainable, even if cross-subsidy by revenues from better-off clients is what makes this possible. As for the paucity of programs with credible impact evidence, we should be clear that no major, credible study of microfinance impacts has shown *no* evidence of positive net impact on poverty or at least one of its close correlates. Therefore, the small number of programs offering credible evidence of impact is very likely due to inadequate research effort and seriously flawed methodology in most of what research has been done (“flawed” for the purpose of demonstrating cause and effect, not necessarily from the viewpoint of managers wanting to learn from the market and from their experience with clients).

Current Evidence of Impacts—Reducing Poverty

There are several recent reviews of the reported research on impact of microfinance, notably Morduch, Hashemi and Littlefield,^{viii} Armendáriz de Aghion and Morduch,^{ix} Goldberg,^x and Watson and Dunford.^{xi} The available evidence is based on research that is methodologically flawed in one way or another. On the other hand, the growing body of research shows similar indications of impact across many studies. With the methodological caveats clearly stated, Goldberg provides the most comprehensive review of the research efforts up to mid-2005, with analysis of the strengths and limitations of each study presented, along with the results. From this review, the following summary is drawn.

There is one major study of microfinance impact on poverty that stands out, in terms of its methodological sophistication, the sample sizes involved, and the large-scale, deep outreach of the microfinance institutions studied: Grameen Bank, BRAC and RD-12 in Bangladesh. Khandker analyzed data from a massive survey of households participating in one of these programs and households in comparison villages. The survey work was conducted in 1991/92 and repeated in 1998/99 to provide panel data (longitudinal data, from two or more time periods) that allows what is very likely the most reliable, *large-scale* impact evaluation of microfinance to date.^{xiii}

The study examines the effects of microfinance on poverty reduction at both the participant and the aggregate levels, comparing participant households to those which were ineligible to participate (because their assets were just over the cutoff of the value of one-half acre of land) as well as to households which would have been eligible but resided in non-program villages.

Khandker calculated that each additional 100 taka of credit to women increased total annual household expenditures by more than 20 taka: 11.3 taka in food expenditures and 9.2 taka in

nonfood expenditures. In stark contrast, Khandker found no appreciable returns to male borrowing.

Moderate poverty in all villages declined by 17 percentage points—18 points in program villages and 13 points in non-program villages. Among program participants who had been members since 1991/92, poverty rates declined by more than 20 percentage points—about 3 points per year. More than one-half of this reduction is directly attributable to microfinance, and impact is greater for those starting in extreme poverty than in moderate poverty—2.2 percentage points per year and 1.6 points per year, respectively. Khandker further calculated that microfinance reduced poverty among *non-participants* as well—moderate poverty by about 1.0 percentage point and extreme poverty by 1.3 percentage points per year—through spillover effects in which non-participants benefit from the increase in economic activity. Based on this data, he concluded that microfinance accounted for 40 percent of the *entire* reduction of moderate poverty in rural Bangladesh.

The results suggest that access to microfinance contributes to poverty reduction, especially for female participants, and to overall poverty reduction at the village level, thus helping not only poor participants but also the local economy.

Earlier analysis of the cross-sectional data from the 1991/92 survey alone generated controversy regarding the data and the econometric model used for analysis of the data. Different analytic methodology yielded different results (see Goldberg's full discussion of this controversy). However, both analytic approaches showed that microfinance leads to "consumption-smoothing" (less variable consumption through the year); household consumption increased most during the season in which the poor had often gone hungry in the past. Armed with longitudinal data (1991/92 and 1998/99), Khandker addressed the methodological concerns and was able to show more than consumption-smoothing—actual poverty reduction—employing a simpler analytic model that is much less controversial, because it relies on fewer assumptions. Though Khandker's approach still relies on complicated econometrics to deal with selection bias and non-random program placement (only a handful of economists are qualified to evaluate Khandker's use of this methodology), estimates made from the panel data are surely a major improvement over what could be achieved with only the cross-sectional data.

Khandker's study provides compelling evidence of microfinance impact on poverty, drawing from the experience of three of the world's largest microfinance programs with massive outreach to the poor in one of the world's poorest countries. Nonetheless, skeptics may still point out that Bangladesh is only one country with unique features that diminish the value of the evidence gathered there for prediction of impact of microfinance worldwide. On the other hand, several other studies have been done in other, diverse countries (not of the same caliber as the Khandker work, but still designed and analyzed carefully enough to warrant serious consideration) that indicate similar impacts on poverty:

- **India:** At SEWA Bank, borrowers' income was more than 25 percent greater than for women who were only savers, and 56 percent higher than the income of non-participants (neither borrowers nor savers with the bank). Savers, too, had 24 percent greater income than non-participants. The comparison group was composed of non-

clients drawn randomly from women engaged in the informal sector in the same neighborhoods as clients but who had chosen not to participate in the program.

- Zimbabwe: Zambuko Trust's clients had income in 1997 that was significantly higher than the income of other groups. By 1999, the difference was no longer statistically significant. However, continuing clients still earned the most. The comparison group was comprised of entrepreneurs who met Zambuko's eligibility requirements (including ownership of an enterprise for at least six months) but chose not to join the program.
- Ghana: Clients of the Lower Pra Rural Bank's Credit with Education program experienced an increase in monthly nonfarm income of \$36, compared to a \$17 increase for the comparison group during the same time period. All participants in program communities who had completed at least three four-month loan cycles and had a child under three years of age were compared to randomly sampled women in control communities with children under three years of age.
- Peru: Impact for the wealthier half of Promuc clients was 80 percent higher than the impact for the poorer half.
- India: A study of several Indian MFIs found that non-poor clients were more likely to report an increase in household income, but the difference in percentages of clients vs. non-clients reporting income increases was greatest among the very poor.

Current Evidence of Impacts—Other MDGs

There are many correlates of poverty, which can serve as proxies: food insecurity, poor nutrition and health, increased risk of death, lack of access to services, low status of girls and women, lack of formal education, in addition to low household income, assets and expenditures. What is the evidence that microfinance products and delivery systems do, in fact, create positive impacts on these various dimensions of poverty? Again, the following highlights are taken from Goldberg's review of research.^{xiii}

A. Schooling and Gender

- Bangladesh: All girls in Grameen Bank households had some schooling, compared to only 60 percent of the comparison group. A 1 percent increase in credit to Grameen women increased the probability of girls' school enrollment by 1.86 percentage points.
- Thailand: No impact on school expenditures was found.
- India: Repeat borrowing by SEWA members was shown to be especially important. Compared to one-time borrowers, repeat borrowers were more likely to have girls enrolled in primary school.
- Zimbabwe: The rate of school attendance among boys in Zambuko Trust client households increased, but not for girls.

- Uganda: Clients of three MFIs spent significantly more on school fees for their children (and other children, too) than non-clients.
- India: While the SHARE program had some impact on the education of boys—61 percent of the boys in participants’ families had completed the grade appropriate for their age, compared to 49 percent in comparison households—it made no difference for girls.
- India: 80 percent of the sons and daughters of ASA-GV longer-term members attended school, compared to 74 percent of sons and 65 percent of daughters of newer members.

The MDGs do not specifically refer to empowerment of women, but this has been an area of active research into microfinance impacts, given that over 80 percent of microfinance clients are reported to be women.^{xiv} Goldberg identifies only one study that came close to controlling for selection bias. This is a major problem for empowerment studies of microfinance, because having the self-confidence and autonomy (common components of empowerment measures) to participate and take the risk of borrowing or even just saving seems to be a key factor in a person’s decision to join a microfinance program or not. This study in Bangladesh used a measure of the length of program participation among Grameen Bank and BRAC clients to show that compared to non-participants in non-program villages, each year of membership increased the likelihood of a female client being empowered by 16 percent. The study authors created a composite empowerment indicator based on eight components: mobility, economic security, ability to make small purchases, ability to make larger purchases, involvement in major household decisions, relative freedom from domination within the family, political and legal awareness, and involvement in political campaigning and protests. A woman was considered empowered if she scored as empowered on five of the eight components.

Control of the use of a loan is considered a major indicator of a woman borrower’s empowerment. However, even in the case where women have least control—the women turn over their entire loans to their husbands—women may be better off with microfinance than without. The same study of empowerment of women in Bangladesh found that 36 percent of Grameen and BRAC borrowers with no control of their loans could be considered empowered, compared to only nine percent of women in comparison villages.

A study of the Save the Children microfinance program in Bangladesh showed no effect on women’s mobility or decision-making power, but it did find that borrowing increased the number of years women feel their daughters should be educated, as well as the age at which they should be married. Savings-only membership did not have this effect. More than 4,000 women were interviewed from the study, from savings-only villages, credit villages (offered in partnership with ASA of Bangladesh) and control villages.

B. Infant, Child and Maternal Mortality

There are no good studies to date that have looked specifically for effects of microfinance participation on mortality or even morbidity (illness or injury), but some good evidence is

available regarding nutritional status of young children. Good nutrition is a major factor in preventing or reducing the severity of many illnesses and also in development of healthy, productive adults, both mentally and physically. Therefore, nutritional status is a good proxy for current and future health and is known to be sensitive to socioeconomic variables.

- Bangladesh: The large panel survey of Grameen Bank, BRAC and RD-12 clients included a special health component. Analysis found substantial impact on children's nutritional status (height and arm circumference) from women's borrowing, but not from male borrowing, which had an insignificant or even negative effect.
- Ghana and Bolivia: Mothers participating in the Credit with Education program of the Lower Pra Rural Bank were more likely to breastfeed their children and delay the introduction of other foods into their babies' diet until the ideal age. They were also more likely to properly rehydrate children who had diarrhea by giving them oral rehydration solution. These changes in nutrition and health protection practices paid off in a significant increase in height-for-age and weight-for-age for children of participants. However, this program integrated nutrition and health education with the microfinance service, and the study could not distinguish the effects of financial services from the effects of the non-financial training offered to the women participants but not to the comparison group. A very similar study of clients of CRECER in Bolivia discovered that these changes in practice and nutritional status of children occurred only when the training was provided and was of good quality. Therefore, these health and nutrition impacts are more likely due to women's participation in the training, rather than their participation in the financial services alone. On the other hand, the group-lending methodology of the Credit with Education program made it possible to offer the training in a cost-efficient and sustainable way.

C. Access to Reproductive Health Services

- Bangladesh: The study of BRAC reported that members who had been with BRAC's microfinance program the longest had significantly higher rates of contraceptive use.
- Bangladesh: The study of Save the Children's microfinance program statistically controlled for prior contraceptive use and found that borrowers who had been members for a year or more were 1.8 times more likely to use contraceptives than the comparison group. However, membership in a savings group had no such effect.

D. Environmental Resource Conservation

Goldberg reports no studies that examine the impacts of microfinance on practices and other factors that may degrade or conserve environmental resources.

What the Evidence Tells Us

In sum, the evidence seems sufficient to say that microfinance—particularly when provided to relatively poorer women—increases incomes and savings, improves nutrition and health, and empowers women. The heavy emphasis on the experience of microfinance in

Bangladesh is increasingly balanced by evidence from elsewhere in the world. Moreover, it is clear from Table 1 that many microfinance programs are reaching large numbers of the very poor while fully covering their costs. If and when good-quality studies of their impacts are carried out, it is likely the body of positive evidence of impact will grow and become more and more compelling.

Careful attention must be paid in future studies of microfinance impact to the methodological concerns raised by Karlan, by Armendariz de Aghion and Morduch, and by Goldberg.^{xv} In addition, studies to date often do not clearly identify the “very poor” among the sample of microfinance clients studied. Either the clients are not disaggregated by poverty status or the measurement tools used do not relate their poverty to a national or international poverty line to allow comparison across countries or even regions within a country. This lack of poverty measurement tools is being addressed by some practitioners and donors,^{xvi} but in the meantime we have to approximate very roughly with less reliable and meaningful measurements of client poverty. It is also not clear in many evaluation research reports what was the scale and sustainability of the microfinance operations *at the time* of the study.

Attention should focus on case-building where the payoff in learning is most promising. Table 1 provides some guidance for future work; researchers might productively focus on these MFIs. Moreover, there are other promising cases, some already of sufficient scale and sustainability and some on the verge of achieving the benchmarks, which have not made it to the list on Table 1. All these MFIs offer the potential, given better poverty measurement and impact evaluation, to become persuasive cases that affirm substantial poverty reduction impacts can be delivered to large numbers of the very poor by sustainable microfinance institutions.

“Randomized control trial” research does not have to be as difficult and time-consuming as often feared by practitioners and donors. As shown in recent and current studies by Dean Karlan and others associated with the Poverty Action Lab of M.I.T. and IPA,^{xvii} such research can be dovetailed with already planned expansion of microfinance operations. Expansion usually occurs in a phased rollout, allowing random assignment of communities, groups or individuals either to be among the first to have access or to be given access a few months or years later. In the interim period, good-quality evaluation of microfinance impacts can be carried out by qualified researchers.

With appropriate, collaborative effort among skilled researchers, interested practitioners and supportive donors, the body of evidence of positive impact of microfinance on the lives of substantial numbers of very poor people will very likely grow and become more and more compelling in the next few years. In the meantime, **there is already enough evidence to say with cautious confidence that microfinance can and does contribute to achievement of the Millennium Development Goals, and in a major way already in Bangladesh, if not in other developing countries.**

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