Economic Opportunities
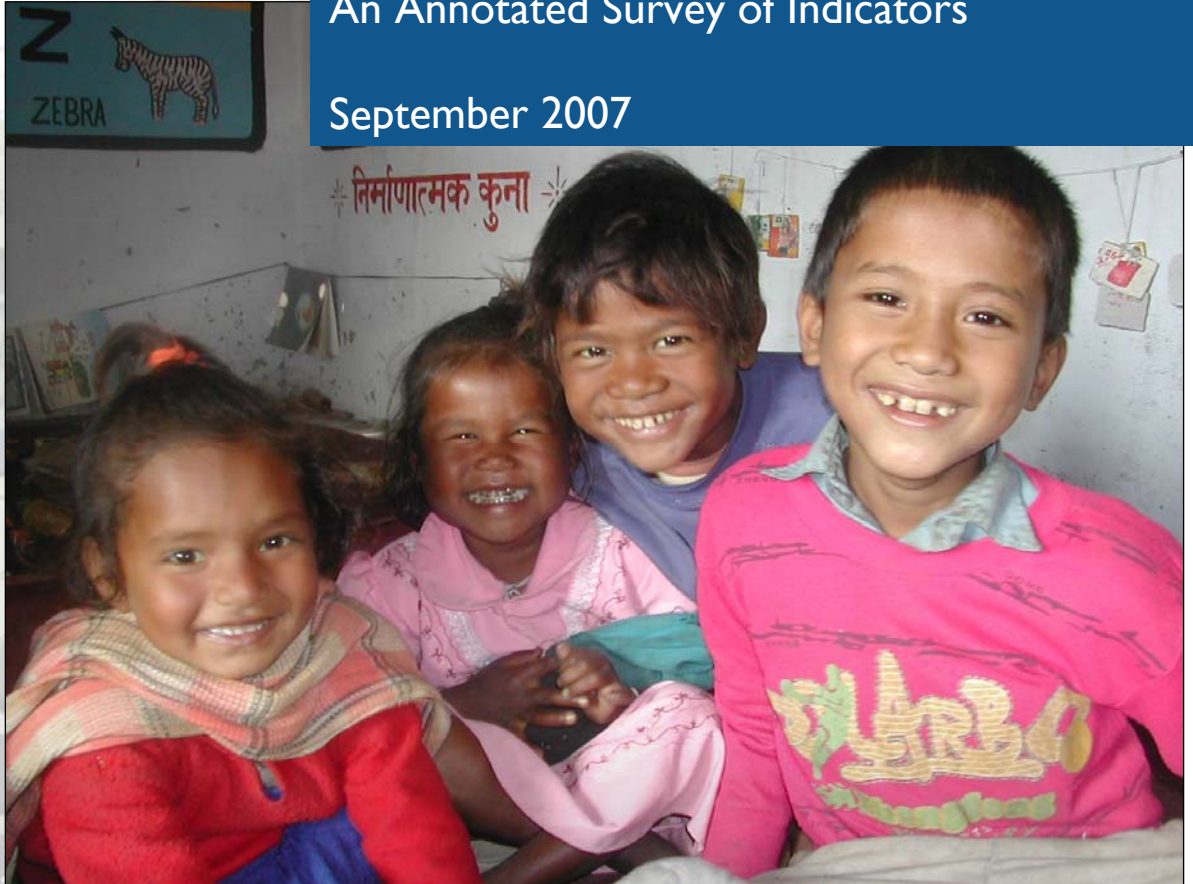
Impact of Microfinance Programs on Children:
An Annotated Survey of Indicators

September 2007

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TABLE OF CONTENTS

EXECUTIVE SUMMARY

The purpose of this study is to ascertain what indicators have been used by multisectoral, child-focused non-governmental organizations (NGOs), microfinance practitioners and social performance researchers to assess processes that address children's concerns in operations and the impact of microfinance on children. Furthermore, the study endeavors to reveal the emergent issues and biases related to the use of these indicators and finally, offers recommendations for additional indicators for microfinance practitioners to consider integrating into their monitoring and evaluation systems. The study was conducted through a combination of desk research and interviews with international NGOs, microfinance practitioners and microfinance networks in the Washington, DC metropolitan area.

There is a general consensus on the efficacy of microfinance in enabling the poor to increase their income, build their assets, grow their businesses and manage risk. From this a causal link is assumed between enhanced household security and child welfare and wellbeing. In particular, increased access to finance by women is considered a probable indication of child impact because women are more likely to invest in their children's wellbeing. As a result of this indirect link, there have been limited efforts to systematically track changes in child wellbeing within microfinance programs.

Each of the interviewees was asked to provide information on child welfare indicators they are currently tracking and/or those they feel could be readily tracked within their existing management information systems. This generated a number of indicators that are currently being applied by NGOs and microfinance institutions (MFIs) to track children's health, wellbeing and human development in association with the receipt of financial services. For the purposes of analysis, the indicators gathered were grouped into five categories:

    (1) Increased expenditures on child wellbeing
    (2) Better access to health care, both preventive and treatment
    (3) Increased food security through access to healthier diet
    (4) Increased access to education
    (5) Reduced vulnerability of children
    (6) Improved housing conditions

The majority of indicators proposed fell in the education category, followed by health, protection, and nutrition indicators. Analyzing the indicators by group, the study evaluates the indicators based on the following criteria to ensure that they are:

- Well specified
- Simple
- Consistent
- Generalizable
- Child- and household-specific
- Cost-effective

While the majority of these indicators are quantitative, some are based on qualitative measures of welfare and wellbeing, such as self-reported perceptions of improvement in nutrition. Many of the indicators reported have limited utility if collected at only one point in time but have greater utility and validity if tracked over the course of the receipt of credit and microfinance services by each household. Moreover, these indicators will be particularly useful if the organization tracks the individual child over time. Finally, some of these indicators are child-specific and others are household-specific, where it is assumed that the benefits will be enjoyed by all members of the household.

There are several gaps in the indicators being used. For example, although there are some indicators that capture information about increments in income and consumption or ask about insufficiency, there are no explicit poverty measures. No data were collected on leisure time for either adults or children. While health indicators were included, there was no mention of simple indicators of birth-weight, cognition, and child and infant morbidity and mortality indicators. Another noticeable gap relates to the development and use of microfinance products or services for children. Finally, while a number of education indicators gather data by sex, the majority don't disaggregate data by sex.

The challenges with gathering data on the impact of microfinance products and services on child welfare and wellbeing are significant, but not insurmountable. Organizations need to develop simple, well specified indicators that can be easily understood and applied.

Key Recommendations
- Indicators chosen for tracking child welfare need to be simple, consistent, easily developed and cost effective.
- It may be particularly helpful to monitor certain indicators over time for all children in the household.
- There is a need to develop indicators that capture child leisure time, as well as time spent at work and in school.
- Efforts should be made to gather sex disaggregated data in order to understand the dynamics of how the benefits of increased access to income is allocated amongst children within the household.
- Where possible, children should be consulted through focus group discussions and individual interviews.

The following table summarizes some of the indicators that meet all of the criteria and could provide a more complete picture of child health and wellbeing. Some of these indicators are already in use; others are modified versions of indicators currently being monitored:

Better Access to Health Care	Increased Food Security Through Access to a Healthier Diet	Increased Access to Education	Reduced Vulnerability	Leisure
# of household that report that the health of their family members has improved Reported days of illness in the last month	Wasting and stunting for children under 5 # of times in the past week that children ate meat or fish proteins	Educational deficit for children under 15 Number of days absence from school in the last month	# and sex of children in a household who do not attend school and who assist in an enterprise on a regular basis # and sex of children who missed school at least once in the last four weeks to assist in an enterprise	# of hours children between ages 5 and 15 played last week

I.   INTRODUCTION

As the microfinance field has advanced there have been numerous evaluations and studies that discuss the impact of microfinance on clients, households, and women. However, there has been limited research that examines the impact of microfinance on children because impact on children has largely been inferred.   In particular, increased access to finance by women is considered a probable indication of child impact because women are more likely to invest in their children's wellbeing.

To better understand the effect its economic opportunities programs have on children, Save the Children (SC) contracted Development and Training Services, Inc. (dTS) to implement a study focused on microfinance child impact indicators. The objective of this study is to conduct a comprehensive analysis of what indicators have been used by multisectoral, child-focused NGOs, microfinance practitioners, and social performance researchers to assess processes that address children's concerns in operations, and the impact of microfinance on children. The study examines the extent to which these indicators have been successfully implemented, as well as the emergent issues and biases related to the use of the indicators. Finally, based on the findings of the study, recommendations are offered for additional indicators that could be incorporated into microfinance programs to effectively measure appropriateness of processes and impact on children.

The findings from the study are not presented as best practices or the gold standard for child welfare indicators. Instead, the findings of the study are meant to a) provide institutions interested in tracking changes in child welfare with a range of indicators that have been used and/or considered by other organizations, and b) provide some criteria to assist organizations as they determine which indicator (s) they could integrate within their programs.

The report structure includes summaries of key findings from the interviews and literature reviews, followed by a presentation of the indicators proposed in matrix format. Subsequently, an analysis of the indicators including strengths, weaknesses, gaps and challenges is presented. The study culminates in set of key recommendations regarding indicators that institutions could consider using based on the criteria specified.

II.   RESEARCH METHODOLOGY

The study was conducted through a combination of desk research and interviews over a one month period in June 2007. In person and phone interviews were held with international non governmental organizations (NGOs), microfinance practitioners, and microfinance networks. See the Annex for a complete list of interviews. Due to the nature and timeframe of the study field based, NGOs and microfinance institutions were not contacted during the interview process.

The purpose of the interviews was to gather information regarding the types of indicators used to assess the impact of microfinance programs on children. In particular, the interviews sought information on economic indicators used, as well as indicators from other sectors, such as health and education. To supplement and provide context for the interviews, a brief literature review was conducted to gain an initial understanding of the types of indicators in use. Documents reviewed included other studies on impact of microfinance on children, social performance documents, and sample microfinance survey instruments provided by organizations interviewed.

III. KEY OBSERVATIONS FROM INTERVIEWS

There is general consensus on the ability of appropriately designed and delivered microfinance programs to enable the poor to increase their income, build their assets, grow their businesses, and manage risk. It is assumed that children benefit as household income and security increases through access to financial services. In particular, increased access to finance by women is considered a good indication of child impact, because women are more likely to invest in their children's wellbeing.   As a result of this indirect link, there have been limited efforts to systematically track changes in child wellbeing as a result of microfinance programs.

For the purposes of this study SC provided a list of international, child focused and multi-sectoral NGOs, microfinance organizations and networks for interviewing. Through the course of the interviews several findings emerged regarding these organizations' interest and opinions regarding tracking child welfare indicators.

- **Organization's mission:** The level of interest in tracking child welfare indicators varied by the type of institution and more importantly the institution's mission. Child welfare organizations clearly had a vested interest in tracking child welfare indicators. However, microfinance organizations that offer credit plus other services such as health education also included indicators related to child welfare. On the other hand, organizations that only offer credit services demonstrated less interest in tracking child welfare in their programs.
- **Social Performance frameworks:** The increasing attention being paid to measuring social performance seems to present an opportunity to include child welfare indicators within social performance processes and frameworks. Some respondents felt that as global social performance indicators are vetted, it will be important to ensure that one or more of the final indicators are related to child impact.
- **Utility:** Several interviewees felt that the field does not need additional indicators to measure child welfare and, therefore, felt there was limited utility in tracking child welfare. These organizations felt that tracking proxy measures such as household economic security was sufficient. If households are able to withstand shocks due to crises or life events, then it is reasonable to assume that children are positively impacted.
- **Funding:** The availability of financial and human resources was also cited as a major consideration when deciding what indicators can reasonably be integrated into a program. Those institutions tracking child welfare indicators within their impact assessment work had access to the necessary funding and consultant resources to conduct the assessments.
- **Challenges:** From a research perspective, inherent challenges were presented in tracking client level data. Many microfinance organizations in the field are reluctant to gather client level data given time and resource constraints. Gathering child impact indicators is considered even more difficult. Some respondents questioned the willingness and capacity of field based, microfinance institutions to gather information down to the child level.
- **Implementation Experience:** Above all, most organizations and researchers agreed that the greatest issue with tracking child welfare is the lack of actual implementation experience to draw from. Some organizations have designed survey instruments but are in the pilot stages of implementing them. As such, there is a knowledge gap in the field as to the best methods of gathering child welfare data.

Each of the interviewees was asked to provide information on child welfare indicators they are currently tracking and/or those that they feel would be feasible to track. Indicators reported were classified according to categories including: education, nutrition, health, protection, housing security, and expenditures. Figure 1.0 demonstrates that the majority of indicators proposed and/or in use to track child wellbeing was in the education category, followed by health, protection and nutrition indictors.

Figure 1.0

Frequency of Child Welfare Indicator Use by Category
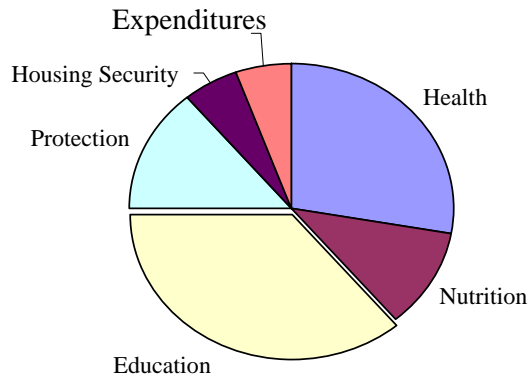
IV.   SUMMARY OF FINDINGS FROM LITERATURE REVIEW

Peace and Hulme (1994) conducted a comprehensive assessment of the impacts of microenterprise programs on children.[1] The authors review program documents from more than 70 microenterprise projects to explore the assumption that increased household income secured through microenterprise projects and programs has a positive impact on child welfare. The projects examine a range of potential indicators, including improved child survival rates (mortality and morbidity indicators), improved nutrition, health, education and reduced exploitation.

The underlying assumption is that if household income rises, then the welfare of all household members, including children, is enhanced. Drawing on the prevailing literature on intra-household inequality and the fungibility[2] of credit within the household, the article argues that, in many cases, this assumption may be invalid and highlights how little empirical evidence is available to substantiate or refute this proposition. The authors observe that for most agencies children are "invisible": they are "not seen and not heard", and do not feature explicitly in program plans, reports or evaluations. For virtually all of the projects reviewed in this study, the needs and priorities of children were assumed to coincide with the household, and the impacts on children were not considered separately. This invisibility is compounded by the fact that children are not the intended beneficiaries of program activities.

Peace and Hulme identify some studies where indicators of child survival, nutrition, health and education improve, but they also draw attention to the possibility that child labor may increase either as a substitute or a complement for adult labor in microentreprises or household work.

Similar work by Pitt et al (1997) examines the impact of credit programs for the poor on the nutritional status of children in rural Bangladesh. The paper evaluates the effects of three group-based credit programs[3] by the gender of the program participant on the nutritional status of children in rural Bangladesh. The authors consider three anthropometric measures of child health: height, weight and arm circumference. The authors find that women's receipt of credit has a large and statistically significant impact on two of the three measures of nutritional wellbeing (height-for-age and arm circumference) for both girls and boy children.

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[1] This study was commissioned by Save the Children in 1993 and completed in 1994.

[2] When credit is fungible it can be appropriated by another household member for activities that do not correspond with the original purpose of the loan. See for example Goetz and Gupta (1996) and Kabeer (2001).

[3] These include the Grameen Bank, Bangladesh's Rural Advancement Committee (BRAC) and the Bangladesh Rural Development Board (BRDB).

Credit provided to men has no statistically significant impact. As a result, they conclude that these credit programs have quantitatively important impacts on children's health, particularly if the program participant is a woman.

World Vision conducted research with Johns Hopkins University on the effects of microfinance in a drought setting. The key findings from the study included the following:
- Established microfinance clients had a greater diversification of income sources.
- The number of income sources was a significant predictor of monthly household income in multivariate regression models.
- Established microfinance clients reported the greatest levels of home ownership.
- Malnutrition rates of female clients were significantly lower.
- The children of established female clients had almost half the rate of moderate or severe wasting than children of women in the control group.
- The households of female clients were more successful in maintaining quality diets.
- Microfinance clients were significantly less likely to have received food aid in the past year.

In a study in Rwanda, World Vision found that existing microfinance clients had 91% of their children in school, as opposed to 81% among new clients. This difference was more pronounced for girls: 93% of existing clients had female children in school, as compared to 80% of among incoming clients.

In a study that George Washington University conducted with World Vision, the following results were found:
- Clients claimed that they increased their spending on education and other household expenditures.
- Respondents felt that their health and that of their families had   improved since they received their first loan.
- Clients' felt that they could afford a better diet.
- Clients fared better than nonclients with respect to having enough   household resources to avoid hunger.

In 2001, Plan conducted its own study of the impact of microfinance programs on children for the Microfinance Impact Assessment Workgroup. The study reviewed 58 impact studies of microfinance programs conducted between 1984 and 2001.   Seventeen of these studies reviewed the impact of microfinance programs on children. The study asserts that, for the most part, microfinance programs contribute to increased income, asset accumulation and women's empowerment. From this one can assume a causal link to child welfare , particularly in the areas of nutrition, health and schooling. However, the study cautions that this assumed causal link should be further developed and strengthened.

In general, however, few microfinance organizations have collected and monitored indicators that examine the impact of lending on child welfare and wellbeing. This report follows earlier work by Peace and Hulme sampling organizations working with Save the Children to explore the types of indicators they are gathering and monitoring that may capture the different dimensions of child welfare.

V.   CURRENTLY APPLIED MICROFINANCE CHILD IMPACT INDICATORS

The interviews conducted for this report generated a number of indicators that are currently being applied by NGOs and MFIs to track children's health, wellbeing and human development, in association with the receipt of credit and microfinance services. Table 1 presents a compilation of these indicators. Each indicator listed in the matrix was recommended by at least two organizations interviewed. While the

majority of these indicators are quantitative, some are based on qualitative measures of welfare and wellbeing, such as self-reported perceptions of improvement in nutrition. Many of the indicators reported have limited utility if collected at only one point in time, but have greater utility and validity if tracked over the course of the receipt of credit and microfinance services by each household. Moreover, these indicators will be particularly useful if the organization tracks the individual child over time. Finally, some of these indicators are child-specific and others are household-specific, where it is assumed that the benefits will be enjoyed by all members of the household.[4]

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[4] It is important to note that this assumption may not always hold. Individual household members do not always share common goals, interests or control over resources. As a result microfinance products and services that accrue to one individual or to a particular household may not be shared equally.

TABLE 1:   INDICATORS OF CHILDREN'S WELLBEING

Indicator	Point of Collection	Well Specified	Simple	Consistent	Generalizable	Child & HH Specific	Cost Effective	Frequency of Response
EXPENDITURES: Increased expenditure on child wellbeing								
# of families able to obtain medicine to treat children during sickness	Baseline Client intake After 1 year Exit Interview	X	X		X		X	10
% of households who report access to cash reserves (loan, savings, or income) necessary to acquire health care for children	Baseline Client intake Repeat loans Exit Interview						X	4
% of households who report access to cash reserves (loan, savings, or income) needed to pay for child education in the past 12 months	Baseline After one year Exit Interview				X		X	10
% of households whose school expenditures (fees, uniforms, books) for the current school year have increased relative to last year	Baseline After one year Exit Interview	X	X	X	X	X	X	12
Level and change in schooling expenditures in the past year	Baseline After one year Exit Interview	X	X	X	X	X	X	13
% of households who report access to cash reserves (loan, savings, or income) needed to pay for shoes or clothing for children	Baseline Client intake Repeat loans Exit Interview		X		X	X	X	3

Indicator	Point of Collection	Well Specified	Simple	Consistent	Generalizable	Child & HH Specific	Cost Effective	Frequency of Response
HEALTH: Better access to health care, both preventive and treatment								
# of families who report that the health of their family members has improved, stayed the same or gotten worse in the past 12 months	Baseline After 1 year Exit Interview	X	X	X	X	X	X	5
# of households whose children have been vaccinated	Baseline After 1 year Exit Interview	X	X	X	X	X	X	5
# of households whose children sleep under a mosquito net	Baseline After 1 year Exit Interview	X	X	X	X	X	X	5
NUTRITION: Increased food security through access to healthier diet								
Anthropometric measures for children ages 0-4, 5-11, 12-17	Baseline After 1 year Exit Interview	X		X	X	X		2
# of meals served in household in the last two days	Baseline Client intake Repeat loans Exit Interview	X	X		X	X	X	2
# of meals children in the household ate in the past 24 hours	Baseline Client intake Repeat loans Exit Interview	X	X		X	X	X	2
# of times in the past week that the household served rice	Baseline Client intake Repeat loans Exit Interview	X	X		X	X	X	3

Indicator	Point of Collection	Well Specified	Simple	Consistent	Generalizable	Child & HH Specific	Cost Effective	Frequency of Response
# of times in the last week that the children in the household ate meat or fish	Baseline Client intake Repeat loans Exit Interview	X	X		X	X	X	2
% of households who experienced food security for children (determined by quantity and quality) in the past 12 months	Baseline After 1 year Exit Interview				X	HH		2
# of households reporting that the quantity and quality of your meals has improved, stayed the same, or gotten worse	Baseline After 1 year Exit Interview				X	HH		2
EDUCATION: Increased access to education								
% of school aged children who are currently in school	Baseline Client intake Repeat loans Exit Interview	X	X	X	X	X	X	11
% of school aged children who never went to school	Baseline Client intake Repeat loans Exit Interview	X	X	X	X	X	X	10
Highest grade in school completed by any children in the household	Baseline After one year Exit Interview	X	X	X	X	X	X	10

Indicator	Point of Collection	Well Specified	Simple	Consistent	Generalizable	Child & HH Specific	Cost Effective	Frequency of Response
# of school aged children living in household: a. Primary-school aged girls (5-11) b. Primary-school aged boys (5-11) c. Secondary-school aged girls (12-17) d. Secondary-school aged boys (12-17)	Baseline After one year Exit Interview	X	X	X	X	X	X	13
# of school aged children regularly attending school: a. Primary-school aged girls (5-11) b.Primary-school aged boys (5-11) c. Secondary-school aged girls (12-17) d. Secondary-school aged boys (12-17)	Baseline Client intake Repeat loans Exit Interview	X	X	X	X	X	X	13
# of girls and boys in household that can read and write	Baseline After one year Exit Interview	X	X	X	X	X	X	9
PROTECTION: Reduced vulnerability of children								
# of children taken out of school to work in client's enterprise in the past year	Baseline After one year Exit Interview	X	X	X	X	X	X	5
# of young children and older children missing school at least once in last four weeks to assist with enterprise	Baseline Client intake Repeat loans Exit Interview	X	X	X	X	X	X	5
% of households with children who have had to leave school to contribute to household income	Baseline Client intake Repeat loans Exit Interview				X	HH		5

Indicator	Point of Collection	Well Specified	Simple	Consistent	Generalizable	Child & HH Specific	Cost Effective	Frequency of Response
# of hours children spent doing domestic work in the last two weeks	Baseline Client intake Repeat loans Exit Interview	X	X	X	X	X	X	5
# of hours children spent working outside the home in the last two weeks	Baseline Client intake Repeat loans Exit Interview	X	X	X	X	X	X	5
# of children in household who do not attend school and who assist you on a regular basis in the enterprise	Baseline Client intake Repeat loans Exit Interview	X	X	X	X	X	X	5
# of children in household who missed school at least once in the last four weeks to assist in enterprise	Baseline Client intake Repeat loans Exit Interview	X	X	X	X	X	X	5
# of households where children reside with biological mother	Baseline After one year Exit Interview	X	X	X	X	X	X	2
# of households where children less than 15 live in the same house with siblings	Baseline After one year Exit Interview	X	X	X	X	X	X	2
# of individuals residing in the household	Baseline After one year Exit Interview	X	X	X	X	X	X	2
# of bedrooms in household	Baseline After one year	X	X	X	X	X	X	2

Indicator	Point of Collection	Well Specified	Simple	Consistent	Generalizable	Child & HH Specific	Cost Effective	Frequency of Response
	Exit Interview							
HOUSING SECURITY: Improved housing conditions								
# of families drinking pure water from arsenic free tube-wells, boiled water, or purified water.	Baseline After one year Exit Interview	**X**	**X**	**X**	**X**	**X**	**X**	**2**
# of families using a sanitary latrine	Baseline After one year Exit Interview	**X**	**X**	**X**	**X**	**X**	**X**	**2**

VI. INDICATOR ANALYSIS

A. *Criteria Applied*: This section analyzes the different types of indicators used to monitor the impact of microfinance products and services on households and child welfare and wellbeing. Table 1 reports on the variety of indicators used, grouping them into five categories:

    (1)   Increased expenditures on child wellbeing
    (2)   Better access to health care, both preventive and treatment
    (3)   Increased food security through access to healthier diet
    (4)   Increased access to education
    (5)   Reduced vulnerability of children
    (6)   Improved housing conditions

Analyzing the indicators by group, we evaluate the indicators based on the following criteria to ensure that they are:

- Well specified: The indicator is well-specified and captures the true proportion of individuals or household's exhibiting these characteristics.[5]
- Simple: The indicator is easily understood by the beneficiaries, as well as those administering the questionnaire or collecting the data.
- Consistent: The indicator will capture the same information over time or it will be subject to substantial variation because of measurement and recall error or seasonality.
- Generalizable: The individual measure can be aggregated to a population or sub-population group.
- Child- and household-specific: The indicator can be constructed and monitored for a specific child and household over time, allowing the MFI or NGO to create a panel that will track welfare and wellbeing over the receipt of the microfinance products or services.
- Cost-effective: The data required to develop the indicator can be gathered, inputted and analyzed in a cost-effective manner.

In some cases we examine each individual indicator in others we group similar indicators.

B. *Strengths and Weaknesses of Indicators Identified*

    (1) Increased expenditures on child wellbeing

Number of families able to obtain medicine to treat children during sickness: This indicator is reasonably well-specified and it is likely to capture the true proportion of families able to obtain medicine to treat children during sickness – with the exception of those that are not willing to disclose this information, or where some household members are privy to this information while others are not. It is simple and easily understood. It may not be consistent, largely because it depends on the knowledge of the individual sampled and the knowledge about the disease or ailment and the appropriate treatment. This indicator is an aggregate indicator that allows the MFI or NGO to associate the receipt of credit with an overall indicator of the community ability to treat children for illness. As such the indicator is already generalized. The indicator is not child-specific, however, and does not provide information about any particular household or child unless data are collected at several points in time for specific households and children and maintained as a panel. This will be particularly important in countries and cultures where there may be pronounced son bias (Alderman and

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[5] In clinical or statistical trials specificity is the specificity is the number of true negative results divided by the sum of the numbers of true negative plus false positive results.

Gertler, 1997; Hallman, 2000). Since gathering the data for this indicator does not require complex survey instruments and measurement techniques it is also reasonably cost-effective – however, modifying the data collection process to make the indicator child-specific will increase the cost.

Percentage of households who report access to cash reserves (loan, savings, or income) necessary to acquire health care for children: This indicator is not particularly well-specified since it is a compound indicator. The indicator seeks to summarize whether the household has access to cash reserves and, subsequently, whether they are available to be used to acquire health-care for children if necessary. Since it is a compound indicator, it is not necessarily simple to explain or monitor and may be subject to a number of errors – both in terms of measurement and recall. Moreover, the indicator captures potential resource availability and not actual access to resources. Therefore, it may not necessarily provide a good indicator of child welfare or wellbeing. It is also likely to be subject to substantial variation depending on the respondent chosen and their position in the household. This indicator is aggregate and provides information at the community or sub-population level, but it is neither child- nor household-specific, although it could be collected at this level. It is reasonably cost-effective since it can be established by answering a minimum of two questions.

Percentage of households who report access to cash reserves (loan, savings, or income) needed to pay for child education in the past 12 months: This indicator is not particularly well-specified since it is another compound indicator. The indicator seeks to summarize whether the household has access to cash reserves and, subsequently, whether they are available to be used to acquire education for children if necessary. Since it is a compound indicator, it is not necessarily simple to explain or monitor and may be subject to a number of errors – both in terms of measurement and recall. It may also be subject to substantial variation in communities where public education is free and only additional costs such as uniform, school books, and shoes are borne by households. As noted earlier, the indicator captures potential resource availability and not actual access to resources. Therefore, it may not necessarily provide a good indicator of child welfare or wellbeing. It is also likely to be subject to substantial variation depending on the respondent chosen and their position in the household. This indicator is aggregate and provides information at the community or sub-population level but it is neither child- nor household-specific, although it could be collected at this level. It is reasonable cost-effective since it can be established by answering a minimum of two questions.

Percentage of households whose school expenditures (fees, uniforms, books) for the current school year have increased relative to last year and level and change in schooling expenditures in the past year: These indicators are well-specified, simple and consistent. The first is already aggregate and generalized, but it could be made child- and household-specific. The second can be generalized and can also be made child and household-specific. They are both cost-effective and easy to administer. Unfortunately, these indicators are likely to reflect events and probabilities beyond the control of the household and not necessarily linked directly to the receipt of microfinance products and services. Furthermore, an increment in school expenditures may signal a positive or negative event and as a result can have different implications for human capital investment and child wellbeing. Education costs may have increased because household members elect to put a child into private school or purchase additional education through religious or cultural schools. Education costs may have increased because the household has lost access to transfers and public assistance as their income has risen above a particular thresh-hold.[6] These costs may have risen because of changes in prices for goods or because of increments in value added taxes.

Percentage of households who report access to cash reserves (loan, savings, or income) needed to pay for shoes or clothing for children: This indicator meets most of the criteria but is not particularly well-specified since it is a compound indicator that captures potential and not necessarily actual access to resources. As a result it may not be consistent.

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[6] This may be independent of the receipt of credit and microfinance products and services.

(2) Better access to health care

Number of families who report that the health of their family members has improved, stayed the same or deteriorated in the past 12 months: This is a well-specified, simple and consistent indicator. It is already aggregate and generalized, but it could be made child and household specific. It is also cost-effective and easy to administer. This indicator is likely to reflect events and probabilities beyond the control of the household and not necessarily linked directly to the receipt of microfinance products and services.

Number of households whose children have been vaccinated: This indicator is also well-specified, simple and consistent. It is already aggregate and generalized, but it could be made child and household specific. It is also cost-effective and easy to administer. Although this indicator does capture one dimension of child wellbeing, it may not be a particularly sensitive indicator for measuring the benefits of microfinance products and services. Since it is likely to reflect health-care policy and programs, it may not vary significantly by household and as a result may not vary with increased access to financial products and services through NGOs and MFIs.

Number of households whose children sleep under a mosquito net: This indicator is well-specified, simple and consistent. It is already aggregate and generalized, but it could be made child- and household-specific. It is also cost-effective and easy to administer. This indicator is likely to vary by household and may reflect their access to resources as well as knowledge. If programs to reinforce good practices to prevent vector-borne disease are also included with the microfinance services and products it may capture some of the impact of these products and services on households and consequently on child wellbeing.

(3) Increased food security through access to healthier diet

Anthropometric measures for children ages 0-4, 5-11, 12-17:   These measures are well-specified, consistent, generalizable and both child- and household-specific. Typically these indicators include measures such as weight-for-height (wasting), weight-for-age (underweight) or height-for-age (stunting), body mass indices, fat reserves, upper-arm circumference, etc. Although each of these measures is well-defined, they are not simple to collect or analyze and surveying can be expensive and time-consuming. They do capture child-wellbeing very accurately, however, these indicators respond with a lag to any change in current income and consumption. Unless the households are going to be tracked over time for several years, these indicators may not be particularly sensitive to recent changes in income and consumption attributable to the receipt of microfinance products and services.

Nutrition indicators. The indicators discussed here include: (i) the number of meals served in household in the last two days; (ii) the number of meals children in the household ate in the past 24 hours; (iii) the number of times in the past week that the household served rice; (iv) meat or fish in at least one meal; and (v) the number of times in the last week that the children in the household ate eat meat or fish. These measures are generally well-specified, generalizable and can be both child- and household-specific. They are also fairly easy to collect and can be cost-effective. The indicators that include specific proteins (meat and fish) are the most well-specified. However all of these indicators fail to include any adjustment for the quantity or quality of the food. As a result they are not necessarily consistent and may vary from community to community and by household. They also fail to take into account intra-household differences in access to nutrition where some household members, particularly those who are remunerated, may be favored over others.

Percentage of households who experienced food security for children (determined by quantity and quality) in the past 12 months: This indicator is not particularly well-specified or simple. Moreover, because it depends critically on the perceptions of the individual sampled and their expectations of food security or insufficiency, it may not be consistent. To make this indicator better-specified, the agency would need to develop criteria

for both the quantity and quality of foodstuffs they wish to document. It can be generalized to the community or sub-population level and it can be household-specific but is less easily made child-specific. It would be hard to capture intra-household variation in food security by individual using this measure and attempts to do so would be likely to increase measurement and recall error. If the measure is modified to make it better specified or to make it child-specific it is likely to be more costly to collect and analyze.

Number of households reporting that the quantity and quality of their meals has improved, stayed the same, or deteriorated: This indicator demonstrates similar shortcomings to those of the previous indicator. This indicator is not particularly well-specified, although it may be more easily understood by respondents and enumerators. The response depends on the perceptions of the individual sampled and their expectations of food security or insufficiency, as a result it may not be consistent. If the same person is sampled over time some of the concerns about consistency within the household can be overcome. The indicator can be generalized to the community or sub-population level and it can be household-specific but is less easily made child-specific. Again, it would be hard to capture intra-household variation in food security by individual using this measure and attempts to do so would be likely to increase measurement and recall error. If the measure is modified to make it better specified or to make it child-specific it is likely to be more costly to collect and difficult to analyze.

(4) Increased Access to Education

Percentage of school aged children who are currently in school and Percentage of school aged children who never went to school: These indicators are well-specified, simple and consistent. They can both be aggregated and generalized, and could be made child- and household-specific. They are both cost-effective and easy to administer. The second is potentially more useful from a public policy and welfare perspective because it provides information about an education deficit. However, it may be more useful to know if a school age child is currently not in school, the reason why (as a result of illness, educational difficulties, or the inability to afford the direct and indirect costs of education) and for how long that child has not been in school.

Highest grade in school completed by any children in the household. This indicator is well-specified, simple, consistent, generalizable and can be made child and household specific. It is also cost-effective and fairly easy to administer. It will also be dependent upon the age of the children and the availability of education opportunities in the community. In order for this indicator to be meaningful, some correction should be made for the age of the children under consideration.

Number of school aged children living in household and Number of school aged children regularly attending school: These indicators are well-specified, simple, broadly consistent, generalizable and can be made child and household specific. They are also cost-effective and fairly easy to administer. In combination these indicators will yield information about school attendance and any individual educational deficit.[7] They may be subject to some misinterpretation as one individual's perception of regular attendance may differ from another. These indicators have the potential to be verified with the local school for the particular households and children under consideration.

Number of girls and boys in household that can read and write: This indicator meets all the criteria but would need to be adjusted to reflect a specific age range to ensure that it is meaningful. It may be subject to some measurement error and inconsistency given the interpretation of the respondent about whether the children can in fact read and write. There is the potential for this indicator to be validated by local educators.

(5) Reduced vulnerability of children

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[7] The education deficit is defined as the difference between the total potential years or levels of education a child can have and the actual number of school years completed or grades passed. This measure can be both child- and household-specific.

Number of children taken out of school to work in client's enterprise in the past year and Number of young children and older children missing school at least once in last four weeks to assist with enterprise. These indicators meet all the criteria but would need to be adjusted to reflect a specific age range to ensure that they are meaningful. They may also be validated by local educators.

Percentage of households with children who have had to leave school to contribute to household income: This indicator is not well-specified since it is another compound indicator. It asks whether children have had to leave school to contribute to household income. If children have left school for other reasons, but have subsequently begun to work, it is not clear whether the respondent will know how to respond. As a result the indicator may not be particularly well-specified or consistent. While this indicator can be made household-specific careful tracking would be required to ensure that it was child-specific.

Number of hours children spent doing domestic work in the last two weeks and the Number of hours children spent working outside the home in the last two weeks: These indicators meet all of the criteria. In gathering this information, it is particularly important to identify a credible respondent. For both indicators the respondent should be an adult who supervises or designates the child's tasks. The same respondent should be sampled over time to minimize measurement and recall error. It may be easier to restrict the time period to the previous week and subsequently ask if the number of hours worked was usual. It will also be important to track these data by specific children because time and task allocation is likely to differ by age and sex and can affect who is taken out of school or chosen to substitute for adult labor within and outside of the household (Ilahi, 2000).

These indicators capture different potential aspects of the impact of micro-finance products and services on the household and time and task allocation within and beyond the household. It would be important to ask the household respondent(s) why any change may have occurred over time to establish the causality. It could be that the receipt of microfinance products and services increased enterprise activity and earnings and placed pressure on the available household labor, requiring that older children were pulled out of school to attend to household or productive tasks either to replace or complement adult labor. Conversely, as income and earnings increase in the microenterprise, children may be able to remain in school longer since their labor is no longer required to secure livelihoods.

Number of children in household who do not attend school and who assist you on a regular basis in the enterprise and Number of children in household who missed school at least once in the last four weeks to assist in enterprise: These indicators are well-specified, simple, consistent, generalizable and cost-effective. They can be made both household and child-specific. Again it would be important to ask why any changes took place to begin to identify the causality.

Number of households where children reside with biological mother and Number of households where children less than 15 live in the same house with siblings: These indicators are well-specified, simple consistent, generalizable and can be made household and child-specific. They are also easy to collect and cost-effective to monitor. A child's consumption and human capital investment prospects can be directly determined by whether living arrangements permit one or both parents to direct resources to him or her and also by the number of resident and nonresident siblings with whom he or she competes (Bruce and Lloyd, 1997). In combination with other data these indicators may provide information on coping strategies for households under stress. Fostering and adoption, or servitude, may be used as strategies to respond to illness, death, and economic crisis. These indicators can provide information about such strategies—particularly if additional information is gathered about why the child may not reside with the biological mother or siblings.

Number of individuals residing in the household: This indicator meets all the criteria but may not provide unequivocal information about the potential impact of access to micro-finance products or services on

children. Firstly, the number of individuals residing in a household may reflect comparative wealth or access to resources, or may be a response to economic stress and crisis felt by other households linked by kinship or marriage. Fluctuations in the numbers of individuals in a household could be attributed to birth, marriage, death, or good and bad fortune in the household under consideration or in others linked by kinship ties. As a result, additional information will need to be gathered to interpret changes in this indicator. Moreover, changes in this indicator may affect child welfare and wellbeing differently.

<u>Number of bedrooms in household:</u> Similarly, this indicator also meets all the criteria but may not provide a very clear indicator of the potential impact of access to micro-finance products or services on children. Additional information will need to be gathered to interpret this indicator and link it to child welfare and wellbeing.

   (6) <u>Improved housing conditions</u>

<u>Number of families drinking pure water from arsenic free tube-wells, boiled water, or purified water</u> and <u>Number of families using a sanitary latrine:</u> These indicators are well-specified, simple consistent, generalizable and can be made household and child-specific. They are also easy to collect and cost-effective to monitor. Since these resources are available to all household members it is assumed that any child in the household will also benefit from access to potable water or latrines.

C. Trade-offs and Limitations: There are a number of clear trade-offs in using these indicators. Typically, the better-specified, simpler and more cost-effective the indicator, the narrower it is likely to be—capturing only one dimension of child welfare and wellbeing. For example, counting the number of children who are currently in school, or who have been vaccinated, tells us narrowly about some aspects of health and human capital investment. As a result, it may not be sufficient to collect data on only one or two indicators. Furthermore, NGOs and MFIs may require several of these indicators to begin to build a more complex picture of the impact of microfinance products and services on children. Choosing a set of simple indicators that capture a number of aspects of health, education, work and leisure time may give a fuller picture of the opportunities that children may gain as a result of their households benefiting from micro-finance products and services.

The more complex indicators such as anthropometry respond with a lag to any changes in the receipt of microfinance products and services and are more costly and time-consuming to gather and analyze. Similarly, poverty and consumption data that would provide information on household insufficiency are more complicated to gather and analyze and more difficult to modify to reflect child-specific deficits.

D. Gaps: There are a number of gaps in the indicators being used, which is likely to reflect the focus and capacity of the organizations tracking and monitoring the impact of microfinance products and services.

   (1) <u>Poverty measures:</u> Although there are some indicators in the matrix that capture information about increments in income and consumption or ask about insufficiency, there are no explicit poverty measures. Poverty data are not easy to gather and analyze, nor are they readily modified to take account of intra-household inequality.[8] Poverty data that capture insufficiency and that can be tailored

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[8] The IRIS center at the University of Maryland was contracted by USAID to develop and field test poverty assessment tools for use by organizations providing micro-enterprise assistance. Sarah Gammage of dTS developed a report, *A Menu of Options for Intra-Household Poverty Assessment,* to complement the work undertaken by IRIS. Specifically, her report provided additional recommendations for how these poverty tools could be adapted to assess the presence of intra-household poverty and inequality. The objective of her report was to draw attention to the presence of intra-household inequality and develop a menu of options for developing and testing methods to assess intra-household poverty.

to specific individuals would be particularly useful, although they may be prohibitively expensive to gather and analyze. Failing this, data on asset holdings (such as livestock, tools, dowry wealth, etc) and expenditures in key categories (such as food, education, health, etc.) could be tracked over time to see whether assets were acquired or liquidated in response to surplus or deficit or how consumption may have changed. Since children seldom own assets, and intra-household inequality in consumption is difficult to collect and burdensome to monitor, these measures will have to be developed for the household and monitored over time under the assumption that improvements are likely to benefit all household members.

(2) <u>Leisure:</u> No data were collected on leisure time for either adults or children. Although data are collected by some agencies on time and task allocation no questions were asked about leisure time or play time. Time allocation data are difficult to collect because of the simultaneity of tasks and activities—particularly reproductive tasks in the household. Yet, asking about how many hours children play per day or week could be particularly revealing about their ability to be children and to enjoy a life free from many of the adult responsibilities of household provisioning.

(3) <u>Health and developmental indicators:</u> Among the indicators that are also missing are some simple indicators of birth-weight, cognition, and child and infant morbidity and mortality indicators.

(4) <u>Microfinance products and services for children:</u> Another noticeable gap relates to the development and use of micro-finance products or services for children. Specific products such as school loans for direct costs such as school fees or indirect costs such as uniforms, books, transport and shoes may be available. Another example is savings programs that deposit a sum of money for each year of study or each grade passed into an account that matures upon leaving school. These loans or savings products may accrue to the children or to the household or parents to compensate them for foregone child earnings. If these types of instruments exist, then the use of these loans and transfers should be monitored over time.

(5) <u>Sex disaggregated data collection:</u> While a number of the education indicators gather information by sex, the majority don't capture this level of detail. This could be due to the additional layer of complexity that this adds. However, in many cases, understanding changes in welfare by sex provides useful information as to how resources are allocated within the household among boy and girl children.

E. Methodological Challenges: The challenges with gathering data on the impact of microfinance products and services on child welfare and wellbeing are significant but not insurmountable. Organizations need to develop simple, well-specified indicators that can be easily understood and applied. Ideally these indicators should satisfy the criteria developed in section VI.(A).

The analysis of the impact of microfinance lending and services on households is one that is fraught with difficulties (Hulme 2000; Pitt and Khandker, 1996). The key concern that hampers the analysis of the impact of credit is endogeneity. Participation in credit programs is largely self-selective. Although receipt of credit and microfinance services is frequently free, it can be costly since it may involve training and participation in group activities that can be time-consuming and that means that the participant is not working in other activities. Consequently, those individuals and households who self-select into programs may be different from those who choose not to. As a result they may have more initial income, greater available household labor, more diverse assets, and/or a greater ability to bear risk. Merely finding that participants in a program have higher income and consumption than non-participants does not mean that participation has increased their income and consumption. Endogeneity presents a problem in attributing causality and measuring the impact of lending on households because attributes that affect the receipt of credit or microfinance services may also affect the outcome under consideration. Causality is not a one-way process. For instance the amount of assets a household holds may affect whether it can use or will apply for credit. Similarly, the acquisition and retention of assets may be a key component of the indicator under consideration.

There are a variety of sophisticated econometric approaches that allow the analyst to tease out the effect of endogeneity on participation in credit and microfinance programs that may or may not involve collecting numerous other variables on household and borrower attributes and comparing control and intervention groups.[9] Another way of overcoming the statistical problems presented by endogeneity is by following the same household over time before and after the receipt of credit and monitoring changes in key variables. The organization may also need to collect data on households that do not participate in the program to compare any changes over time in the intervention and non-intervention sample. This may increase the cost of monitoring the impact of microfinance products and services but will allow for a more accurate picture of their effect on household welfare and wellbeing and particularly that of children.

Two relatively simple impact evaluation approaches are available to the organization:

1. <u>Difference in the differences:</u> This approach requires that the organizations collect baseline data on the households prior to the introduction of the program. The survey should be conducted in communities that will receive the program and communities that will not. At some time after the program has begun, another survey should be carried out in both program and non-program villages. Changes in outcomes between the post-program and pre-program surveys are not the best measure of the impact of the program, since behavior may have changed over time in the absence of the program. The difference in difference method measures the effect of the program on key community-level variables as the average change in the program communities minus the average change in the non-program communities.

2. <u>Matched comparison:</u> Information is collected on a sample of households or individuals in households who have selected to participate in a program. The organization should also survey households who selected themselves out of the program. For each participating household or individual, the organization should find one or more households or individuals from the non-participating group with similar characteristics such as age, sex, education, religion, race, land-holdings, etc.

In both cases the organization can test for significant statistical differences between the program and non-program participants for a variety of individual and household-level variables.

VII.   RECOMMENDATIONS

There is certainly a need to better monitor the impact of microfinance products and services on child welfare and wellbeing. The indicators chosen, however, need to be simple, consistent, easily developed and interpreted and cost-effective. Household-level indicators that can be generalized to the community are useful, however, it may be particularly helpful to monitor certain indicators over time for all children in a household. In some cases, a number of indicators will give a more complete picture of child welfare and wellbeing including those that track their progress in school, their health and their membership in households that have critical attributes such as latrines and running water, and the vulnerability indicators that provide information about the number of children who do not attend school in order to assist in a household or microenterprise.

In particular, there is a need to develop indicators that capture child leisure time as well as time spent at work and in school. Time spent at play will need to be controlled for the age of the particular children and may be most meaningful for those between the ages of 5 and 15. Furthermore, there is a need to examine the impact of the receipt of financial services on developmental indicators, and other indicators of mortality and morbidity such as illness.

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[9] See for example Pitt and Khandker (1996) and Pitt et al (1997).

Efforts should also be made to gather sex disaggregated data in order to understand the dynamics of how increased access to income and resources is allocated amongst children within the household. Particularly, when looking at patterns of expenditure on education or health we can not assume that all children within the household equally benefit from the increases in expenditures. Similarly, it would be relevant to examine the children's use of time by sex to determine how the growth of businesses as a result of access to finance impacts both boys and girls coming out of school to assist with the enterprise or within the household.

Where possible, children themselves should be consulted through focus group discussions and one-on-one interviews as a means to bring their voices into the monitoring framework as well as to verify responses received from adults within the household.

Table 2 summarizes some of the indicators that meet all of the criteria and could provide a more complete picture of child health and wellbeing. Some of these indicators are already in use; others are modified versions of indicators that are currently being monitored.

TABLE 2: RECOMMENDED INDICATORS

Better Access to Health Care	Increased Food Security Through Access to a Healthier Diet	Increased Access to Education	Reduced Vulnerability	Leisure
# of household that report that the health of their family members has improved Reported days of illness in the last month	Wasting and stunting for children under 5 # of times in the past week that children ate meat or fish proteins	Educational deficit for children under 15 Number of days absence from school in the last month	# and sex of children in a household who do not attend school and who assist in an enterprise on a regular basis # and sex of children who missed school at least once in the last four weeks to assist in an enterprise	# of hours children between ages 5 and 15 played last week

In addition to these suggested indicators, there is a noticeable dearth of information about the use of savings and insurance products and services for children. Developing such products and monitoring their adoption and use could create incentives for greater investment in child health and wellbeing as well as improve their welfare.

Tracking these indicators will require training and technical assistance to design the survey instruments, input the data, and monitor changes over time. Where possible a uniform package should be developed that allows field staff to interview and input data conveniently.

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Organization Survey Instruments:
- Prototype of CCF Client Monitoring Tool
- CCF Global Output Indicator Per Sector
- FINCA Client Assessment Tool (FCAT) Questionnaire
- CARE Mali Impact Assessment Tool
- FFH: Navigating Tools for Measuring Social Performance
- FFH: Health Education Indicator Bank

ANNEX

List of Interviews

Name	Organization
Delores McLaughlin	PLAN
Julie Redfern	MEDA
Jennifer Denomy	MEDA
Lauren Hendricks	CARE
Devorah Miller	CCF
Rekha Reddy	ACCION
Katie Torrington	FINCA
Syed Hashemi	CGAP
Evelyn Stark	CGAP
Isabelle Barres	MIX
Anton Simanowitz	ImpAct
Agnes Qusuming	IFPRI
Bobbi Gray	Freedom from Hunger
Gary Woller	Consultant
Richard Carothers	Consultant
Jan Maes	Consultant
Mark Schreiner	Consultant