SOCIAL PERFORMANCE OF MICROFINANCE INSTITUTIONS: THEORY AND EMPIRICAL EVIDENCE

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This dissertation is dedicated to my mom, Paciencia Po Milan.

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ABBREVIATIONS

ACLEDA   Association of Local Economic Development Agencies Bank

ADB   Asian Development Bank

AMK   Angkor Mikroheranhvatho (Kampuchea) Co. Ltd

ANCOVA   Analysis of Covariance

CERISE   Comité d'Echanges de Réflexion et d'Information sur les Systèmes d'Epargne-crédit

CGAP   Consultative Group to Assist the Poor

CIDR   Centre International de Développement et de Recherche

CMA   Cambodian Microfinance Association

CSP   Corporate Social Performance

CSR   Corporate Social Responsibility

FAO   Food and Agriculture Organization

FPL   Food Poverty Line

HR   Human Resource

IRC   Institut des régions chaudes

KHR   Cambodian (Khmer) Riels

KMO   Kaiser-Meyer Olkin Measure of Sampling Tendency

M-CRIL   Micro Credit Rating International Ltd.

MFC   Microfinance Centre

MFI   Microfinance Institution

MIS   Management Information Systems

MIX   Microfinance Exchange

NBC   National Bank of Cambodia

NGO   Non-Governmental Organizations

NIS   Cambodia National Institute of Statistics

PAT   Poverty Assessment Tool

PCA	Principal Component Analysis
PPI	Progress Out of Poverty Index
QAT	Quality Audit Tool
SP	Social Performance
SPI	Social Performance Indicators
SPTF	Social Performance Task Force
USAID	United Stated Agency for International Development
USD	United States Dollars

EXECUTIVE SUMMARY

Inspired by the innovative efforts of pioneers in non-governmental organizations, notably the Grameen Bank, financial services delivery to the poor has grown since the 1980's and has been advocated as an important component of development interventions. These financial services, also known as microfinance, are believed to have positive outcomes on production, income, and consumption at household and macro-economic levels. The provocative idea that alleviating poverty can be profitable to microfinance institutions (MFIs) and donors had an enticing effect on the private sector hence private capital sources increased. The paradigm of microfinance shifted to MFIs emphasizing on cost effectiveness and financial viability in their operations. The microfinance industry has made considerable progress in financial performance measurement and evaluation. Of late, the microfinance industry is shifting from its emphasis on financial sustainability to a renewed concern on social performance. There is heightened interest in developing a social performance measurement tool with a common set of key social indicators to go hand in hand with the financial performance. Among others, measurement of social performance will encourage institutions to be more mindful in maintaining their social mission especially now that an increasing number of microfinance programs are gearing towards privatization. It allows MFIs to demonstrate social performance, transparency and credibility which can lead to donors and investors reallocation of funds towards socially-oriented MFIs.

Empirical data were collected while the researcher was working with the Research Department of AMK[1] in Cambodia. Quantitative panel data were collected annually from 2006 to 2008 covering AMK clients and non-clients in 55 rural villages in nine provinces of Cambodia. Qualitative data were collected from 2007 to 2009.

The first purpose of the study is to review the important theoretical frameworks on social performance and examine ongoing social performance initiatives in the microfinance industry in view of the synthesized frameworks. The concept of social performance borrows elements from different established concepts that we find in business, ethics and society. The study shows that social performance measurement pulls together three dominant frameworks – the corporate social

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[1] AMK or Angkor Mikroheranhvatho (Kampuchea) Co. Ltd. is a licensed MFI in Cambodia with a mission to help large numbers of poor people in rural Cambodia increase their livelihood options.

performance model, the stakeholder theory, and the accountability theory- into one theme. Drawing from the review of some of the well-known social performance initiatives in the microfinance industry, the study finds it necessary to integrate both process and outcome approaches in social performance measurement. The process approach reviews how an MFI identifies, integrates, and manages its social goals. Complimentarily, the outcome approach measures stakeholder satisfaction (client, staff, etc), outreach and impact of MFI policies and financial services. The study shows that there is an overemphasis of the outcome approach on one stakeholder, the clients, and is further limited on the depth of outreach of MFIs.

Second, the study describes and reviews a practitioner's approach in social performance measurement with empirical analysis. AMK provided an example of how an MFI can integrate the process and outcome approaches in their operations. While most outcome approaches used by other MFIs focus on social performance to clients with emphasis on the depth of outreach, AMK takes on a broader outcome approach to its stakeholders by also devising a system to measure satisfaction of clients and staff.   AMK's social performance measurement tools include an annual staff satisfaction survey, financial procedures and operations audit, client protection audit, client profile, depth of outreach, client satisfaction, exit client survey, and competition analysis. AMK's depth of outreach is measured using the principal component analysis (PCA) on cross-sectional data (based on CGAP's Poverty Assessment Tool). The PCA method creates a poverty index for each household and poverty groups (poor, less poor and better off) are created using a tercile analysis based on the poverty indexes of the control group (non-clients). Using the same method, the statistical results of the study indicate that more AMK clients fall under the poor group as compared to non-clients. The PCA method can be used by MFIS to show that they have properly targeted poor clients and to report on the depth of their outreach. The PCA method also paves the way for the measurement of poverty changes over time for individuals or households.

Inherent in evaluating social programs such as microfinance is to measure its end result and impact. Impact of microfinance on clients is an important indicator in the measurement of social performance. Therefore, the third purpose of the study is to contribute to the empirical literature on the impact of group lending on clients. Different tests and models were applied on the panel data. Thus far, little attention has been given to the time-varying effects of microfinance. The research contributes to filling this research gap by considering 1-year and 2-year intervals between panel rounds to compare group lending effects on new entrants

and long-term clients. Also, many impact studies faced incomplete sample bias. This research tackles this issue by including client dropouts in the sample.

By applying the PCA weights of the base years (2006 and 2007 cross-sectional data) to panel data collected in 2008, the study was able to identify households that moved in and out of poverty. With two time-variant poverty indexes per household, a transition matrix identified those households that are transiently poor and chronically poor. Contrary to other studies that apply PCA over pooled data, the study shows the advantage of using different set of weights on different time periods of the unpooled data. Using different set of weights accounts for the changes in poverty characteristics and the different time intervals of the panel data. The study shows that household's movement to a wealthier group has been significant among AMK clients, notably among the chronically poor. The statistical analysis on the changes in the mean of the clothing and footwear expenditure of households shows considerable increase in AMK clients compared to non-clients among the chronically poor. Among the transiently poor, clients have significantly accumulated savings while no significant change could be found among non-clients.

As there is weak empirical evidence on the impact of microfinance on clients, the other component of the panel data analysis was to understand the determinants of credit participation using probit regression; analyze the factors that affect the likelihood of the client household becoming chronically poor, transiently poor (worsen and improved, separately), and never poor using multinomial logistic model; and test the impact of microfinance on food consumption in rural Cambodia with different statistical models. The findings suggest that households which are more economically stable and have the ability to build assets have less demand for small loans. Households with liquid assets are less likely to borrow. Because the panel data includes new entrants and long-term clients collected at 1- and 2-year intervals, it shed light on the importance of long term participation in group lending. An important finding of the fixed effect model with interaction variables and the conditional change score model is that access to group loans has a negative impact on food consumption of new clients but a positive impact on long-term clients. The negative impact on new clients may be temporary. This finding is supported by results of a multinomial logistic regression which shows that for a long-term client the odds of belonging to the ascended transient poor group rather than the descended transient poor group are 6 percent.

The fourth purpose of the study is to review the different social performance measurement tools in existence today, draw lessons and select common criteria

for selecting a social performance measurement tool. In general, the weaknesses on the social performance initiatives lie on its comparability of results and missing analysis on some social issues. A practical measurement method should have quantifiable indicators to minimize subjectivity and establish credibility. The challenge is to quantify indicators or assign values to qualitative information. One of the starkest contrasts between the social performance tools is the design and requirements in terms of technical knowledge, time and cost. Rigorous tools will be rejected by MFIs if they see it as a financial burden and too time consuming. Practicality is important in standardizing social performance measurement tools if it hopes to gain industry-wide acceptance.

ZUSAMMENFASSUNG

Inspiriert durch innovative Bemühungen von Pionieren der Nicht-Regierungsorganisationen, insbesondere der Grameen Bank, hat die Förderung von Finanzdienstleistungen für die Armen seit den 1980ern zugenommen, und wurde als wichtige Komponente der Entwicklungszusammenarbeit befürwortet. Man geht davon aus, dass diese als Mikrofinanzierung bekannten finanziellen Dienstleistungen auf haushalts- und makroökonomischer Ebene einen positiven Einfluss auf die Produktion, das Einkommen und den Konsum haben. Die provokative Idee, dass eine Armutsreduzierung profitabel für Mikrofinanzinstitute (MFIs) und Kreditgeber sein kann, hatte einen verlockenden Effekt auf den privaten Sektor und demzufolge vermehrten sich private Kapitalquellen. Das Paradigma von Mikrofinanzierung verlagerte sich hin zu MFIs, die vor allem auf Effektivität und finanzielle Realisierbarkeit Wert legten. Das Mikrofinanzierungsgewerbe hat bedeutende Fortschritte bei der Bemessung und Evaluierung von finanziellen Leistungen gemacht. In letzter Zeit verlagert sie ihren Schwerpunkt erneut von finanzieller Nachhaltigkeit hin zu sozialer Leistung. Ein verstärktes Interesse besteht darin, ein geeignetes Messinstrument zur Bewertung von sozialer Leistung zu entwickeln, das mit einem gemeinsamen Satz sozioökonomischer Schlüsselindikatoren auch die finanziellen Leistungen berücksichtigt. Unter anderem wird die Messung der sozialen Leistung die Institutionen bestärken, ihrer sozialen Mission mehr Aufmerksamkeit zukommen zu lassen, vor allem weil eine steigende Zahl der Mikrofinanz-Programme eine Privatisierung ansteuern. Dies erlaubt den MFIs ihre soziale Leistung, ihre Transparenz und ihre Glaubhaftigkeit zu zeigen, was dazu führen kann, dass Geldgeber und Investoren ihre Mittel eher sozial orientierten MFIs zukommen lassen.

Die empirischen Daten wurden in Kamboscha erhoben, während die Autorin dort mit der Forschungsabteilung der AMK[1] zusammen arbeitete. Es wurde ein quantitativer Panel-Datensatz erstellt, der aus jährlichen Daten von 2006 bis 2008 besteht. Diese decken Kunden der AMK und Nicht-Kunden aus 55 ländlichen Dörfern in neun Provinzen Kambodschas ab. Zusätzlich wurden von 2007 bis 2009 qualitative Daten erhoben.

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[1] Angkor Mikroheranhvatho (Kampuchea) Co. Ltd. ist eine lizensierte MFI in Kambodscha die sich darauf beruft, einer großen Anzahl armer Menschen im ländlichen Kambodscha zu helfen um ihre Möglichkeiten der Existenzsicherung zu erhöhen.

Das erste Ziel dieser Studie ist es, die wichtigen theoretischen Konzepte sozialer Leistungen zu bewerten, zusammenzuführen und im Hinblick darauf aktuell andauernde Initiativen zu sozialer Leistung im Mikrofinanzbereich zu prüfen. Das Konzept der sozialen Leistung entleiht verschiedene Elemente aus etablierten Konzepten die aus Wirtschaft, Ethik und Gesellschaft bekannt sind. Die Studie zeigt, dass die soziale Leistungsmessung drei dominierende Modellstrukturen in einem Thema vereint - das Corporate Social Performance-Modell, die Stakeholder-Theorie und die Accountability-Theorie. Aus der Literaturübersicht einiger gut bekannter Initiativen zu sozialer Leistung im Mikrofinanzbereich kommt die Studie zu dem Schluss, dass es notwendig ist, sowohl prozessorientierte als auch ergebnisorientierte Ansätze bei der Messung von sozialer Leistung zu integrieren. Der prozessorientierte Ansatz betrachtet, wie ein MFI seine sozialen Ziele identifiziert, integriert und verwaltet. Zusätzlich misst der ergebnisorientierte Ansatz die Zufriedenheit der Stakeholder (Klienten, Personal, etc.), die Reichweite und die Auswirkungen der MFI-Politik und der Finanzdienstleistungen. Die Studie zeigt, dass bei dem ergebnisorientierten Ansatz ein Stakeholder, der Kunde, überbewertet wird und des Weiteren in der Reichweite der MFIs begrenzt wird.

Zweitens beschreibt und bewertet die Studie den praktischen Ansatz zur Messung sozialer Leistung einer (Beispiel-)Organisation mit empirischen Analysen. AMK bot ein Beispiel, wie ein MFI den prozess- und den ergebnisorientierten Ansatz in seine Arbeitsabläufe integrieren kann. Während sich die meisten ergebnisorientierten Konzepte anderer MFIs auf die sozialen Leistungen für Kunden mit dem Schwerpunkt auf Reichweite konzentrieren, verfolgt AMK einen breiteren ergebnisorientierten Ansatz für ihre Stakeholder, indem sie auch ein System zur Messung der Kunden- und Mitarbeiterzufriedenheit entwickeln. AMKs Methoden zur Messung der sozialen Leistung beinhalten eine jährliche Umfrage zur Mitarbeiterzufriedenheit, ein Audit der Finanz-Verfahren und Abläufe, ein Audit der Klienten-Sicherheit, ein Klienten-Profil, die Reichweite, die Kundenzufriedenheit, eine Befragung der ehemaligen Klienten und eine Wettbewerbsanalyse. Die Reichweite AMKs wird mit Hilfe der Hauptkomponentenanalyse (PCA) von Querschnittsdaten (basierend auf CGAPs Poverty Assessment Tool) gemessen. Die PCA-Methode erstellt einen Armuts-Index für jeden Haushalt, und basierend auf einer terzilen Analyse der Armutsindizes der Kontrollgruppe (Nicht-Kunden) werden Armutsgruppen (arm, weniger arm und besser gestellt) ermittelt. Mit der gleichen Methode weisen die statistischen Ergebnisse der Studie darauf hin, dass im Vergleich zu Nicht-Kunden, mehr Kunden der AMK der Gruppe der Armen zufallen. Die PCA-

Methode kann von MFIs verwendet werden, um zu zeigen, dass diese richtig und zielgerichtet die armen Kunden erreichen. Die PCA-Methode ebnet auch den Weg für die Messung von Veränderungen der Armut für Einzelpersonen oder Haushalte über längere Zeiträume hinweg.

Inhärent bei der Bewertung sozialer Programme wie Mikrofinanzierung ist die Messung und Evaluierung des Endergebnisses und ihrer Auswirkung. Der Einfluss von Mikrokrediten auf Kunden ist ein wichtiger Indikator bei der Messung von sozialer Leistung. Daher ist das dritte Ziel der Studie, zur empirischen Literatur über die Auswirkungen von Gruppenkrediten an Kunden beizutragen. Verschiedene Tests und Modelle wurden auf die Panel-Daten angewandt. Bisher wurden die zeitabhängigen Effekte der Mikrofinanzierung nur wenig beachtet. Diese Forschung füllt diese Lücke, indem sie jährliche und zweijährige Intervalle zwischen Panel-Runden berücksichtigt, um Effekte von Gruppenkrediten auf Neukunden und Bestandskunden zu vergleichen. Auch standen viele Wirkungsanalyse-Studien einer Stichprobenverzerrung durch Unvollständigkeit gegenüber. Diese Forschungsarbeit greift dieses Thema auf, indem sie ausgestiegene Kunden mit in die Stichprobe einbezieht.

Durch die Anwendung von Korrekturwerten in der PCA der Basisjahre (Querschnittsdaten aus den Jahren 2006 und 2007) auf Panel-Daten die im Jahr 2008 gesammelt wurden, war es möglich, Haushalte genauer zu identifizieren, deren Einkommen sich an der Armutsgrenze entlang bewegten. Mit zwei zeitlich abweichenden Armutsindizes ermittelte eine Übergangsmatrix Haushalte, die vorübergehend in Armut leben und solche, die unter dauerhafter Armut leiden.

Im Gegensatz zu anderen Studien, die Hauptkomponentenanalysen auf zusammengefasste Daten anwenden, zeigt diese Studie die Vorteile einer Analyse, die verschiedene Korrekturwerte auf nicht zusammengefasste Daten in unterschiedlichen Zeiträumen anwendet.

Die Anwendung von verschiedenen Korrekturwerten erklärt dabei die Veränderungen bei Armutsmerkmalen und die unterschiedlichen Zeitabstände im Panel-Datensatz.

Die Studie zeigt unter den AMK Kunden eine signifikante Bewegung der Haushalte hin zu mehr Wohlstand; insbesondere bei dauerhaft armen Haushalten. Eine statistische Analyse auf Konsumveränderungen bei Kleidung und Schuhen in dauerhaft armen Haushalten zeigt für AMK Kunden einen deutlichen Zuwachs an Aufwendungen in diesem Bereich, im Gegensatz zu Nicht-Kunden. Bei den vorübergehend armen Haushalten verfügen die AMK Kunden über deutlich

höhere Ersparnisse, während bei Nicht-Kunden keine Veränderungen festgestellt werden konnten.

Da nur sehr dürftige empirische Belege über die Auswirkungen von Mikrofinanzierung existieren, war die zweite Komponente der Panel-Daten-Analyse darauf ausgelegt, die entscheidenden Faktoren, die Haushalte zur Teilnahme an einem Mikrokreditverfahren bewegen, nachvollziehen zu können. Hierfür wurde das Probit-Regressions-Modell angewendet.

Mit einem multinomialen Logit Modell wurden solche Faktoren analysiert, die die Wahrscheinlichkeit beeinflussen, mit welcher Haushalte dauerhaft arm, vorübergehend arm (Verschlechterungen und Verbesserungen wurden getrennt betrachtet) oder niemals arm werden. Außerdem wurde mit verschiedenen statistischen Modellen untersucht, welchen Einfluss Mikrofinanzierung auf den Lebensmittelkonsum im ländlichen Kambodscha hat.

Die Ergebnisse suggerieren, dass Haushalte, die wirtschaftlich stabil sind und Vermögen aufbauen können, weniger Kleinkredite nachfragen. Liquide Haushalte werden mit geringerer Wahrscheinlichkeit Geld leihen. Da das in ein- und zweijährigen Abständen gesammelte Panel-Design Neukunden und Bestandskunden einschließt, gibt es Aufschluß über die Bedeutung von Langzeitpartizipation in Mikrokredit-Gruppen. Eine wichtige Erkenntnis aus dem Fixed-Effect-Modell mit Interaktionsvariablen und dem Conditionl Change Score Modell ist, dass Zugang zu Gruppenkrediten bei Neukunden negative Auswirkungen auf deren Lebensmittelkonsumverhalten hat, während diese bei Bestandskunden positiv zu bewerten sind. Der Negativeffekt bei Neukunden könnte allerdings auch zeitlich begrenzt sein. Diese Erkenntnis wird untermauert von Ergebnissen einer multinomialen Logit Regression, die zeigt, dass Bestandskunden, deren Haushalte als vorübergehend in Armut lebend eingestuft sind, eine Chance von 6% haben, langfristig eher zu einer besser gestellten armen Gruppierung zu gehören als zu einer schlechter gestellten.

Ein weiteres Ziel dieser Forschungsarbeit ist es, einen Überblick über die verschiedenen vorhandenen Messwerkzeuge zur Bewertung von sozialer Leistung zu schaffen, daraus Schlußfolgerungen zu ziehen und gemeinsame Kriterien zu selektieren, um ein einzelnes geeignetes Messwerkzeug zur Bewertung von sozialer Leistung auszuwählen. Grundsätzlich liegen die Schwächen von Initiativen zu sozialer Leistung bei der Vergleichbarkeit ihrer Ergebnisse mit anderen Studien und einer fehlenden Analyse von einigen sozialen Themenbereichen. Eine praktikable Messmethode sollte quantifizierbare

Indikatoren beinhalten, um Subjektivität zu minimieren und Glaubwürdigkeit zu schaffen.

Die Herausforderung besteht darin, Indikatoren zu quantifizieren, oder qualitative Informationen zu bewerten. Einer der eklatantesten Kontraste zwischen den einzelnen Werkzeugen für die Bewertung sozialer Leistungen liegt in deren Aufbau und deren Erwartungen hinsichtlich technischen Wissens, Zeit und Kosten. Sehr genau arbeitende Messwerkzeuge werden von Mikrofinanzinstituten abgelehnt werden, wenn sie diese als finanzielle Belastung oder als Zeitverschwendung ansehen. Bei der Standardisierung von Werkzeugen zur Erfassung von sozialen Leistungen ist Praktikabilität ein wichtiger Punkt, wenn branchenweite Akzeptanz dafür gewünscht wird.

-translated by Tim Loos and Katharina Mayer

1   INTRODUCTION

Access to credit is believed to have positive outcomes on production, income, and consumption at household and macro-economic levels. It is generally agreed that poor households in developing countries lack adequate access to formal credit, especially in rural areas. DIAGNE & ZELLER (2001) have pointed out that lack of adequate access to credit have significant negative effect on technology adoption, agricultural productivity, food security, nutrition, health, and overall welfare. Among others, the lack of collateral of the poor, their demand for smaller loans, and high transaction cost associated with small loans are the main factors that the poor are excluded from formal credit services.

Inspired by the innovative efforts of pioneers in non-governmental organizations (NGOs), notably the Grameen Bank, financial services delivery to the poor has grown since the 1980's and has been advocated as an important component of development interventions. These financial services, also known as microfinance, do not include credit alone but now also savings, insurance, and money transfer services. There is evidence that microfinance can have a positive impact on the economic and social situation of poor clients, as well as wider social and economic impacts including social relationships and labor market effects (MORDUCH & HALEY, 2002).

1.1   Microfinance and poverty

Microfinance has been widely promoted as an important tool for poverty alleviation and rural development (e.g. HEIDHUES, 1995; JOHNSON & ROGALY, 1997; ZELLER ET AL., 1997; GULLI, 1998). It is driven by the concept that providing financial services to the poor could efficiently and effectively contribute to income generation, provide asset investment strategies to smooth disposable income over time, and consumption stabilization (ZELLER ET AL., 1997). Through these three pathways (see Figure 1.1), microfinance is said to positively affect its clients in terms of food security (e.g. SHARMA & BUCHENRIEDER, 2002), productivity (e.g. DIAGNE, 2002), education (e.g. KHANDKER, 1998), health (e.g. PITT ET AL., 2003), technology adaption (e.g. GINE & YANG, 2009), empowerment (e.g. KIM ET AL., 2007) and intra-household relations (e.g. SCHULER & HASHEMI, 1994). Wider impacts (see CHOWDHURY ET AL., 2004) attributed to microfinance are in labor markets (e.g. MOSLEY & ROCK, 2004), financial markets (JOHNSON, 2004), post-war reconstructions (e.g. MATUL & TSILIKOUNAS, 2004), community governance (e.g. MOSLEY ET AL., 2004) and macro-economic impacts (e.g. VELASCO & MARCONI, 2004).
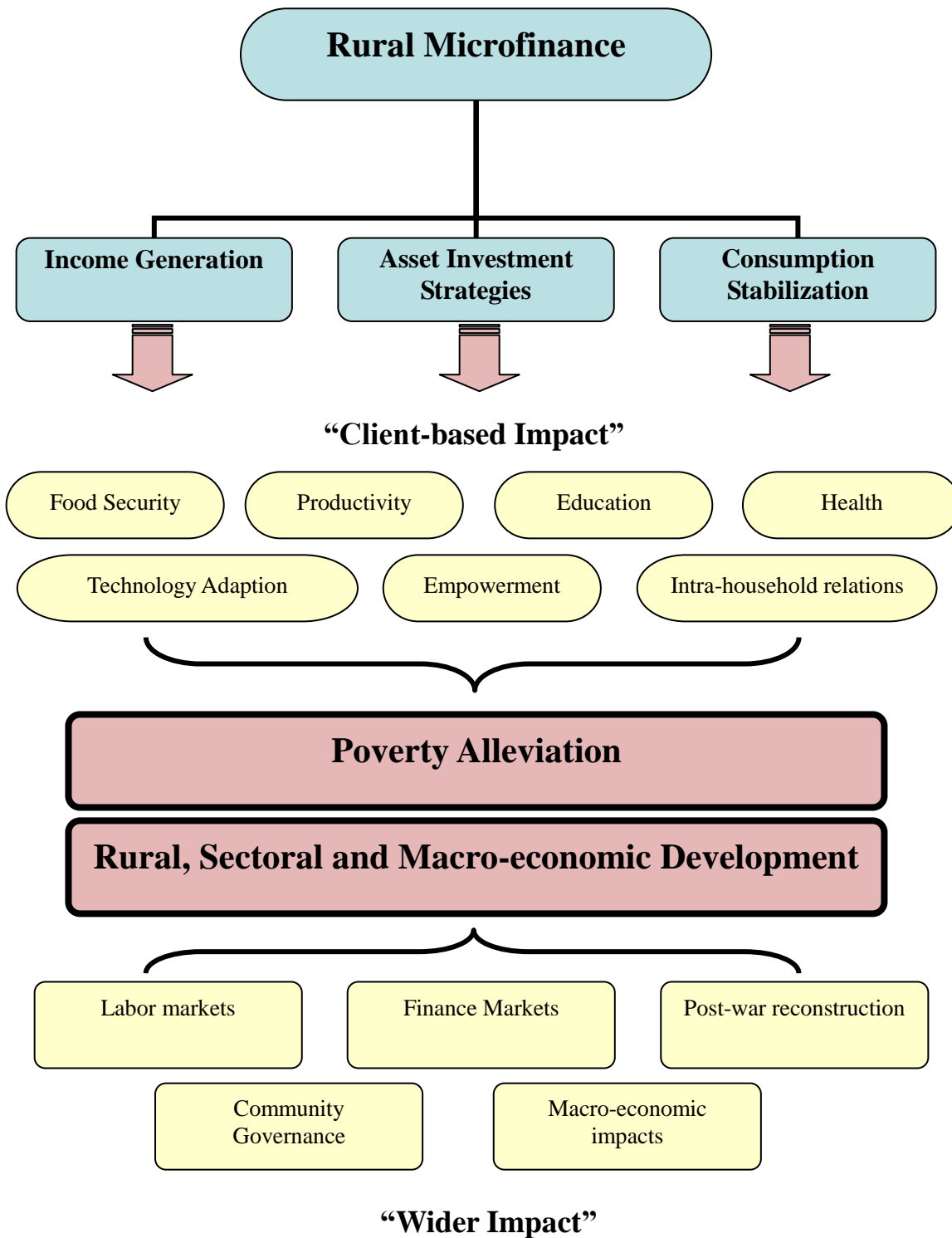
Figure 1.1   Pathways and Impacts of Rural Microfinance
Source: Own depiction based on ZELLER ET AL. (1997); CHOWDHURY ET AL. (2004)

Lending to groups became a cost-effective way of delivering and collecting loans to poor households without collateral. Microfinance institutions (MFIs) that were able to maintain high repayment rates, reduce transaction cost, and charge market rates of interest were able to cover their cost of operation (REED, 2006) and became profitable. The provocative idea that alleviating poverty can be profitable to MFIs and donors had an enticing effect on the private sector. Private capital sources significantly increased in recent years (CGAP, 2010). The paradigm of microfinance shifted into MFIs emphasizing on cost effectiveness and financial viability in their operations. Trends toward commercialization of MFIs have likewise put emphasis on financial performance. As funding into microfinance precipitated, the sector rapidly expanded and developed into a global industry devoted to commercial principles of operation (WOLLER, 2006).

1.2   Social performance of microfinance institutions

The microfinance industry has made considerable progress in financial performance measurement and evaluation. Financial measurement across the industry has a common set of standard indicators and a consensus about terms and definitions used in reporting. GULLI (1998) stated that there has been divided opinion as to whether financial sustainability or poverty reduction should be the main objective for MFIs.

Of late, the microfinance industry is shifting from its emphasis on financial sustainability to a renewed concern on social performance and the 'double bottom line'. The double bottom line concept suggests that a MFI should aim at becoming both a sustainable commercial institution and a driving force for social development (TULCHIN, 2003; COPESTAKE ET AL., 2005). MFIs have recently come under pressure to provide proof to stakeholders, most especially from donors, governments and shareholders, that microfinance services are in fact a sustainable way to assist the poor in their economic development. The heightened interest in developing a social performance measurement tool with a common set of key social indicators to go hand in hand with the financial performance indicators is manifested in the growing number of initiatives to measure social performance.

Social performance is generally defined by the Social Performance Task Force as "the effective translation of an institution's social mission into practice in line with accepted social values that relate to serving larger numbers of poor and excluded people; improving the quality and appropriateness of financial services; creating benefits for clients; and improving social responsibility of an MFI" (SOCIAL PERFORMANCE WORKING GROUP, 2006:18). Social performance

initiatives were conceived with an aim at making microfinance more effective in achieving its social mission. So far, social performance integration into MFI principles and operation has been variable. Some believe that microfinance is a development tool hence social performance is systematically and routinely investigated, mostly through outreach (including depth of outreach) and impact assessments. Outreach refers to the number of poor reached who were previously considered as unbankable by formal institutions while the depth of outreach refers to the level of poverty and exclusion by MFIs. Client-based impact assessments reflect the benefits the poor achieved through the MFI services (ZELLER & MEYER, 2002) while wider impact assessments reflect the benefits to the society. There are also those who believe that the process approach is more comprehensive in evaluating social performance and most useful to MFIs. The process approach looks into the operation and activities of an MFI that lead to social impact.

Among others, measurement of social performance may: (1) help MFIs assess whether their products are adapted to clients' needs and whether the institution is contributing to improve the social situation of its clients; (2) encourage organizations to be more mindful of accomplishing their stated social mission and objectives especially now that more and more MFIs are transforming into banks; (3) allow MFIs to demonstrate social performance and transparency leading to donors and investors reallocation of funds towards socially-oriented MFIs; and (4) assist donors and investors of microfinance in making decisions about which institutions still need subsidies. Programs promoting rural and agricultural development with excellent social outcomes but moderate financial return will continue to receive support as they become sustainable at a gradual rate.

1.3   Objectives of the study and research questions

The research works on the premise that it is necessary to assess the performance of MFIs in both social as well as financial terms. The research examines the possibility of developing a new practical measurement system based on analysis of existing approaches on measurement of social performance. It attempts to identify general values or indicators for measurement that apply to MFIs that will enable direct comparison across different organizations and contexts. The research presents empirical evidence with the case example of AMK Co. Ltd.[1] in Cambodia.

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[1] AMK or Angkor Mikroheranhvatho (Kampuchea) Co. Ltd. is a licensed MFI in Cambodia with a mission to help large numbers of poor people in rural Cambodia increase their livelihood options.

The study has the following main objectives and research questions:

1. To review the theoretical frameworks on social responsibility

    a) What are the theoretical frameworks used in social performance?

    b) How can a microfinance institution incorporate social performance concepts in their operational processes?

    c) How can poverty outreach be measured as a component of social performance?

2. To describe and review a practitioners approach in social performance measurement with empirical analysis

    a) What indicators are considered in poverty measurement?

    b) How can practitioners measure poverty dynamics using social and asset indicators?

    c) Is there change in poverty level and assets over time?

    d) Is there difference in impact between the chronically poor and the transiently poor?

3. To analyze the impact of group lending in household food consumption

    a) What are the determinants of credit participation in rural Cambodia?

    b) What are the factors of food poverty dynamics?

    c) Can credit participation improve food consumption of a household?

    d) Is there a difference in impact between new clients and long-term clients?

4. To review the different social performance measurement tools in existence today, draw lessons and select common criteria for selecting a social performance measurement tool

    a) What are the strength and weaknesses of current social performance initiatives in the microfinance industry?

    b) What are the commonalities and differences between them?

    c) What can be used as a standard framework for social performance that is applicable across the industry?

1.4   Outline of the dissertation

The dissertation is a cumulative thesis with four major analytical parts. It is structured into 8 chapters. Chapter 1 is the introduction which gives the rationale and objectives of the study. Chapter 2 provides an overview of Cambodia, its socio-economic conditions, and its microfinance sector to introduce the operational environment of AMK. The work of AMK in rural Cambodia, the products and services they offer and the current status of their social performance initiative are then discussed. Chapter 3 describes the research design and sampling framework of the study used in the analytical sections of chapters 4, 5 and 6.

Chapters 4 to 7 address the main objectives of the study and the research questions. Figure 1.2 provides an overview of the structure and linkages between the four chapters and are outlined below. These chapters contain papers submitted to different journals.

Chapter 4 discusses the theories behind the social performance initiatives in the microfinance sector and shows how an MFI can incorporate social performance in management and reporting. The chapter is divided into four sections. The first section provides an introduction to the chapter and the objectives of the study. The second section identifies and reviews major theories concerning social responsibilities and synthesis the theories for their usefulness for measuring social performance of MFIs. Existing initiatives in social performance in the microfinance industry is presented. The third section outlines the tools of social performance on AMK and empirical evidence is presented using the experience of AMK and the household survey conducted in 2006. Conclusions are drawn in the last section.

Chapter 5 presents poverty dynamics in the measurement of social performance in MFIs using simple tools on panel data. This chapter has six sections. An introduction and the scope of the chapter are presented in the first section. The second section describes the credit program analyzed in the study. The method used to collect the data and the use of principal component analysis in described in the third section. The panel data collected in 2006, 2007 and 2008 are described in the fourth section. The fifth section presents the results of the analysis on the dynamics of poverty status of clients of AMK, compared to non-clients living in the same locations. Poverty indices based on principal component analysis, expenditures, and asset-based indicators were used to track poverty changes over time. Some notes on the suggested tool are also presented. The sixth section provides the conclusions of the study.

Chapter 6 presents methods using panel data to measure consumption dynamics of microfinance clients. The structure of the chapter is as follows. First, we give an introduction to the chapter and the contributions of the study. An overview of panel studies on the impact of microfinance services in presented in the next section. We then provide the methodological framework of our studies, including sampling procedure in the third section, and the characteristics of the panel data in the fourth section. The fifth section is a presentation of the empirical studies on participation, food poverty dynamics and the impact of microfinance activities. Finally, the conclusions are presented.

Chapter 7 reviews the social performance initiatives in microfinance and presents some standards of assessment and reporting. An introduction to social performance and the objectives of the chapter are presented in the first section. The second section presents a brief review of key concepts in SP based on the driving forces of current initiatives and why they were developed in the institutional and organizational levels. The third section reviews some of the better known SP initiatives on the two levels discussed in the second section and towards a global level. The current initiatives according to the nature of the organization, functionality of the tools, and its suitability to stakeholder needs are discussed. The fourth section explores the possibility of creating a standard framework for social performance tools. Some quantitative indicators are suggested for the process and outcome approaches. In last section, conclusions are made.

Chapter 8 provides a summary of the analytical findings, conclusions and implications. It then provides suggestions for future research.
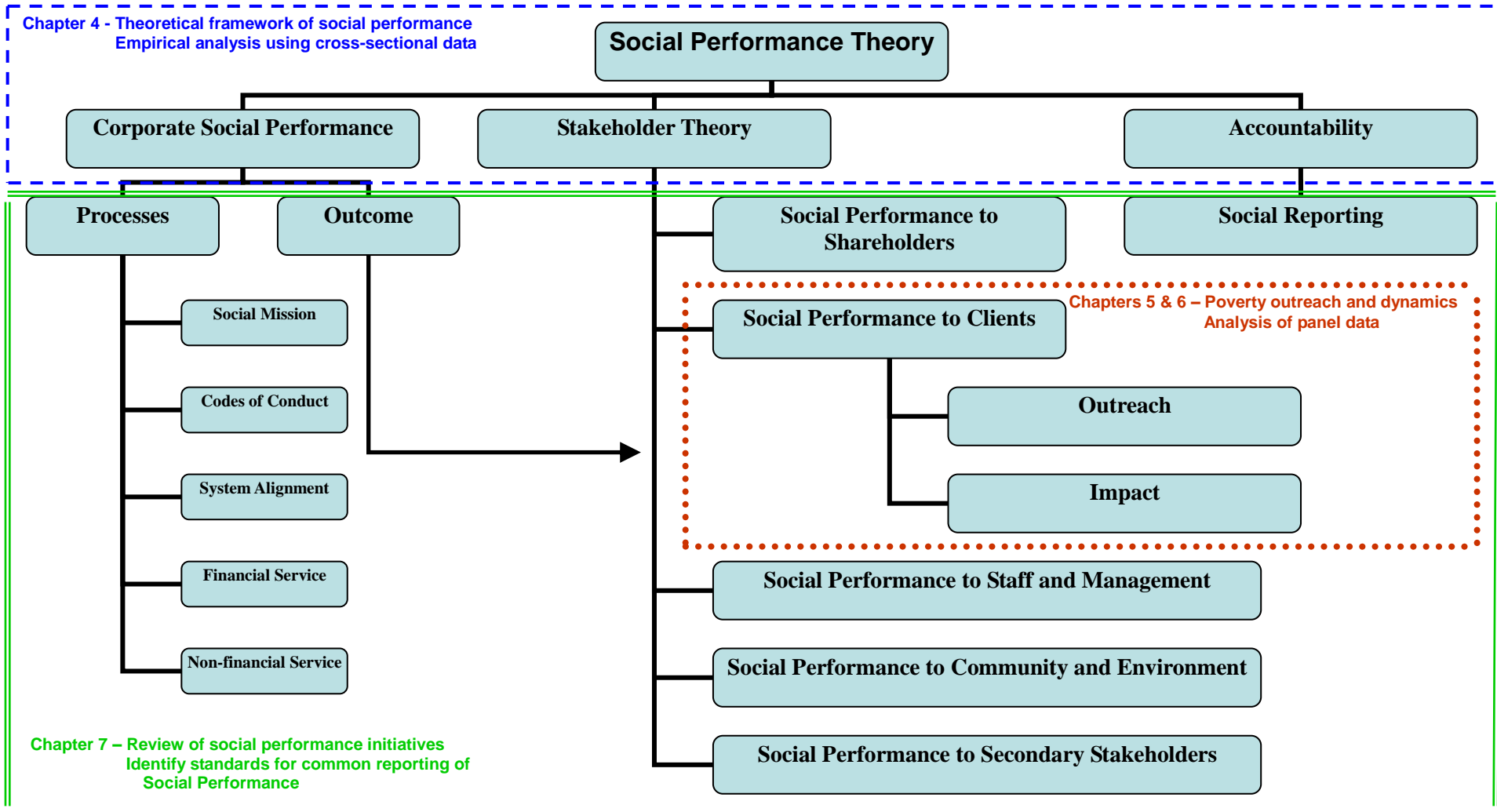
Figure 1.2   Structure of Dissertation

2   AMK IN CAMBODIA

This chapter provides an overview of Angkor Mikroheranhvatho Kampuchea (AMK), from their work in rural Cambodia to the current status of their social performance initiative. Initially, the operational environment of AMK is explained by giving an overview of the country and its microfinance sector.

2.1   Cambodia – Country background

The Kingdom of Cambodia is a post-conflict country and is one of the poorest countries in the world. It has gone through war and foreign occupation in the last decades, from the atrocities of the Khmer regime (1975 to 1979) to the invasion by the communist party of Vietnam from 1979 to 1989. These had left the country in a devastating condition in terms of social, human and economic resources. The long period of destructive conflict and instability has led to damaged infrastructure, low agricultural productivity, widespread poverty, low level of human capital, and inadequate access to resources and social services.

Since the establishment of a constitutional monarchy in 1993, Cambodia has put great efforts into re-establishing the foundations for economic growth and development. The efforts of the government, in adopting a broad platform of structural reforms to support the transition to market-driven economic development, have regained the support of the international aid community. It has enjoyed sustained economic growth since 1993 coupled with poverty reduction by an estimate of 10 to 15 percent (FITZGERALD ET AL., 2007) putting poverty headcount at 35 percent in 2004 (WORLD BANK, 2006). However, rural poverty remains significant with over 90 percent of the Cambodian poor living in the rural areas (ADB, 2011). There is clear disparity between the urban population and the rural population. The urban per capita consumption expenditure is nearly twice the rural level. The poorest are located in remote areas that are characterized by poor infrastructure such as roads, markets, irrigation, school and health care facilities as well as energy, water and sanitation services. Only 3.5 percent have access to sanitation facilities and just 2 percent to piped water (WORLD BANK, 2006). The poor generally tend to have less access to productive resources. Poorer villages tend to be located where there is less access to or lower quality of natural resources. Over 80 percent of the rural poor earn their livelihood from rain-fed agriculture, communal property resources (such as wood collection and or fisheries), and livestock production (ADB, 2011). The agricultural sector had experienced negative growth in recent years due to severe flooding in 2000 and a drought period in 2004 (ADB, 2011). There is a lack of access to land and weak land tenure security for poor households in the rural area.

Dependency ratios of children and elderly to income earners in a household are related to poverty. In households with more than five members (the national average household size is 5.2 persons) poverty incidence tends to increase significantly (ROGALL, 2010). The poor often lack human capital such as education and skills and the probability of being poor is significantly related to the households-head number of years spent in school. Health risks are the highest among the poor households enhanced by insufficient and costly health care services.

Table 2.1 shows the rural food poverty line of Cambodia adjusted with the Consumer Price Indexes. These figures are used in the analysis in Chapters 4, 5, and 6.

The lack of access to reliable financial services, especially in agriculture, has been identified as one of the major constraints to the reduction of rural poverty in Cambodia (FAO, 1999; MCKENNY & TOLA, 2002 as cited by TORRES, 2009). Demand for rural credit far exceeds supply from formal financial sources.

Table 2.1 Proxy Food Poverty Line for Rural Areas in Cambodia

	Consumer Price Index	Rural Food Poverty Line In Cambodian Riels (KHR)	Rural Food Poverty Line In US dollars (USD)
Base Dec 2004	109.54	1,389	0.34
May 2006	122.22	1,550	0.38
May 2007	129.05	1,636	0.40
April 2008	182.61	2,316	0.57

Sources: NIS, 2004; NIS, 2006; NIS, 2007; NIS, 2008.

2.2   Supply of finance in rural Cambodia

Within the Cambodian context, formal finance providers are those institutions subject to the general laws and specific banking regulations and supervision under the National Bank of Cambodia (NBC), which is the central bank of the country. Implementing decrees were issued in 2000 and 2002 by the NBC to further commercialize and integrate the microfinance sector into the financial system (AMK, 2009). NBC recognizes three categories of banking institutions: commercial banks; specialized banks which carry out a limited number of banking activities; and licensed/registered MFIs. The regulations for these institutions are similar but with different capital requirements and reporting regulations. In terms of Cambodia's regulatory framework, the country received

good reviews by the ECONOMIST INTELLIGENCE UNIT (2009) due to the microfinance-friendly government, although prudential regulations for MFIs are still tight with restrictive expansion options beyond microcredit. As a consequence institutional development of the MFI market is still lagging with a limited product range on offer while the investment climate is moderate with poor accounting standards, but strong transparency in the industry (ROGALL, 2010).

MFIs in Cambodia started in the early 1990s when many NGO-led credit and development activities transformed into sustainable financial institutions. To enhance confidence in the sector, the government created a legal framework of licensing, regulation and supervision for MFIs. According to the Cambodian Microfinance Association (CMA), there are 27 licensed MFIs plus one commercial bank offering micro services at present. To become a licensed MFI a minimum registered capital of USD 62,500 is required. Many MFIs rely on external donors or investors for capital funds. To date, AMK has the largest client base among the licensed MFIs in Cambodia. ACLEDA Bank (Association of Local Economic Development Agencies Bank) is the only commercial bank in Cambodia that has strong emphasizes in providing microfinance services. It originated as an NGO operating in microfinance and transformed into a specialized bank and eventually into a commercial bank. Most commercial banks are concentrated in the capital, Phnom Penh, and in other urban areas. Only ACELDA Bank has a large presence in the rural areas.

The Cambodian microfinance sector is mainly determined by microcredit and mostly excludes insurance and voluntary deposits. GREEN (2009) estimated that only 1 to 2 percent of the Cambodian population has the required disposable income to afford insurance schemes. ACLEDA Bank holds most voluntary savings (mostly from urban savers), while other MFIs hold only small amounts of compulsory savings as part of the loan conditions (ROGALL, 2010). Apart from the high costs of providing deposit services, many Cambodians still prefer to store their savings in cash or by other informal means (CGAP, 2009).

Rural clients are highly underserved by commercial and specialized banks in Cambodia. The main providers of formal microfinance services in rural areas are the MFIs and the rural services of ACLEDA Bank (TORRES, 2009) using known methodologies such as solidarity groups, village banking, individual loans, credit lines, emergency loans, mobile banking and branch office services. Informal sources of credit play a major role in filling the gap. Those in rural areas depend on informal sources for productive investment, consumption smoothing, and emergency needs. Relatives and close friends usually charge no interest, but

moneylenders and middlemen charge high interest at around or above 10 percent per month (TORRES, 2009). Despite high interest rates, informal services are still demanded for a variety of reasons, including ease of the application procedure, flexibility in repayments, personal relationships, and a lack of alternatives to access formal loans (UNICONSULT INTERNATIONAL LTD., 1999 as cited by ROGALL, 2010).

To achieve the country's potential in alleviating poverty, the INTERNATIONAL FINANCE COOPERATION (2009) is recommending to MFIs to reduce their operating costs, increase and diversify services (micro-insurance, savings, leasing, remittances), increase local capital sources, and maintain commercial sustainability.

2.3   Angkor Mikroheranhvatho Kampuchea (AMK)

AMK is a licensed MFI in Cambodia which originated from the savings and credit activities of Concern Worldwide. Concern Worldwide is an international humanitarian organization which provides emergency and long-term development programs in many of the world's poorest countries. The transformation of its savings and credit activities into a licensed MFI started in 2002 when the new Cambodian microfinance regulation stipulated the creation of a separate company and obtaining an MFI license once the outstanding loan portfolio exceeds Cambodian Khmer Riels (KHR) 1,000 million (approximately United States Dollars (USD) 250,000). By 2004, AMK obtained its license as an MFI from the NBC and upgraded its systems and policies in line with the needs of a financial institution.

AMK diversified its financial products and services and expanded its geographical coverage from three provinces to all 24 provinces and major cities of Cambodia with growing coverage of 8,032 villages. It currently serves more than 250,000 clients with a loan portfolio of over USD 31 million. As of May 2011, AMK has four savings products and eight credit products. The savings products are the General Savings Account with 3 percent annual interest on KHR (1.5 percent on USD and Thai Baht), Easy Account with 5 percent annual interest on KHR (3 percent on USD and Thai Baht), Fixed Deposit Account with 5.5 percent to 11 percent depending on the number of months of deposit, and Future Account with 6 percent to 9 percent from 3 to 60 months. Table 2.2 summarizes the credit products of AMK.

Table 2.2 Summary of AMK Credit Products as of May 2011

Credit Product	End of Term – Village Bank	Installment – Village Bank	Credit Line – Village Bank	Standard Individual Loan	Business Expansion Loan	Seasonal Loan	Urban Loan	Emergency Loan
Clientele	Group members with seasonal (lumpy) cash flow	Group members with regular cash flow	Group members who have completed one cycle	Individual clients with regular cash flow	Expanding small businesses or new enterprise	Individual members with regular cash flow from agriculture and livestock	Low income city dwellers (6 months residency)	Individual or group who have completed at least 6 months
Loan Guarantee	Social guarantee – No physical collateral/guarantors			Physical collateral and two guarantors			0-1 guarantor **	1 guarantor
Max. Loan Amount	USD 150 – 250*	USD 250	USD 200-250*	USD 500	USD 501-1,000	USD 1,500	USD 250	USD 100
Currency	Khmer Riel and Thai Baht			Khmer Riel, Thai Baht, and USD			Khmer Riel and USD	Khmer Riel and Thai Baht
Disbursement	1 to 2 weeks					3 days	1 to 2 weeks	4 days
Maximum Term	12 months		24 months	18 months		8 months	12 months	10 months
Repayment Amount and Frequency	3% monthly interest. Principal payment at end of term.	Monthly fixed principal payment and 2.8% declining interest.	3% monthly interest. Principal payment at end of term.	Monthly fixed principal payment and 3% declining interest.	Monthly fixed principal payment and 2.4%-2.8% declining interest	2.7%-3% monthly interest. Principal payment at end of term.	Monthly fixed principal payment and 2.6%-3% declining interest	2.5% monthly interest. Principal payment at end of term.
Prepayment Penalties	None							
Late Payment Fee	1% per month on principal							
Other Fees	0.5% up-front fee							None

* depending on loan cycles; **depending on loan amount
Source: AMK

As one of the leading MFIs in Cambodia, AMK is committed to developing itself as an MFI that strategically balances financial and social performance in line with its social mission and the expectations of its shareholders. AMK's social goal is to provide poor people with a range of tailored microfinance services so that they can diversify their livelihood options. In 2009, AMK ranked 16th in the world (ranked 1st in Cambodia for three years in a row) in the MIX (Microfinance Exchange) Global 100 Composite Rating based on outreach, efficiency, and transparency. It has been among the top 20 MFIs in the world for three years in a row.

2.4   Social performance tools of AMK

AMK's social performance is strong from its inception and has been maintained throughout its rapid growth. In adhering to the double bottom line concept, AMK created a Social Performance Committee that reports directly to the board to go hand in hand with the Financial Audit Committee. While the company operates in a financial climate and aims to be economically viable, the board members and its social performance committee ensures that the institution does not forget its social mission while in pursuit of their financial goals. AMK is an outstanding example of an MFI successfully integrating social performance into its management. The initial focus of AMK's social performance was on client outreach. As AMK expanded, its model changed along with its dynamic organization. More social performance measurements were added by integrating key features of social performance into its different departments (see Table 2.3 for a list of these tools). Chapter 4 discusses these social performance measurements.

Table 2.3 Summary of AMK's Social Performance Measurement Tools

AMK Department	Tools	Users of output
Human Resource	Annual staff satisfaction survey	Management Board
Internal Audit	Financial procedures and operations audit Client protection audit	Management Board Shareholders
Research	Client profile Outreach and impact (Wellbeing) Client Satisfaction Exit client survey Quarterly competition analysis	Shareholder Board Management External agents

Source: Own depiction

AMK measured its poverty outreach based on a Wellbeing/Poverty Score using a modified CGAP poverty assessment tool (PAT) (HENRY ET AL., 2003). AMK is also committed to a periodic research on poverty impact. The research department has panel data with 1-year and 2-year intervals. In 2010, AMK launched the Progress out of Poverty Index (PPI) tool to replace their outreach measurement.

Imp-Act has identified the strengths of AMK's holistic approach to social performance (IMP-ACT, 2011). Its strengths are according to: it's Board Social Performance Committee; the Social Reporting Framework summarizing social performance information; the concern for client protection, incorporated into its internal research function; the very strong internal research function, whose benefits largely outweighs its cost; and maintaining a strong social performance culture within a high growth strategy.

In addition to its in-house social performance initiative, AMK receives social rating from Micro-Credit Ratings International Ltd (M-CRIL). Reviewed by an independent external committee, M-CRIL conferred AMK with an overall grade of **α** (very good systems and adherence to social mission and values) in the social rating (see M-CRIL, 2007).

3   RESEARCH DESIGN AND SAMPLING FRAMEWORK

The research was undertaken in three stages: First, existing literature was reviewed to examine the theory and concept of microfinance and social performance. The theoretical analysis for the research derives primarily from the field of economics, sociology, organizational science, public administration and management. Second, empirical data were collected while the researcher was working with the AMK Research Department from March 2007 to June 2009. Quantitative data were collected from 2006 to 2008 while qualitative data were collected from 2007 to 2009. Third, ongoing social performance measurement initiatives in the private, NGO and microfinance sectors were evaluated in terms of: categories applicable across the microfinance industry; a MFIs capacity; and stakeholders' requirements. The researcher had undergone training on some of the social performance tools.[2]

This chapter describes the research design and explains the sampling framework used in the cross-sectional and longitudinal research. Some of the indicators used in the empirical analysis are also explained at the end of this chapter.

3.1   Research design and empirical data

The empirical study is based on a cross-sectional and longitudinal survey collected from 2006 to 2008 in nine provinces of Cambodia where AMK operates (see Figure 3.1).   The total sample of households in the data was collected in 55 randomly selected villages. Data were collected by a research team and not by loan officers to ensure unbiased answers from the respondents. The surveys used a detailed questionnaire (see Appendix A) to elicit information on social, economic, and demographic household characteristics which were useful in understanding correlates of poverty. Client profiling, loan use and client satisfaction inquiries were embedded in the questionnaire to capitalize on the research.

3.2   Sampling framework

One set of client and non-client households was surveyed in 2006 and another set in 2007 for the baseline survey. These data were used in the cross-sectional analysis as discussed in Chapter 4. Both 2006 and 2007 sets were revisited in

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[2] I took part in the USAID IRIS Poverty Assessment Tool Training (Phnom Penh, 2007), the World Bank /Asian Development Bank (ADB) Microfinance Training of Trainers (Phnom Penh, 2007), and the Microfinance Centre (MFC) Quality Audit Tool Training (Warsaw, 2009). I would like to thank the IRIS Center, World Bank, ADB and MFC for the support.

2008 for the panel data. There were two points (round one and round two) at which data were collected from the same household. These data were used in Chapters 5 and 6. Table 3.1 presents an overview of the respondents as discussed below.

3.2.1 Round one - Baseline surveys in 2006 and 2007

For the baseline survey conducted in 2006, 450 households were randomly selected out of which 360 were AMK group clients (treatment group) and 90 were non-clients (control group) living in the same area as the clients. Fieldwork took place in five provinces where AMK operates: Banteay Meanchey, Battambang, Kampong Speu, Pursat and Siem Reap. Another set of households were visited in 2007 to increase the sample size of the panel data. 375 households were selected out of which 300 were AMK group clients and 75 were non-clients living in the same area as the clients. Sampling size was based on the growth of new AMK clients from 2006 to 2007. Fieldwork in 2007 then took place in nine randomly selected provinces where AMK operates: Banteay Meanchey, Battambang, Kampong Cham, Kampong Chhnang, Kampong Speu, Kampong Thom, Oddar Mean Chey, Pursat and Siem Reap.

For each baseline year, the survey employed a two-stage sampling method resulting in a self-weighting sample. The first stage of sampling used an equal-proportion method by which villages were randomly selected proportionate to the number of group clients in the provinces where AMK operates. A list of all clients in the selected villages was obtained from the Management Information Systems (MIS) department of AMK. 12 clients were selected from each of the chosen villages using a simple random sampling method on the village list. In each of the selected villages, three non-clients were randomly selected using a systematic random walk method. This method was implemented to avoid bias of spatial clustering in terms of economic status although a survey of the villages visited showed that there is no spatial clustering in terms of wealth in rural Cambodia (TORRES, 2009). The role of non-clients as control group was important in identifying the social indicators and determining the different poverty groups. Data from this baseline survey were used to identify the variables or indicators used in the poverty index.

3.2.2 Round two – Survey in 2008

Client and non-client households surveyed in 2006 and 2007 were revisited in 2008 for the second round of data. Table 3.1 shows the distribution of respondents according to their client status by year and province. Figure 3.1

shows the areas of study. To allow for comparison over time, households were interviewed at the same time of the year as they were visited in round one. Respondents were asked the same questions as in round one with the same length of recall period.

The households that were considered to be part of the panel data have one of the following features: (1) the household in 2006 was fully intact in 2008 with the same person heading the household; (2) the household in 2007 was fully intact when revisited in 2008 with the same person heading the household; (3) the household head was the same for the two points at which data were collected, but all of the members of the household had not stayed together; and (4) the household head had changed but the rest of the household was intact. Unlike many impact studies, our panel data include client dropouts (households which are no longer clients). Those who dropped out are mostly wealthier clients who found no further need of the small loans.

The sampling technique faced threats of selection bias. There are two scenarios of selection bias problem in this type of research. The first scenario of selection bias involves missing information on the dependent variable in the part of the respondents. This happens when a sample consist of only clients. Non-client information is therefore missing. The second scenario is when information on the dependent variable is available for all respondents but the distribution of respondents over the independent variables are taken in a selective way (WINSHIP & MARE, 1992). Inherent in group lending is the second scenario when groups self-select the members. Different techniques, tests and models were applied as discussed in Chapters 5 and 6 to mitigate the problem.

Figure 3.1   Provincial Map of Cambodia
Source: CANBY PUBLICATIONS CO. LTD., 2011

Table 3.1 Number of Household Respondents by Year and Province

Province	2006		2007		2008			
					2006 Set		2007 Set	
	Client	Non-client	Client	Non-client	Client	Non-client	Client	Non-client
Banteay Meanchey	120	30	24	6	52	56	7	20
Battambang	24	6	36	9	15	10	24	11
Kampong Speu	84	21	24	6	51	33	14	15
Pursat	84	21	24	6	35	43	13	11
Siem Reap	48	12	48	12	14	29	20	23
Kampong Cham			60	15			43	16
Kampong Chhnang			12	3			5	6
Kampon Thom			48	12			29	22
Oddar Mean Chey			24	6			7	17
Total	**360**	**90**	**300**	**75**	**167**	**171**	**162**	**141**

Source: AMK data

4 SOCIAL PERFORMANCE OF MICROFINANCE INSTITUTIONS: THEORY AND EMPIRICAL MEASUREMENT

Florence Milan and Manfred Zeller

Abstract

The concept of social performance measurement in microfinance institutions (MFIs) is in the early stages of development. So far social performance integration into MFI processes are driven by donors, stakeholders or interest groups and only a few institutions is voluntarily integrating social performance principles at the core of their operations. The first purpose of the paper is to review important theoretical frameworks on social performance measurement to provide the grounds for all MFIs to act responsibly and be accountable for the impacts they have on the society and environment in which they operate. The concept of social performance borrows elements from different established concepts that we can find in business, ethics and society literature. Second, we examine the ongoing social performance initiatives in the microfinance industry in view of the theoretical frameworks reviewed. The third purpose of the paper is to present a much cited example of the microfinance industry, the social performance of Angkor Mikroheranhvatho Kampuchea Co Ltd (AMK) in Cambodia. AMK has received several recognitions for their efforts in social performance. Based on their example, we seek to also draw on practical practices in measurement and reporting of social performance.

Keywords: microfinance, poverty measurement, social performance, social responsibility

4.1 Introduction

Microfinance is acclaimed and promoted by many as an important tool for poverty alleviation and development (e.g. HEIDHUES, 1995; JOHNSON & ROGALY, 1997; ZELLER ET AL., 1997; GULLI, 1998). Donors have allocated increasing amount of funds to microfinance on this basis and the sector rapidly expanded across nations as funding precipitated. Initially, the main focus of microfinance institutions (MFIs) was on outreach to the poor and excluded but eventually financial sustainability became as important (ZELLER & MEYER, 2002). The provocative idea that alleviating poverty can be profitable to MFIs and donors had an enticing effect on the private sector thereby increasing the private capital sources. Trends toward privatization and deregulation of microfinance programs have likewise put emphasis on financial performance. The sector evolved into a global industry devoted to commercial principles of operation (WOLLER, 2006) where financial measurement across the industry has a common set of standard indicators with a consensus on the terms and definitions to be used.

There is heightened industry-wide interest in developing a social performance measurement tool with a common set of key social indicators to go hand in hand with the financial performance indicators in the microfinance sector. A surge of professional and academic interest in social performance measurement including outreach and impact of microfinance is observable. The considerable interest in social performance is in response to the mounting pressure from donors that MFIs provide proof that microfinance services are sustainable ways to assist the poor in their economic development. Perhaps, this coincides with the resurgence of corporate social accounting in the mid-1990s. Social reporting initiatives by MFIs are growing and ongoing attempts to develop standard design of measurements are getting attention. For example, the Comité d'Echanges de Réflexion et d'Information sur les Systèmes d'Epargne-crédit (CERISE) in France developed the Social Performance Indicators (SPI) tool aimed at evaluating the intentions, actions and corrective measures implemented by an MFI in order to determine whether it is able to attain its social objectives (see http://www.cerise-microfinance.org/). Most notably, the Social Performance Task Force (SPTF) - a global initiative of over 850 members comprising of practitioners, donors/investors, national and regional networks such as the SEEP Network and the Imp-Act Consortium, technical assistance providers, rating agencies, academics, and researchers - is currently working to create a common reporting framework for MFIs which include standardized social performance indicators (see http://sptf.info/). What we see emerging is a number of MFIs and

organizations coming together, or singularly, making significant attempts to produce a systematic social account. This is a manifestation that the microfinance industry is shifting from its emphasis on financial sustainability to a renewed concern on social performance and the "double bottom line". The double bottom line concept suggests that a MFI should aim at becoming both a sustainable commercial institution and a driving force for social development (TULCHIN, 2003; COPESTAKE ET AL., 2005).

Among others, measurement of social performance will encourage institutions to be more mindful in maintaining their social mission especially now that an increasing number of microfinance programs are gearing towards privatization. It allows MFIs to demonstrate social performance, transparency and credibility leading to donors and investors reallocation of funds towards socially-oriented MFIs.

This paper works on the premise that it is necessary to judge the performance of MFIs in both financial as well as social terms. So far social performance integration into MFI processes are driven by donors, stakeholders or interest groups and only a few institutions is voluntarily integrating social performance principles at the core of their operations. The first purpose of the paper is to review and synthesize important theoretical frameworks on social performance measurement in the corporate sector to provide the grounds for all MFIs to act responsibly and be accountable for the impacts they have on the society and environment in which they operate. Second, we examine existing approaches of social performance initiatives in view of the synthesized frameworks. The third purpose of the paper is to present empirical evidence with the case example of Angkor Mikroheranhvatho Kampuchea Ltd (AMK) in Cambodia. AMK has received several recognitions for their efforts in social performance. Based on their example, we seek to also draw on practical practices in measurement and reporting of social performance. The paper is exploratory and aims to act as catalyst for further refinement of other initiatives.

The paper is structured in four sections. Section 4.2 presents a review of theoretical concepts on social performance measurement. The paper reviews literature to examine the theory and concept of social performance deriving primarily from the field of business, ethics and society. Existing initiatives in social performance in the microfinance industry is presented. Section 4.3 outlines the tools of social performance by AMK. Empirical evidence is presented using the experience of AMK and the client survey conducted in 2006. Finally, the key issues in the implementation of social performance measurement are discussed.

4.2 Review of theoretical concepts on social performance

A wide variety of terms have been associated with social performance measurement especially in the corporate sector. Corporate social reporting, social responsibility accounting, social audit, social performance monitoring, social performance assessment, ethical audit and social accounting are some of them. These terminologies have some common central ideas with different degrees of exactness (GRAY ET AL., 1997). This paper uses social performance measurement as the general term since it has been widely used in the microfinance sector. We relate social performance measurement to the commitment to systematic evaluation and reporting of information (BAUER & FENN JR., 1973) about an institution's accomplishment (and impact) relative to its social mission and stakeholder (SOCIAL PERFORMANCE WORKING GROUP, 2006) needs.

The concept of social performance measurement in microfinance is in the early stages of development. Much of what is written on social performance measurement in MFIs had been descriptive and normative. Peer-reviewed papers on the subject focused on theoretical and empirical research on impact of microfinance services (such as HULME & MOSLEY, 1996; PITT & KHANDKER, 1998; COLEMAN, 1999; MORDUCH, 1999; COPESTAKE ET AL., 2001; MORDUCH & HALEY, 2002).

It is tempting to revisit all aspects of the social performance measurement but we will only identify the principal theoretical or conceptual themes which supports our discussion. Three dominant concepts stand out: corporate social performance (CSP), stakeholder theory, and accountability theory. We review these different theoretical frameworks and provide a synthesized framework that includes all aspects.

4.2.1 Corporate social performance (CSP)

WARTICK & COCHRAN (1985) traced the evolution of the CSP model ending with CARROLL'S (1979) description of CSP as a three dimensional integration of corporate social responsibility (CSR), corporate social responsiveness, and social issues. Carroll's CSP model "reflects an underlying interaction among the *principles* of social responsibility, the *processes* of social responsiveness, and the *policies* developed to address the social issues" (WARTICK & COCHRAN, 1985:758). Carroll stated that the model can be used to help managers conceptualize the key issues in social performance, systematize thinking about the social issues, and improve planning and diagnosis of social performance. STRAND (1983) likewise used three dimensions of CSP and expanded Caroll's model advocating a systems paradigm for organizational adaptations to social

environment. Strand used the term 'organization' rather than 'corporation' making his concept more general and applicable to other sectors. According to Strand, the research fields of organizations adapting to the social environment can be divided into three subfields: the perceived organizational social responsibility, organizational social responsiveness that occurs when organizations receive, interpret and process the demands, and organizational social responses to the demands. Social responsiveness focuses on the means to achieve social performance. The social responses are motivated by the principles of legitimacy at the institutional level, organizations sense of their responsibility to the public and from the personal choices or personal responsibility of managers (JAMALI & MIRSHAK, 2007). Measures of social performance can be phrased in terms of extent and quality of the three subfields.

WOOD (1991) synthesized works by CARROLL (1979) and WARTICK & COCHRAN (1985) and defined CSP as a "organization's configuration of principles of social responsibility, processes of social responsiveness, and policies, programs, and observable outcomes as they relate to the firm's societal relationships" (p. 693). HUSTED (2000) identified Wood's contribution as a process approach in evaluating social performance. The process approach reviews how an organization identifies, integrates, and manages its social goals. An organization is assessed on how it internalizes the expectations of society in terms of socially responsible behavior and how they implement socially responsible actions.

CLARKSON'S (1995) view looks at CSP in terms of outcomes. He recognized that there have been no definitions of CSP that provide a framework for the systematic collection and analysis of data relating to the principles-processes-policies concept. Clarkson had proposed that social performance measurement can be analyzed and evaluated by using frameworks based on an institution's relationship with its stakeholders than by using models and methodologies based on concepts of CSR. He stated that "performance is what counts" and that "performance can be measured and evaluated" (p.105). Furthermore, HUSTED (2000) raised the issue that in taking social performance as result oriented, measurement can be done "objectively in terms of observable appraisal criteria" or "subjectively in terms of the expectations and satisfactions of stakeholders" (p.30). Clarkson and Husted put emphasis on the needs of its stakeholder in measuring social performance.

4.2.2 Stakeholder theory

Stakeholder is defined by FREEMAN (1984) as any group of individual affected by the actions or activities of an organization or those that can affect the

achievement of the organization's objectives. The theory is a strategic managerial concept concern with how an organization manages its stakeholders (GRAY ET AL., 1997). Ethically, managers should manage for the benefit of all stakeholders with equal consideration (HASNAS, 1998). However, stakeholders include a broad-spectrum and are not restricted to the traditional management-shareholders model. Equal consideration to all stakeholders may not be manageable and may also not be desirable. To set the stage for effective measurement of social performance, it is important to identify the needs of the primary stakeholders (CLARKSON, 1995). Primary stakeholders are the shareholders or investors, employees, clients, communities, and the governing body whose laws and regulations must be obeyed. Secondary stakeholders are those who influence or affect an organization but are not engaged in transaction and are not essential for its survival but have the capacity to mobilize public opinion to an organization (CLARKSON, 1995). The media and special interest groups are identified as secondary stakeholders under this definition. The stakeholder theory distinguishes stakeholder needs with social issues. Measurement is solely based on an organization's relationship with its stakeholder assessed by the primary stakeholders' satisfaction. We recognize that measurement solely based on stakeholder satisfaction may exclude important social issues. The CSP model and the accountability theory fill in this gap on social issues.

4.2.3 Accountability theory

The fundamental premise of accountability is that organizations should provide information or justify their actions to stakeholders and society (WOODWARD ET AL., 1996; GRAY ET AL., 1997). SETHI (1975) defined behaviour on social accountability as willingness to account for its actions to other groups, including those not directly affected by its actions. This sets out the argument why organizations should report on their social performance and not just financial performance (WILSON, 2003). The value of social performance measurement lies in how well it satisfies the needs of its users.   It is important to note who are the users, what kind of information are needed, and how they will use the information.

Evidently, social performance measurements are promoting social accountability to a wide range of stakeholders with key areas of concern in the wellbeing of employees, environmental protection, client protection, community and civil society. Among others, societal issues include poverty, gender and equality.

4.2.4 A synthesis of the social performance measurement frameworks in microfinance

Clearly, social performance measurement pulls together the three dominant frameworks into one theme. It is centred on the continuous interaction of the principles-processes-policies concept to address social issues. The stakeholder theory provides a complimentary framework for the systematic collection, analysis and evaluation of social performance based on an organizations relationship with its stakeholders. Reports are prepared to make accounts of the processes and outcome of the social performance initiative of an organization. Figure 4.1 shows a synthesis of the above theoretical frameworks.

The idea of social performance measurement in microfinance originated from the primary stakeholders. Donors started to require microfinance organizations to prove that microfinance empowers the poor people and raise their standard of living hence impact assessments of microfinance programs emerged. Most MFIs and researchers focused social performance measurement and reporting to its primary stakeholder, the clients, with emphasizes on poverty outreach and impact to poor clients. Client assessments were implemented by MFIs as a response to donors' need and to establish that clients are satisfied with their services. Focus on the outcome approach was observed but it was missing the process approach in its measurement and reporting.

As interest in social performance measurement heightened, the process approach emerged as an integral part in social performance issues. The process approach and outcome approach are complimentary in the holistic approach of social performance measurement. The process approach evaluates an organization in terms of management and operations whereas the outcome approach measures stakeholders' satisfaction and impact of MFI policies and services.

Currently, the common social performance framework used in accountability reporting across the microfinance industry includes: intent and design of the MFI, activities undertaken to achieve the mission, output of services (including outreach), and outcome/impact to clients (IMP-ACT, 2005). The industry has coined *social performance management* as the practical (process) approach that helps an MFI look into the institution in a social perspective and guide the MFI in translating its social mission into socially responsible practices. It is how organizations set and achieve its social goals by tracking social performance and using this information for decision making (IMP-ACT, 2005)
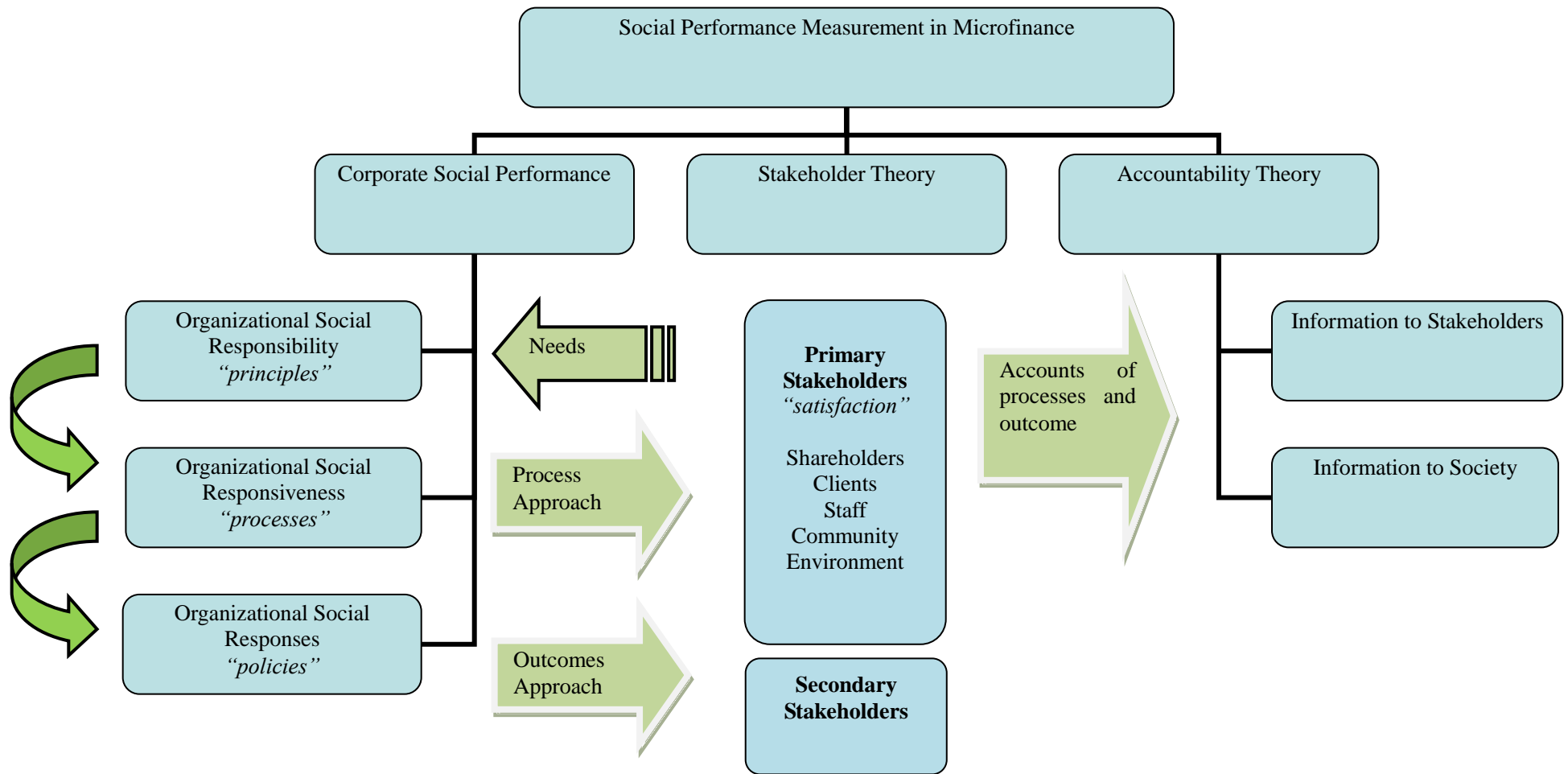
Figure 4.1   Theoretical Concepts on Social Performance Measurement in Microfinance
Source: Own depiction based on SETHI (1975); CARROLL (1979); STRAND (1983); FREEMAN (1984); WOOD (1991); CLARKSON (1995)

Inherent in evaluating a social program such as microfinance is to measure its end result and impact. ZELLER ET AL. (2003) suggested specific dimensions that apply to the microfinance industry: outreach to the poor and excluded; adaptation of the services and products to the target clients; improving social and political capital of clients and communities (impact); and social responsibility of MFI.

In Table 4.1 below, we present and classify some of the current measurement initiatives in microfinance in terms of process and outcome approaches. Unlike CSP measurement which deals with different social programs, social performance measurement in microfinance can use sector-specific methods due to the nature of its services (main aim is to serve the poor and the excluded). But because social performance measurement is in the early stage of inception, organizations and institutions are taking substantially different focuses and approaches under the umbrella of social performance measurement producing different kinds of useful information.

Social measurements are being applied in different areas such as: social assessments used by groups to evaluate the degree of compliance to social standards advocated by the group (e.g. CERISE Social Performance Indicators Initiative, MFC Quality Audit Tool), internal social audits produced by the institutions (e.g. Freedom From Hunger Social Performance Management, INAFI-Oxfam Novib-Ordina Social Impact Measurement, Accion Social), social ratings done by rating agencies (e.g. M-Cril Social Rating Tool, Planet Rating), and focus tools on poverty assessment of clients (e.g. Grameen Progress Out of Poverty Index, IRIS USAID Poverty Assessment Tool, SEEP/AIM Impact Assessment). An overview of some of these tools can be found in the Microfinance Gateway website (http://www.microfinancegateway.org) and their respective websites as listed below Table 4.1.

The institutional assessments take on the process approach. The tools aid MFIs in evaluating their social objectives, systems and processes. Client assessments that take on the process approach determine if MFIs are properly targeting clients.

Social rating agencies are testing indicators that can be benchmarked into a single score or index to determine a MFIs social performance. A single index that weighs the social processes of the organization into one grade gives clarification to the position of an organization and improves the comparability of their social efforts with other organizations. According to GRAAFLAND ET AL. (2004), the practice of assigning values to the actions of an organization can enhance transparency; improve accountability; enhance the possibility of comparison across industry; simplify procedure into a systematic approach with a more

objective view; and institutionalizes the information database. Rating agencies face the inherent problems in benchmarking which is subjectivity. It is very difficult not to be subjective in creating and assessing benchmark score especially when working with qualitative data. Quantitative data or indicators, such as the focus tools on poverty and impact assessments, can minimize this problem in one aspect and establish credibility (OWEN ET AL., 2000). The focus tools include one overarching objective − measure and report the extent and quality of its social orientation towards poverty alleviation. These tools take on the outcome approach in social performance measurement. As seen on Table 4.1, outcome approach initiatives are focused on clients while other stakeholder issues, such as staff satisfaction and impact on communities, are missing. We present the AMK model in detail and show how information on stakeholder satisfaction, such as client and staff, can be integrated in social performance measurement.

4.3 The AMK model

To overcome the problem of using concepts that are sometimes detached from the social arena, we look into the social performance of AMK in Cambodia and how their social performance measurements are reflected in their external and internal reports. AMK experience provides valuable insight in social performance processes and measurement. AMK has been recognized by the microfinance sector for its initiative in outreach, efficiency, transparency, and social performance reporting. We are choosing the example of AMK for two reasons. In 2009, AMK ranked sixteenth in the world (ranked first in Cambodia) in the MIX Global 100 Composite Rating making it one of the role models in SPM. In the same year, it was one of the recipients of the Social Performance Reporting Award.

4.3.1 Social performance, stakeholders and accountability of AMK

AMK originated from the savings and credit development activities of Concern Worldwide in Cambodia which started village banking in the rural parts of the said country in 1993. In 2003, AMK separated its operations from Concern Worldwide and registered as a limited liability company. It became a licensed MFI under the regulations of the National Bank of Cambodia in 2004. AMK's social commitment to its clients is evident in its mission to "help large numbers of poor people to improve their livelihood options through the delivery of appropriate and viable microfinance services". In adhering to the double bottom line concept, AMK created a Financial Audit Committee and a Social Performance Committee that report directly to the Board of Directors. While the company aims to be economically viable, the board members and its social

performance committee seek to ensure that the institution also pursue its social mission while in pursuit of their financial goals. The accountability of AMK was enforced by the desire of some stakeholders (Board of Directors and management) to be accountable. During the inception of the social performance management outline of AMK, there was no established framework for defining such system. The AMK social performance model was designed by the management and its social performance committee drawing ideas from infant initiatives in SPM and measurement. The model is a learning process. The initial focus was on client outreach and impact. The research department initially performed two types of surveys: a household survey and an exit survey. As AMK expanded, its model has changed along with its dynamic organization. More assessments were added to its activities, such as the staff performance survey and exit clients survey, to integrate the needs of other stakeholders. The model is noble in this way. Table 4.2 shows the different elements in AMK's social performance measurement tools and how key features of social performance are integrated in different departments. Each tool provides relevant information to various users on issues that affect the primary stakeholders.

The Human Resource (HR) department implements the *annual Staff Satisfaction Survey* to quantitatively measure the staff and management satisfaction on HR policies (including health benefits, incentives, safety issues, and staff training/development) and implementation of these policies. Staff feedbacks are also gathered through regular meetings and during annual staff retreats. The HR department has been able to report the level of satisfaction and identify the needs of the staff (such as uniforms, incentives, and trainings) to the management and its board of directors. The tool has aided AMK in maintaining a satisfactory relationship with its staff and highlighted the company's accountability to the well-being of their prime movers.

Complimentarily, *the Financial Procedure and Operation Audit* and the *Client Protection Audit* enforced by the Internal Audit Department provide management, shareholders, and the board of directors with useful reports on staff and management's adherence to its policies. AMK has devised a scoring system for their Financial Procedure and Operation Audit which are given to the different departments in the organization. Among others, the Internal Audit Department performs spot checks on branch standard financial procedures and loan officers' accountability to clients. To protect the clients, the internal auditors check whether clients are happy with their loan officers and if clients are well-informed of the pricing and recording of their loan payments. Using the process approach,

the department pinpoints incompliance of standard operating procedures and identify loopholes in the policies.

The Research Department incorporates three tools in their annual survey which are reported as: the *Client Household Profile Report*, the *Client Satisfaction Report*, and the *AMK Depth of Outreach Report*. Some of the findings are reported in AMK's annual reports available in their website (http://www.amkcambodia.com) but most of the reports are for internal use. The Client Household Profile provides information on, among others, the demography, household characteristics, income activities, expenses, and vulnerability of AMK clients. It aids management in identifying financial services best fit to its clients. The Client Satisfaction Report aids management in assessing the strength and weaknesses of its financial products, staff performance, and management practices. Client opinion, especially on the interest rate, loan amount, and staff performance, has been useful to the management and the Board of Directors. The AMK Depth of Outreach Report informs the management and other stakeholders how many poor clients are reached by their services and how poor their clients are relative to non-clients in the same area.

Consequently, AMK participated in the Imp-Act Consortium Global Learning Program on social performance management with an audit framework using the process approach. AMK provided a descriptive report for the case study conducted by an academic volunteer to avoid bias and also participated in a pilot study on social performance rating with M-CRIL. Reviewed by an independent external committee, M-CRIL conferred AMK with an overall grade of **α** (very good systems and adherence to social mission and values) in the social rating (see M-CRIL Social Rating 2007).

In view of Section 4.2, AMK is probably one of the most advanced in social performance management among MFIs. They had strong leadership commitment in balancing social and financial goals and have integrated the principles-processes-policies approach in their system. They not only focus on their clients but also measure staff satisfaction. Issues that need attention are the reporting system of AMK and providing information to their stakeholders. At the moment, most of their measurements are used internally and findings are used at senior level. AMK needs to report key findings to other stakeholders (such as client satisfaction to staff and clients, staff satisfaction survey to staff, internal audit reports to staff).

Table 4.1   Examples of Social Performance Measurement Initiatives in Microfinance

Type of Assessment	PROCESS APPROACH	OUTCOME APPROACH
Institutional (self or external assessments)	CERISE Social Performance Indicators Initiative USAID Social Performance Audit (SPA) Tool ACCION Social MFC Quality Audit Tool (self-assessment only)	
Client (self-assessment)	CASHPOR House Index (targeting) SEF Participatory Wealth Ranking (targeting) KMBI Means Test (includes outcome)	GRAMEEN Progress Out of Poverty Index FINCA Client Assessment Tool IRIS USAID Poverty Assessment Tools CGAP Poverty Assessment Tool SEEP/AIM Impact Assessment INAFI-OXFAM NOVIB-ORDINA Social Impact Measurement MicroSave Impact Assessment tool FORD FOUNDATION (New Delhi) Internal Learning System FREEDOM FROM HUNGER Social Performance Management AMK Depth of Outreach
Social Rating (external assessment)	M-Cril Social Rating Tool Microfinanza Rating MicroRate Planet Rating GRI/TRIODOS Transparency in Sustainability & Finance CARS Opportunity Finance Network	
Management (self or external assessment)	IMP-ACT Consortium Audit Framework	

Sources: www.microfinancegateway.org; www2.ids.ac.uk/impact/; WOLLER, 2008; www.accion.org/; www.opportunityfinance.net/; AMK, 2006; www.mip.org; www.inafi.org/what-we-do/social-impact-measurement; www.microsave.org; NOPONEN, 1997; www.freedomfromhunger.org/

Table 4.2   AMK's Social Performance Measurement Tools

Tools	Nature of information	Main Objectives	Department	Stakeholder	Users of output
Annual staff satisfaction survey Staff feedback through regular meetings and annual retreat	Social performance in human resource	Establishing and maintaining a satisfactory relationship with its prime movers	Human Resource	Staff Management	Management Board of Directors
Financial procedures and operations audit Client protection audit (security, transparency, pricing)	Specific information considered important by the shareholders and management Assessment on whether operations are in line with its policies	Monitoring institution's financial and social (client protection) objectives	Internal Audit	Shareholders Management Clients	Management Shareholders Board of Directors
Client profile AMK Depth of Outreach (Wellbeing/Poverty level) Client Satisfaction Exit Client Survey Quarterly competition analysis	Overall profile of social performance to clients (outreach and impact) Strategic market information	Emphasizing linkage between communication and information as part of training, operations, marketing, product development and external reporting.	Social and Market Research	Clients Shareholders Management	Clients Shareholders Management Board of Directors External agents

Source: Own depiction

4.3.2 Depth of outreach

Depth of outreach is one important dimension in social performance measurement. At present, there are few MFIs which collect client level information for poverty assessment to report on depth of outreach. We look into AMK's measurement tool using our own calculation and identify strengths and weaknesses of its client level information system in measuring outcome.

The analysis is based on a survey collected between February and May 2006 in five provinces of Cambodia (Banteay Meanchey, Battambang, Kampong Speu, Pursat, and Siem Reap). Client profiling, loan use, and client satisfaction inquiries were embedded in the questionnaire to capitalize on the research. AMK collects data annually but we use the 2006 data because it serves as the baseline data for future analysis on the impact or effect of microfinance services to the clients.

Data is collected by a research team and not by the loan officers to ensure unbiased answers from respondents. Of the 450 selected households, 360 were AMK group clients and 75 were non-clients, the latter used as the control group in our principal component analysis. The study used a two-stage sampling method in selecting the client respondents resulting in a self-weighted sample. The first stage selected villages where AMK operated. The number of villages selected for each province is proportionate to the client population of the province and size of village banks within the provinces. The second stage was a simple random sampling of 12 AMK clients taken from the information provided by the Management Information System department of AMK. Three non-clients were chosen using the random walk method in each of the villages where client respondents were interviewed.

The sampling technique faces threats of a selection bias. Selection bias refers to choosing respondents that do not share the same intrinsic characteristics and are not representative of the general population. This has been minimized since the control group was selected randomly in the same villages where clients were interviewed. Table 4.3 shows some household characteristics of AMK clients and non-clients. Client and non-client households on average were insignificantly different in terms of: percentage of households headed by women, percentage of households where women are the primary income earners, literacy of the household head, farming as a source of income, and access to community property resources and home gardens. These indicate that these households share the same intrinsic characteristics. Significant difference between clients and

non-clients are found in their spending and asset building capabilities which are driven by extrinsic motivation such as increase in income.

To create a poverty index for each household, principal component analysis (PCA) is applied to the dataset. PCA determines how information from various indicators can be most effectively combined to measure a household's relative poverty status (see HENRY ET AL., 2003). The main idea of the analysis is to reduce the multi-dimensionality of the data set which consists of a large number of interrelated variables by transforming them into a new set of variables which retain as much as possible the variation present in the data set (JOLLIFFE, 1986).

Table 4.3   Household Characteristics of AMK Clients and Non-Clients

Indicator	Non-client n=90	Client n=360
Household headed by women (%)	21.1	29.4
Women as primary income earner (%)	15.7	14.2
Household head can read and write (%)	61.1	61.7
Household engaged in farming for cash (%)	91.1	94.7
Household ranking assets as highest expense (%)**	28.9	16.4
Daily food expense per capita, in KHR (mean)**	1,617	1,058
Annual per capita spending on footwear and clothing, in Riel (mean)**	66,907	49,184
Household with high-valued assets (%)**	41.1	26.7
Household with expensive floor material (%)**	21.1	11.4
Household with expensive roof material (%)	18.9	11.4
Owns television (%)	58.9	48.3
Owns motorcycle (%)**	38.9	24.2
Household gathered food e.g. fish, fruits, etc (%)	73.3	75.6
Household produced from garden (%)	57.8	62.2

**$p<.05$ level (2 tailed)
Source: AMK data using own calculation

Indicators that are strongly correlated with the clothing and footwear expense per capita variable were used to construct the poverty score or what AMK calls the "Wellbeing Score" of its clients calibrated by the wellbeing score of non-clients, the control group. The relative poverty of client households is compared to

non-client households based on this score. Table 4.4 below shows the variables significantly correlated with clothing and footwear expense per capita benchmark used to construct the wellbeing score. The Kaiser-Meyer-Olkin measure of sampling adequacy (KMO) at 0.834 is good while capturing different poverty indicators in Cambodia.   KMO is one way of determining the factorability of an intercorrelation matrix. A KMO $\cong$ 1.0 indicates that the variables are measuring a common factor while a KMO $\cong$ 0.0 indicates that the variables are not measuring a common factor. AMK uses 22 variables for the wellbeing score of its clients covering poverty dimension on expenditure, assets, human resources, dwelling, and vulnerability while using food security as benchmark. Here we analyzed the data using the benchmark clothing and footwear expense per capita (see HENRY ET AL., 2003 for explanation on the choice of benchmark indicator) limited to 14 variables that cover the same poverty dimensions as AMK uses. These variables are in line with most of the country-specific indicators that the IRIS USAID Poverty Assessment Tools recently identified for Cambodia (USAID, 2008).

Statistical analysis shows that there is significant difference in the relative poverty levels between clients and non-clients (illustrated in Figure 4.2). Similar to AMK results using tercile grouping based on the control group (AMK, 2006), the results indicate that more AMK clients fall under the poorest group.

By using the PCA method, an MFI can establish poverty of clients relative to a random sample of non-clients in the village. Relative poverty measurement can be used by MFIs to show that they have properly targeted poor clients and to report on their poverty outreach. It also paves the way for measurement of poverty changes over time for individual households. HENRY ET AL. (2003) adopted this indicator-based method because of its effectiveness and practicality. It is simple enough to remain operational, less costly to implement especially in the long run, has a minimum turnaround time, and can be comparable across the industry.

Given the difficulty in getting non-clients to cooperate in such surveys, COPESTAKE ET AL. (2005) suggested using national household survey rather that collecting data from non-clients. This also eliminates cost incurred in interviewing non-clients. However, to assess impact on poverty attributed to microfinance services, it is essential that we compare client impact indicators with non-clients. Non-clients role as control group remains significant. AMK intends to include impact assessment in its social performance management including a point of comparison with people in the same community who do not receive loans. AMK is developing an internal system to assess the extent of impact attributable to microfinance in the long run.

Table 4.4   Selected Poverty Indicators Using PCA on Control Group

Variables	Correlation Coefficient	PCA Component Loading
KMO Measure of Sampling Adequacy		**0.834**
Clothing and footwear expense per capita	1	.585
Daily food expense per capita	.344***	.586
Number of adults who can read and write[a]	.296***	.606
Casual (temporary) labor as source of income	-.124***	-.460
Professional service and trading as source of income	.179***	.495
Total area of land owned in hectares	.222***	.518
Type of roof material[a]	.259***	.647
Owns a television[a]	.258***	.635
Owns a motorcycle[a]	.251***	.703
Value of assets owned	.325***	.818
Ability to save	.206***	.506
Ability to afford large expenses	.196***	.687
Food security	.246***	.627
Collects food from common property resources	-.245***	-.490

[a]Indicators included in the USAID Poverty Assessment Tool for Cambodia (www.povertytools.org)
***p<0.001 level (2-tailed)
Source: AMK data using own computation
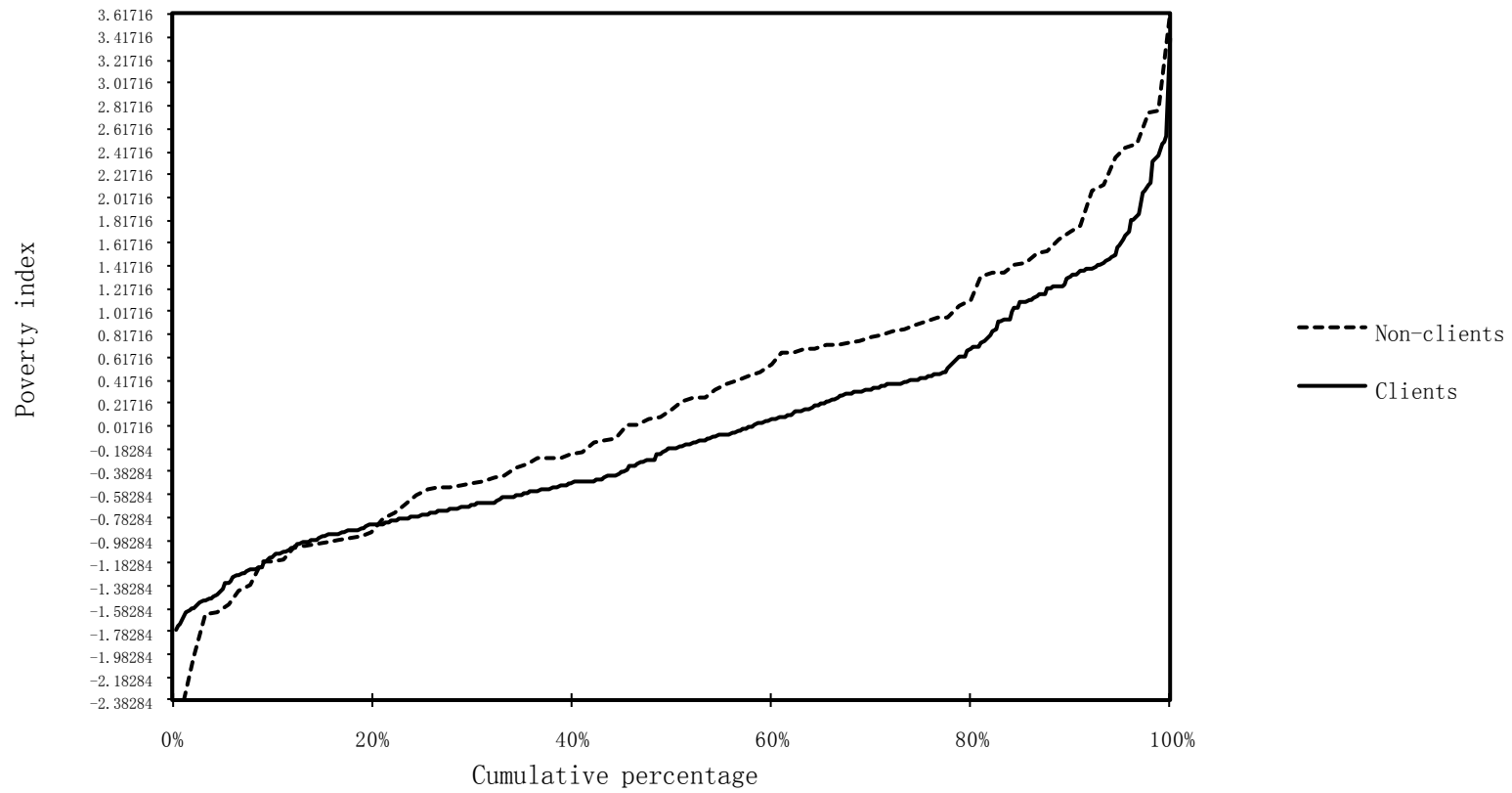
Figure 4.2　Cumulative Frequency of Poverty Index by Client Status

Source: AMK data using own calculation

4.4   Conclusions

MFIs are now accountable for fulfilling the institutions' financial responsibility to its shareholders and its social responsibility to other stakeholders. Once the social mission and policies are defined, institutions have social and ethical principles to consider. The institution has the duty to provide an account of actions for which one is held responsible. A holistic approach of social performance measurement encompasses the process approach and the outcome approach. The process approach reviews how MFIs identifies, integrates, and manages its social goals. The outcome approach measures stakeholder satisfaction (client, staff, etc), outreach and impact of their financial services.

In the microfinance industry, there is perhaps an overemphasis of outcome approaches on one stakeholder, the clients, and is limited on the depth of outreach of MFIs. Client satisfaction and other stakeholders such as the staff and community need further consideration. Stakeholder satisfaction and social issues are likewise important in social performance measurement. Impact of financial services to the community will be a step further in social performance measurement.

Among MFIs, AMK is one of the most advanced in social performance management. They have successfully integrated the process and outcome approaches in their operations. While most outcome approaches used by other MFIs focus on clients with emphasis on outreach, AMK takes on a broader outcome approach to its stakeholders by devising a system to measure satisfaction of clients and staff.   AMK's measurement of a Wellbeing Score using PCA on client and non-client information is informative and useful in reporting depth of outreach. The Wellbeing Score can also be useful for future measurement of impact of microfinance services.

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5   POVERTY DYNAMICS IN THE MEASUREMENT OF SOCIAL PERFORMANCE IN MFIs: SIMPLE TOOLS USING PANEL DATA

Florence Milan and Manfred Zeller

Abstract

Poverty measurement and diagnostics are central to informing stakeholders of the social impact of microfinance on poor clients. The challenge is to develop a practical system that is economically viable and easy to initiate to gain industry-wide acceptance. This paper proposes a simple social performance measurement tool, based upon panel data and principal component analysis of multidimensional poverty to derive a simplified index based on a few easy to collect indicators. The tool allows for quantifying change in poverty status using poverty indexes and changes in expenditure and asset indicators amongst clients and non-clients who are always and transitory poor.

Keywords: microfinance, panel data, poverty diagnostics, principal component analysis

5.1   Introduction

Microfinance is promoted by many advocates as an important tool for poverty alleviation and development (e.g. GULLI, 1998; HEIDHUES, 1995; JOHNSON & ROGALY, 1997; ZELLER ET AL., 1997). Driven by the concept that providing financial services to the poor could efficiently and effectively contribute to income generation, consumption stabilization and asset building (HEIDHUES, 1995; PITT & KHANDKER, 1998; ZELLER ET AL., 1997), microfinance services are also claimed to have positive impact on its clients social situations as well as having labour market effects (MORDUCH & HALEY, 2002) thereby promoting overall economic development. Donors have allocated increasing amounts of funding to microfinance on this basis. To ensure continued allocation of funds towards socially-oriented institutions, it is important to measure microfinance's social performance. This will allow microfinance institutions (MFIs) to demonstrate: (1) adherence to their stated social mission, (2) transparency in operations, and (3) credibility to donors and investors; all of which can lead to an increase in capital sources.

Unlike corporate social responsibility reporting and project evaluations, which deal with different social programs, social performance measurement in microfinance can use sector-specific methods due to the nature of its services and its main aim of serving the poor and excluded. To evaluate MFIs and the effects of microfinance services on poor clients, measuring poverty and poverty changes over time is significant. Poverty measurement and diagnostics are central to informing various stakeholders on the outreach of an MFI, the social impact of microfinance, and under which conditions is microfinance effective. The challenge is to develop a practical system that is economically viable and easy to initiate. Practicality is important in standardizing social performance measurement tools if they are to gain industry-wide acceptance. Rigorous tools will be rejected by MFIs if they are deemed time consuming and a financial burden. This paper proposes a simple social performance measurement tool, based upon panel data and principal component analysis of multidimensional poverty to derive a simplified index based on a few easy to collect indicators. We will present empirical evidence with the case example of Angkor Mikroheranhvatho Kampuchea Co. Ltd or AMK. AMK is a licensed MFI in Cambodia with a social mission to help large numbers of poor people in Cambodia increase their livelihood options. Using a two-round panel data collected by an in-house research team, we show depth of outreach and poverty

transition over time using simple tools that can be easily implemented by microfinance institutions and are applicable across the industry.

Furthermore, we address the poverty dynamic, in particular chronic poverty and transitory poverty of AMK clients in rural Cambodia relative to non-clients living in the same area. Microfinance alone might not get people out of poverty but it can effectively contribute to income generation and consumption smoothing. An analysis on the changes of household expenditures and assets is applied to the panel data. A comparative analysis will provide an insight on the consumption and savings pattern of AMK clients compared to non-clients, and of clients in different social strata. The effect of microfinance services may be different between the chronically poor and transiently poor. Quantifying the outreach and effectiveness of microfinance services offered in addressing the needs of the clients is central in social performance measurement. As CLARKSON (1995:105) stated, 'performance is what counts' and it can be measured and evaluated.

In this study we will only focus on microcredit activities which constitute the bulk of microfinance services across the industry. Other microfinance services such as savings/deposits, micro-insurance and money transfers are not included.

The following section describes the credit programme analyzed in the study. Section 5.3 describes the method used to collect the data and describes the use of principal component analysis. Data is described in Section 5.4. We present and discuss the results in Section 5.5 and some notes on the tool. Conclusions are found in Section 5.6.

5.2   AMK's commitment to serve the poor

AMK originated from the savings and credit development activities of Concern Worldwide in Cambodia which started village banking in 1993. In 2003, AMK separated from Concern Worldwide and registered as a limited liability company. It became a licensed MFI under the regulations of the National Bank of Cambodia in 2004. AMK is one of the few MFIs in Asia that successfully achieved operational and financial self-sufficiency while continually expanding its outreach to the poor. AMK now operates in 20 provinces with an expanding loan portfolio of 24 million USD. They offer five different credit products: three group-guaranteed loans (not requiring any physical collateral), one emergency loan and a small business loan for individual borrowers. The group loans have three repayment modalities: end-of-term, installment, and credit-line. AMK also encourages their clients to save through two types of savings products: a loan-linked savings compulsory for individual loans and a general voluntary

savings product that earns 18 percent per annum. AMK's most established product is the group (solidarity) loan. To be part of a group, AMK requires that applicants: (1) must be willing to offer moral guarantee for other group members, (2) should have at least one economic activity, (3) must not be related or live with other members in the group, and (4) cannot have existing loans from other MFIs, banks or moneylenders at time of application.

5.3 The survey design and methodology

This paper reports some findings from the analysis of a two-round panel data set from surveys conducted by AMK's research team from 2006 to 2008. The total sample of households in the panel data was spread through 55 villages. Data were collected by a research team and not by loan officers to ensure unbiased answers from the respondents. The surveys used a detailed questionnaire to elicit information on social, economic, and demographic household characteristics which were useful in understanding correlates of poverty. One set of client and non-client households was surveyed in 2006 and another set in 2007. Both sets were revisited in 2008. We have two points (round one and round two) at which data were collected from the same household.

5.3.1 Round one - Baseline surveys in 2006 and 2007

For the baseline survey conducted in 2006, 450 households were selected out of which 360 were AMK group clients (treatment group) and 90 were non-clients (control group) living in the same area as the clients. Fieldwork took place in five provinces where AMK operates: Banteay Meanchey, Battambang, Kampong Speu, Pursat and Siem Reap. Another set of households were visited in 2007 to increase the sample size of the panel data. 375 households were selected out of which 300 were AMK group clients and 75 were non-clients living in the same area as the clients. Sampling size was based on the growth of new AMK clients from 2006 to 2007. Fieldwork took place in nine provinces where AMK operates: Banteay Meanchey, Battambang, Kampong Cham, Kampong Chnang, Kampong Speu, Kampong Thom, Oddar Mean Chey, Pursat and Siem Reap.

For each baseline year, the survey employed a two-stage sampling method resulting in a self-weighting sample. The first stage of sampling used an equal-proportion method by which villages were selected proportionate to the number of group clients in the provinces where AMK operates. A list of all clients in the selected villages was obtained from the Management Information Systems (MIS) department of AMK. Twelve clients were selected from each of the chosen villages using a simple random sampling method on the village list. In

each of the selected villages, three non-clients were randomly selected using a systematic random walk method. This method was implemented to avoid bias of spatial clustering in terms of economic status although a survey of the villages visited showed that there is no spatial clustering in terms of wealth in rural Cambodia (TORRES, 2009). The role of non-clients as control group was important in identifying the social indicators and determining the different poverty groups. Data from this baseline survey were used to identify the variables or indicators used in the poverty index.

5.3.2 Round two – Survey in 2008

Client and non-client households surveyed in 2006 and 2007 were revisited in 2008 for the second round of data. To allow for comparison over time, households were interviewed at the same time of the year as they were visited in round one. Respondents were asked the same questions as in round one with the same length of recall period. Since households were already selected in round one, the researchers were able to save time from what could have been a rigorous sampling process.

5.3.3 Measuring relative poverty and its dynamics

The paper estimates relative poverty using a principal components analysis (PCA) on key social indicators. PCA is a multivariate statistical technique used to reduce the number of variables in a data set by extracting a linear combination which best describe the variables and transforming them into one index. The main objective is to formulate the poverty index for each household, P_{jt1}, the linear combination of social indicators that accounts for the maximum of the total variance in the original indicators. P_{jt1} is computed as:

$$\mathbf{P_{jt1} = w_{1t1}X_{1t1} + w_{2t1}X_{2t1} + w_{3t1}X_{3t1} \ldots + w_{nt1}X_{nt1}}$$

where the weights w_{1t1}, w_{2t1},....w_{nt1} are specified such that P_{jt1} accounts for the maximum variances in X_{1t1}, $X_{2t1 \ldots}X_{nt1}$ (HENRY ET AL., 2003) computed as:

$$\mathbf{X_{nt1} = \frac{x_{nt1} - \mu_{nt1}}{S_{nt1}}}$$

where x_n is the value of the indicator, and μ_n and s_n are the mean and standard deviation of the indicator over all the sample. t_1 denotes for round 1 or the baseline surveys.

The end result is a single index that assigns a specific score to each sample household representing the household's relative poverty status at one point in

time in relation to other households in the sample. The lower the poverty index, the poorer the household is relative to all others with higher indices. Poverty groups can then be identified using different methods. A tercile analysis was used in this study to capture the poor (lowest), less poor (middle), and better off (highest) groups based on relative poverty using non-clients as the control group. Other methods such as quartile analysis and relative poverty lines can also be used. See HENRY ET AL. (2003) for a detailed description of how to use PCA in microfinance poverty assessments.

PCA computes a series of weights that mark each indicator's relative contribution to the overall poverty component which are given by the eigenvectors of the correlation matrix. To identify movement in the poverty groups, the poverty index of each household in subsequent rounds can be calculated with calibrated weights on the premise of the base years such that:

$$\mathbf{P_{jt2} = w_{1t1}X_{1t2} + w_{2t1}X_{2t2} + w_{3t1}X_{3t2} \ldots + w_{nt1}X_{nt2}}$$

where t2 denotes for round two of the panel data. The weights of the baseline years are used to generate the poverty index for the subsequent round. The poverty indices in round two can then be classified according to poverty group using the tercile analysis. We can then identify households that moved in and out of relative poverty by means of a simple transition matrix. A simple transition matrix enables us to identify: (1) households fixed in the poor group, (2) households fixed in the better off group, and (3) unstable households with dynamic shift between the social strata.

PCA was chosen for a number of reasons. First, it is a relatively cheap method once the baseline survey has been performed and the social indicators are identified. Second, the computation method is relatively easy for MFI staff to carry out. One can easily store the commands in statistical software for future analysis. Third, PCA is an established tool and has been used in a number of countries for different purposes such as to construct wealth indices in the health sector (e.g. FILMER & PRITCHETT, 1998; VYAS & KUMARANAYAKE, 2006). In particular, it has been used as a poverty assessment tool in the field of microfinance by some researchers (e.g. HENRY ET AL., 2003; ZELLER ET AL., 2003; CAVATASSI ET AL., 2004; COPESTAKE ET AL., 2005; BARAU & SULAIMEN, 2006). Fourth, PCA is a suitable tool for assigning weights to the indicators which can be used for the subsequent rounds. The last section of this paper will discuss some issues of the tool.

5.3.4 Measuring temporal changes on some poverty indicators

The panel data is then analyzed to compare changes in the means of some poverty indicators. As we have a panel data, one can use a paired t-test rather than the less powerful unpaired t-test. The Wilcoxon signed rank sum test and sign test (WILCOXON, 1945) were used for nonparametric variables. The paired t-test shows if the directional change between the first round and the second round data are significant or if the second round data are most likely to be higher than before. We must point out that we cannot conclude from this analysis alone that the changes can be attributed to access to AMK loans. Thus, in this paper, we analyzed the mean change in indicators without giving conclusion on the overall impact of AMK's microfinance services to its poor clients. The results related to the effect of AMK services are therefore preliminary.

5.4   Characteristics of the panel data

The sampling technique faces threats of selection bias. This has been minimized since the control group was selected randomly in the same villages where the clients reside. Table 5.1 shows some household characteristics of clients and non-clients. Client and non-client, on average, were insignificantly different in terms of household characteristics such as gender of household head, gender of primary income earners, literacy of household head, etc. We can therefore infer that the households are similar in intrinsic characteristics thus selection bias is minimal.

The households that are considered to be part of the panel data have one of the following features: (1) the household in 2006 is fully intact in 2008 with the same person heading the household; (2) the household in 2007 is fully intact in 2008 with the same person heading the household; (3) the household head is the same for the two points at which data was collected, but all of the members of the household have not stayed together; and (4) the household head has changed but the rest of the household is intact.

Due to the high incidence of temporary and permanent migration in Cambodia, some of the households surveyed in 2006 and 2007 could not be tracked in 2008. Out of the 825 households surveyed in rounds one, only 641 households were available for interview in 2008. The attrition rate was quite substantial at 24.89 percent for the 2006 group and 19.20 percent for the 2007 group. Several factors caused the high attrition. The main factor is migration for employment, either temporarily or permanently. Others were away for errands or simply out of town at time of visit. Splits in the household were not followed up in the second survey

round due to economic reasons and time constraints. There was a concern that the panel data might not be representative of the original sample which may create problems of bias. However, there was no significant difference in poverty status in round one between the attritors and the revisited households which suggested that the attrition may be random with respect to the poverty status. Therefore, application of attrition correction techniques on the data was unnecessary.

For comparability over different points in time, expenditure indicators were deflated according to the Consumer Price Index reported by the Cambodian government through the National Institute of Statistics. The one- and two-year intervals were given consideration.

Table 5.1   Some Household Characteristics of AMK Clients and Non-Clients

Indicator	Clients n=318	Non-clients n=95
Household headed by women (%)	26	20
Women as primary income earner (%)	21	17
Household head can read and write (%)	73	72
Highest education attainment of household head [a] (mean)	4	4
Total number of adults who can read and write (mean)	2.11	2.08
Household engaged in farming for cash (%)	75	76
Household engaged in off-farm casual (temporary) labour (%)	50	40
Average travel time from house to town centre, in minutes (mean)	55	55
Total land area in hectares (mean)	1.72	2.33
Number of children (mean)**	2.50	2.05
Owns high-valued assets (%)**	41	55
Households able to save (%)	88	85
Household with temporary roof[b] construction (%)	28	21
Household with temporary wall[c] construction (%)**	40	22

** Chi square test and T-test according to the properties of the variables are highly significant at the .05 level (2 tailed): [a] 0=Illiterate, 1 to 6=Primary Level, 7 to 9=Secondary Level, 12=High School Certificate, 15=Technical Diploma, 20=University Degree; [b] temporary roof = bamboo, thatch, grass or plastic sheets; [c] temporary wall = bamboo, thatch, reeds or earth
Source: AMK data using own computation

5.5   Results

5.5.1 Analysis of relative poverty status at one point in time

First, we analyzed separately the 2006 round one data to identify the best indicators that capture the multidimensionality of poverty in the context of Cambodia. Using per capita clothing and footwear expense as the benchmark indicator, 13 other indicators were identified by applying PCA on the control group. Clothing and footwear expenditure was chosen as the benchmark indicator since it has been found to remain stable in its proportion to the household budget at different income levels (AHO ET AL., 1998; MINTEN & ZELLER, 2000 cited from HENRY ET AL., 2003). Indicators on expenditure, assets, human resources, dwelling, vulnerability and food security were significantly correlated with the benchmark indicator (see Table 5.2). Asset and dwelling indicators were included due to the fact that policies geared towards alleviation of poverty have aimed to influence accumulation of assets.

Table 5.2 shows the 14 indicators that gave the best-fit model that captured poverty in the context of Cambodia. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy at 0.834 is considered commendable since anything above 0.60 is acceptable (see HENRY ET AL., 2003). The component loadings used to screen the indicators shows that all are significant explanatory variables. The selected indicators are a balance of variables that may change quickly in a given time (such as food sufficiency and expenditures) and variables that takes more time to change (such as type of construction material for the house, motorcycle owned, and area of land owned). We then have a model that covers the standard poverty measurement of expenditure and poverty measurement in asset space that gives light on the dynamics of accumulation and well-being. The weights, w_{nt1}, of each selected indicators for the 2006 data are shown in Table 5.2. The resulting weights are then applied to the variable values of entire 2006 data (now including the treatment group) to construct the poverty index for each household.

Next, we ran PCA on the control group of the 2007 round one data using the same 14 indicators identified above. The values of the component loadings show that all indicators are also significant explanatory variables to the poverty index in this dataset. The weights of each selected indicators for 2007 are likewise shown in Table 5.2. Again, the resulting weights are applied to the variable values of the entire 2007 data.

To show the advantage of using different sets of weights for the two baseline datasets, we included in Table 5.2 the results of PCA applied over pooled data

(baseline years 2006 and 2007). The method averages the impact of the included variables over the years (CAVATASSI ET AL., 2004). Pooling together the data operates on the assumption that over time poverty characteristics remain constant. This assumption may be limiting especially when the data spans over an extended number of years. As shown in the table, weights of 2006 and 2007 differ considerably hence the best choice was to apply PCA on separate baseline data. Using different sets of weights on the dataset rather than applying a one set of weights on pooled data (as in SHAN & STIFEL, 2000) accounts for the changes in poverty characteristics and the one- and two-year intervals of the surveys. Ideally, weights should be allowed to vary overtime (SHAN & STIFEL, 2000).

With the assigned weights for each indicator in round one, we constructed the poverty indices of the households in round two. In doing so, we have poverty indices that are comparable over time. Poverty indices of those households first visited in 2006 were computed from the 2008 data, such that:

$$\mathbf{P_{jt2}} = \mathbf{w_{1t1(2006)}}\,\mathbf{X_{1t2}} + \mathbf{w_{2t1(2006)}}\mathbf{X_{2t2}} + \mathbf{w_{3t1(2006)}}\mathbf{X_{3t2}} \ldots.+ \mathbf{w_{nt1(2006)}}\,\mathbf{X_{nt2}}$$

The respective weights of each indicator in 2006, w_{nt1} (2006), were applied to the 2008 data only for households first visited in 2006. Those households in 2008 that were first visited in 2007 were subjected to the weights, w_{nt1} (2007), such that:

$$\mathbf{P_{jt2}} = \mathbf{w_{1t1(2007)}}\,\mathbf{X_{1t2}} + \mathbf{w_{2t1(2007)}}\mathbf{X_{2t2}} + \mathbf{w_{3t1(2007)}}\mathbf{X_{3t2}} \ldots.+ \mathbf{w_{nt1(2007)}}\,\mathbf{X_{nt2}}$$

We then created poverty groups using tercile analysis to identify if a household is poor, less poor or better off for each data set. Poverty indices of non-clients were used to define the boundaries of the poverty groups.

Table 5.2   Selected Poverty Indicators Using PCA

Variables	Correlation coefficients (2006)	2006		2007		Pooled baseline 2006 and 2007	
		Loadings	w_{nt1}	Loadings	w_{nt1}	Loadings	w_{nt1}
KMO Measure of Sampling Adequacy		**0.834**		**0.682**		**.813**	
Clothing and footwear expense per capita	1	.585	.132	.527	.149	.563	.138
Daily food expense per capita	.344**	.586	.109	.417	.133	.513	.117
Number of adults who can read and write	.296**	.606	.114	.655	.138	.609	.125
Casual (temporary) labor as source of income	-.124**	-.460	-.088	-.611	-.129	-.523	-.106
Professional service and trading as income	.179**	.495	.118	.173	.094	.375	.111
Total area of land owned in hectares	.222**	.518	.108	.563	.095	.518	.103
Type of roof material	.259**	.647	.140	.533	.138	.592	.140
Owns a television*	.258**	.635	.139	.507	.155	.593	.149
Owns a motorcycle	.251**	.703	.177	.581	.175	.651	.179
Aggregated high valued assets owned	.325**	.818	.195	.774	.212	.800	.206
Ability to save	.206**	.506	.111	.456	.113	.470	.112
Ability to afford large expenses	.196**	.687	.151	.596	.157	.622	.154
Food security	.246**	.627	.140	.558	.170	.601	.153
Collects food from common property resources	-.245**	-.490	-.068	-.087	-.054	-.345	-.062

**Correlation is highly significant at the .05 level (2-tailed)
Source: AMK data using own computation

Table 5.3   Tercile Poverty Transition Matrix of All Respondents and AMK Clients (2006 and 2007 as base years)

Round 1 (2006, 2007)	Round 2 (2008)			Total
	Poor	Less poor	Better off	
ALL RESPONDENTS				
Poor	171	81	21	273
Less poor	40	109	64	213
Better off	3	27	125	155
Total	214	212	192	641
AMK CLIENTS				
Poor	84	40	9	133
Less poor	19	54	31	104
Better off	2	15	64	81
Total	105	109	104	318

Source: AMK data using own computation

5.5.2 Patterns of persistence and transition in relative poverty status

To determine the movement of the households between the poverty groups, a poverty transition matrix was created (see Table 5.3). 405 of the households stayed in the same group since first visited, 202 of which are AMK clients.

We examined the distribution of the sample households across two types of relative poverty status and classified the poor into two components: the "transiently poor" and the "chronically poor". In this paper, we use the upper relative poverty line of the tercile analysis (66th percentile) for each year as the poverty line. The poverty line is applicable to our data as all villages visited are in rural Cambodia where incidence of poverty is higher (FITZGERALD ET AL., 2007). Based on the adjusted Cambodian rural food poverty line (respectively, 1,550 KHR, 1,636 KHR and 2,316 KHR for 2006, 2007 and 2008) computed from the 2004 figure of the Cambodia Socio Economic Survey (WORLD BANK, 2006), 69 percent of the respondents in round one and 73 percent of respondents in round two are below the rural food poverty line. TORRES (2009) had made similar observation in her study using the same data. Hence, we justify the use of the upper relative poverty line in our classification.

The chronically poor are households that were relatively poor/less poor in round one and also in round two, thus indicating persistence of poverty. These same households repeatedly fall in the poor and less poor groups. The transiently poor are households that were considered relatively poor and less poor in round one

but better-off in round two or belonging to the better-off in round one and became poor or less poor in round two. We define the transiently poor as those who are poor from time to time, but may avoid spells of poverty with better smoothing of their income and consumption.

We further classified the respondents into four groups: (1) clients -clients in round one who remained clients in round two, (2) deserters –clients in round one who were no longer clients in round two, (3) non-clients –respondents that were non-clients in both rounds, and (4) now clients -non-clients in round one who became clients in round two. This classification is useful when we look into the mean changes of some social indicators.

Table 5.4 shows the relative poverty status of the classified respondents. The largest group is the chronically poor indicating persistence of poverty in rural Cambodia. Sixty-two percent of the clients, 69 percent of the deserters, 50 percent of the non-clients, and 64 percent of the now clients were chronically poor. Out of the 318 clients, 18 percent were transiently poor. This is a good indication that AMK was able to target clients who needed its services as microfinance has been identified as one of the mechanisms to reduce risk and provide short-term relief among the transiently and chronically poor.

In the next sub-section, we look into the different household characteristics of the chronically and transiently poor.

Table 5.4   Relative Poverty Status by Respondent Classification

Respondent classification	Chronically Poor	Transiently Poor	Never Poor	Total Sample of Revisited Households
Clients	197	57	64	318
Deserters	149	39	29	217
Non-clients	48	18	29	95
Now clients	7	1	3	11
Total	**401**	**115**	**125**	**641**

Source: AMK data using own computation

5.5.3 Analysis of poverty profiles

Comparing poverty profiles of the chronically poor and the transiently poor provides us with an initial idea of how households are differentiated according to their poverty status. It indicates which certain household characteristics are more likely to correlate with poverty status. Table 5.5 provides some household characteristics of the two groups. Each indicator was subjected to a chi square test or a t-test to identify significant differences.

Table 5.5   Some Household Characteristics of the Chronically Poor and the Transiently Poor

Indicator	Chronically Poor n=401	Transiently Poor n=115
Household headed by women (%)	30	22
Women as primary income earner (%)	24	16
Household head can read and write (%)**	62	75
Highest education attainment of household head [a] (mean)**	3	4
Total number of adults who can read and write (mean)**	1.67	2.34
Household engaged in farming for cash (%)	76	80
Household engaged in off-farm casual (temporary) labor (%)**	60	38
Average travel time from house to town centre, in minutes (mean)**	62	53
Total land area in hectares (mean)**	1.50	2.01
Number of children (mean)	2.4	2.70
Owns high-valued assets (%)**	19	73
Households able to save (%)**	79	97
Clothing and footwear expense per capita, in KHR (mean)**	69,400	102,403
Daily food consumption per capita, in KHR (mean)**	1,790	2,318
Household with temporary roof[b] construction (%)**	36	8
Household with temporary wall[c] construction (%)**	46	24

** Chi square test and T-test according to the properties of the variables are highly significant at the .05 level (2 tailed)
[a] 0=Illiterate, 1 to 6=Primary Level, 7 to 9=Secondary Level, 12=High School Certificate, 15=Technical Diploma, 20=University Degree
[b] temporary roof = bamboo, thatch, grass or plastic sheets; [c] temporary wall = bamboo, thatch, reeds or earth
Source: AMK data using own computation

We examine some of the variables associated with the different forms of poverty and point out only those that are significantly different between the chronically and transiently poor. The literacy and education level of the household head is one factor that is associated with poverty. Identified in the PCA as a strong explanatory variable of our poverty index, the result shows that literacy and the education level of the households are significantly different among the chronically and the transiently poor. The transiently poor have a higher percentage of literate household heads, more literate adults, and higher educational attainment than the chronically poor. It is worthwhile to note the relevance of education in coping with chronic poverty. According to GROOTAERT, KANBUR, & OH (1997), households with educated heads are more likely to escape from poverty than those without education.

The chronically poor live farther from town centers, own less assets (durable assets, land), and have more difficulty saving as opposed to the transiently poor households. These observations coincide with the study of SINGH & BINSWANGER (1993) that poor households who remain poor do not accumulate wealth. The chronically poor also live in dwellings with inferior construction materials and rely more on temporary labor as income source. In comparison, the transiently poor have significantly better capacity to spend on food, clothing and footwear.

5.5.4 Changes in the means of different social indicators

Panel data allows us to compare changes in the means of different variables more precisely because we can use a paired t-test rather than the less effective unpaired t-test. It also enables us to identify which households have moved to a higher poverty status. To get meaningful results, some of the selected poverty indicators that may determine temporal changes among client and non-clients, as well as temporal changes among the chronically and transiently poor, were subjected to a paired t-test. We underscore the simplicity of the analysis which MFIs can easily implement. Table 5.6 gives us a summary of the percentage changes of households that moved up to a higher status and have improved poverty indicators as well as the mean changes in expenditure and asset indicators according to respondent classification. Table 5.7 further breaks down the analysis on important indicators according to poverty status – the chronically poor and the transiently poor.

Table 5.6 shows that the percentage of households that moved up to a higher poverty group (compared to households that have stayed in the same social strata or have moved down) is statistically significant among clients (25 percent) and the positive change among non-clients (20 percent) is insignificant. Similar can

be said for the chronically poor (see Table 5.7). Movements to a higher poverty group (poor to less poor) are significant among clients (20 percent) and insignificant among non-clients (10 percent). A high percentage of the transiently poor households have significantly moved up the social strata than those households whose social situations have worsened.

We focus on the temporal changes in this section, specifically, on variations in consumption and asset accumulation since values of these indicators change quickly. Table 5.6 shows significant increase in food consumption indicator for the whole sample. Clothing and footwear expenditure per capita has also significantly increased for most of the sample except for the now clients (n=11). Clients have higher increase in expenditure than non-clients. Furthermore, now clients show insignificant increase in asset accumulation. This could be an indication that this group of previously non-clients have resorted to borrowing as a means to smooth consumption and other expenses. It will be interesting to see in future studies if this group will have significant increase in expenditure and assets which can be attributed to microfinance services.

Clients show significant increase in their ability to save and accumulate assets (such as television and motorcycle ownership and on their aggregated assets owned). Access to microfinance can be credited for this asset accumulation but other factors can contribute as well. Increase in income is also closely related to increase in expenditure.

Table 5.6 shows a significant decrease in landholding among client respondents. This can be imputed to the increase in land prices throughout Cambodia which became an incentive to landowners to sell their lands. Income from land sales could have led to increase in asset accumulation. However, sales of landholdings are not the only reason for the significant decrease in land size. Land grabbing and land conflict incidence have also risen in recent years in Cambodia. There was an increase in the number of respondents reporting land disputes and lands grabbed. Further investigation would lead us to believe that the significant decrease in land size is more prevalent among better off households than in poor households. The analysis (results not shown) shows insignificant decrease of landholdings amongst the chronically poor and transiently poor households, except for the transiently poor clients who left AMK.

Table 5.6   Mean and Percentage Change of Some Poverty Indicators with Significance (2-tailed) at 0.05 level (using paired t-test)

Poverty index and some poverty indicators	Clients (n=318)	Deserters (n=217)	Non-clients (n=95)	Now clients (n=11)
% of household that moved to a higher status	25 (.000)	29 (.000)	20 (.138)	27 (.317)
% of household that improved food security	16 (0.936)	18 (0.200)	14 (0.714)	0 (0.083)
Clothing and Footwear Expenditure Per Capita, in KHR	31,849 (0.000)	25,014 (0.000)	30,698 (0.001)	13,876 (0.260)
% of household that became savers	17 (0.000)	20 (0.004)	16 (0.041)	18 (0.500)
Daily Food Consumption Per Capita, in KHR	689 (0.000)	613 (0.000)	891 (0.000)	799 (0.005)
% of household that now owns a television	13 (0.003)	11 (0.022)	11 (0.815)	18 (1.000)
% of household that now owns a motorcycle	14 (0.002)	18 (0.000)	15 (0.001)	9 (1.000)
Total Land Area Owned, in hectares	-0.177 (0.033)	-0.337 (0.006)	-0.037 (0.855)	-0.69745 (0.072)
% of household with increased assets	31 (0.000)	33 (0.000)	26 (0.001)	36 (0.414)

( ) indicates p-value of the paired t-test.
Source: AMK data using own calculation

Table 5.7 Mean and Percentage Change of Some Poverty Indicators with Significance (2-tailed) at 0.05 level (using paired t-test)

Poverty index and some poverty indicators	Clients	Deserters	Non-clients	Now clients
Chronically Poor	**(n=197)**	**(n=149)**	**(n=48)**	**(n=7)**
% of household that moved to a higher status	20 (.006)	23 (.001)	10 (.405)	29 (.564)
Clothing and Footwear Expenditure Per Capita, in KHR	27,537 (0.000)	20,549 (0.000)	13,881 (0.120)	15,492 (0.080)
% of household that became savers	20 (0.004)	26 (0.005)	21 (0.302)	29 (0.500)
% of household that now owns a motorcycle	10 (0.038)	13 (0.003)	8 (0.125)	0 (0.500)
% of household with increased assets	27 (0.000)	24 (0.000)	17 (0.052)	14 (0.564)
Transiently Poor	**(n=57)**	**(n=39)**	**(n=18)**	**(n=1)**
% of household that moved to a higher status	70 (.002)	78 (.000)	78 (.014)	- -
Clothing and Footwear Expenditure Per Capita, in KHR	42,730 (0.002)	34,468 (0.001)	72,552 (0.010)	- -
% of household that became savers	19 (0.006)	16 (0.453)	22 (0.125)	- -
% of household that now owns a motorcycle	39 (0.005)	41 (0.000)	39 (0.070)	- -
% of household with increased assets	53 (0.000)	69 (0.000)	55 (0.008)	- -

( ) indicates p-value of the paired t-test.
SOURCE: AMK data using own calculation;

Between the poverty groups in Table 5.7, non-clients who are chronically poor have insignificant increase in clothing and footwear expenditure per capita while clients and deserters (who were clients in the first round) showed high significant increase. The clients, who are transiently poor, also showed a significant increase in clothing and footwear expenditure. In several studies, clothing and footwear expenditure in the household budget was found to be stable at different income levels, around 5 to 10 percent of total expenses (MINTEN & ZELLER, 2000). It has been found to increase proportionally with the total household expenditure making it a reliable proxy for inferring mean changes in the total expenses of a household. Based on these assumptions, we can infer that among the chronically poor, AMK clients have significantly increased their total expenditures while the mean change in non-clients is not significant.

Among the chronically and transiently poor, clients have significantly increased their ability to save compared to non-clients. The transiently poor, especially the AMK client group, seem to be more successful in asset building in terms of cash or in kind savings and in asset accumulation compared to the chronically poor households. Among the chronically poor, clients are more successful in saving and asset building than non-clients. This is a good indication that AMK clients have safety nets in case of future shocks. Households that can steadily accumulate assets have more possibility of growing their way out of poverty (CARTER & BARRETT, 2006). Households with access to funds needed to build assets have the opportunity of escaping poverty.

5.5.5   Notes on the tool

Measurement tools in poverty dynamics can be affordable and easy to implement by MFIs. Since the poverty indicators are already identified by PCA on the baseline survey, subsequent collection of data and analysis should require less time. With the aid of statistical tools such as SPSS or STATA, an MFI can simply run command syntax to derive the poverty index once the indicators are identified from the base year survey. This system was tested by the research team of AMK and was found to save time and make the analyses less demanding.

LANJOUW & LANJOUW (2001) suggested that poverty monitoring could be done effectively at lower cost by abbreviated surveys. PCA is suited for constructing a multidimensional poverty index from a large data set. In the first stage, a full-sized survey needs to take place to identify poverty indicators in the local setting. This survey is analyzed to set a baseline poverty index model that yields the best combination of poverty components. Subsequent surveys are then performed which gather information only on those indicators necessary for the

PCA. One could monitor temporal changes in poverty index based on the weights of the base year. The proposed approach is a comparative study on the poverty index that may determine the poverty transitions among clients and non-clients. As the surveys are too close in time, we are aware that change in the poverty index might not be significant because of the different characteristics of the indicators selected. This is inherent in a panel data where surveys are too close in time. The inconsequential results are affected by the explanatory indicators that have different characteristics where some values change quickly over a short period (such as food expense per capita) while others are relatively fixed (such as type of roof material and type of wall material). An analysis of the poverty index becomes more significant when the households are revisited in a few more years.

In principle, the collection of the subsequent data reduces the cost of interviewing and sampling. No expense is incurred in developing a sample of households since respondents from the base years are revisited. Also, fewer questions are needed once the indicators are identified therefore saving time and expenses. Eventually, as the interval between the first round survey and subsequent surveys widens, the PCA model becomes less tenable and it becomes necessary to perform another full-scale household survey. Adaptation in the model is needed because the concept of poverty is influenced by local socioeconomic conditions and culture which change with time. Also, the panel data becomes less representative of the population although this can be addressed by adding new households to the original panel in the coming years.

5.6   Conclusions

The use of PCA to estimate measures of relative poverty can yield fairly accurate predictions of poverty status and is easy for MFIs to use and cheap to implement in the long run. By applying the PCA weights of the base year to a panel data, we are able to use a transition matrix to identify the different relative poverty status, specifically the chronically poor and the transiently poor. Understanding the changes in the mean of the indicators and differentiating between the transiently and chronically poor helps identify the consumption and saving behavior of AMK clients. The method also establishes proper targeting of clients by identifying the chronically and transiently poor who could actually benefit more from microfinance. This paper identified characteristics of the chronic and transient poor among the respondents. Poverty profiles are a useful policy tool for MFIs because they reveal differences in the relative poverty of certain sub-groups of the population.

Our analysis showed that household's movement to a higher poverty group has been significant among AMK clients, notably among the chronically poor. In general, the results show significant increase in household expenditure, savings, and asset accumulation among respondents. A breakdown of the analysis shows that clients who remained clients have significantly increased expenditures and asset accumulation while non-clients show insignificant increase on some indicators. Among the chronically poor, clients have considerably increased their clothing and footwear expenditure compared to the non-clients. The analysis also shows that non-clients who are chronically poor have insignificantly increased their ability to save and accumulate assets. Among the transiently poor, clients have significantly increased their clothing and footwear expenditure, in addition to accumulating savings and other assets while no significant change could be found among non-clients in terms of savings.

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6   CONSUMPTION DYNAMICS OF MICROFINANCE CLIENTS: MEASUREMENT WITH TWO-PERIOD PANEL DATA

Florence Milan and Manfred Zeller

Abstract

This paper uses two-period panel datasets to understand the determinants of credit participation, analyse the factors of food poverty dynamics, and test the impact of microfinance on food consumption in rural Cambodia. The panel data includes drop-out clients. Thus far, little attention has been given to the time-varying effect of microfinance. This paper contributes to filling this research gap by considering 1-year and 2-year intervals between panel rounds. The conditional change score method and the fixed-effects model with interaction variables were applied to assess impact on household food consumption. Our study suggests that access to group loans has a positive impact on long-term clients.

Keywords: household consumption, impact, microfinance, panel data, poverty diagnostics

6.1   Introduction

This paper works under the premise of a poverty lending approach (see GULLI, 1998) of microfinance which claims that the goal of microfinance should be poverty reduction and women's empowerment. Microfinance as an effective tool for poverty reduction is dependent upon how the service providers address the real needs of the poor. ZELLER ET AL. (1997) identified three pathways through which microfinance services can increase income and food security of households: via income generation; via asset investment strategies to smooth disposable income over time; and via direct use of credit to finance immediate consumption needs. Microfinance services have the potential not only to assist the poor in their economic activities but also to smooth their income and household consumption (MORDUCH, 1995; ZELLER, 2001; SHARMA & BUCHENRIEDER, 2002). The latter is our focus in this paper. ZELLER & SHARMA (1998) found evidence of a significant relationship between access to credit and total food expenditure in their study.

Microfinance institutions (MFIs) have recently come under pressure to provide proof to stakeholders, most especially from donors, governments and shareholders, that microfinance services are in fact a sustainable way to assist the poor in their economic development. However, several studies have raised doubts about the effectiveness of MFIs in helping their poor clients. As a result, the number of impact studies on different microfinance services is growing. Longitudinal household surveys are deemed mandatory in impact studies as dynamics of poverty involve the movement of households into and out of deprivation (RIBAR & HAMRICK, 2003). Thus far, only a few panel studies have taken on the issue of incomplete sample bias and the difference in the impact of microfinance between new entrants and long-term clients. We tackle these issues in our sampling and empirical analysis.

The objectives of this study are: to understand the determinants of credit participation in rural Cambodia; to analyse the factors of food poverty dynamics; and to measure the impact on borrowers' food consumption using panel data from Angkor Mikroheranhvatho Kampuchea Co. Ltd (AMK) in Cambodia. AMK has a mission to target the economically active poor in rural Cambodia. We look into the determinants of credit participation to identify the effect of poverty indicators on microfinance participation. Several studies have assessed the probability of participation of households for different purposes in different microcredit programs (for example PITT & KHANDKER, 1998 (tobit); ZELLER ET AL., 2001 (probit); SHAH ET AL., 2008 (logit); PANDA, 2009 (probit); WELLER,

2009 (logit); ANJUGAM & RAMASAMY, 2007 (probit)). We employ similar statistical analysis in our study using a probit model to identify determinants of participation in the context of rural households using empirical data. We determine the factors affecting the poverty dynamics of AMK clients using a multinomial logit model to better understand the essential measures of poverty and the characteristics of client households in our study, including their loan use. The measurement of the impact of microfinance services, in particular, group lending, will be further discussed in Section 6.2.

Up until now, little consideration has been given to the time varying effect of microfinance. The prime contributions of this study are the analysis of food poverty dynamics in rural Cambodia and the impact of group lending in food consumption of microfinance clients with differentiation of 1-year and 2-year effects of microfinance for comparison of group lending effects on new entrants and long-term clients. Also, many impact studies did not include client dropouts (households who are no longer clients) in their sample. The availability of panel data allowed us to study dynamic issues of food poverty on households that chose to participate in the group lending service, households that have been participating, households that never participated, and importantly, households who have left the groups (dropouts). In addition to the conventional fixed effects method, we applied the conditional change score method to our panel data to examine the robustness of the results. As shown in our review of impact studies (see Table 1 in the next section), the use of the conditional change score method and the differentiation in 1-year and 2-year effects of microfinance is novel in this way.

The structure of the paper is as follows. First, we give an overview of panel studies on the impact of microfinance services in Section 6.2. We then provide the methodological framework of our studies, including sampling procedure in Section 6.3, and the characteristics of the panel data in Section 6.4. Section 6.5 is a presentation of the empirical studies on participation, food poverty dynamics and the impact of microfinance activities. Finally, we present our conclusions.

6.2   Impact studies on microfinance using panel data

Researchers have devoted a large amount of effort to examining the incidence, correlates and dynamics of poverty among microfinance clients and the impact of microfinance services. Here we examine some of the rigorous studies that have been done on the impact of MFIs, primarily on credit services, based on panel data surveys. Panel data studies where baseline data are based on long recall and studies using qualitative methods are excluded in this review. Table 6.1 lists some

of the studies conducted on the impact of credit services and programs using different methods. We review the findings of these studies to investigate whether or not microfinance is effective in helping poor clients.

The notable study of KHANDKER (2005) using the fixed effects method suggests that access to microfinance services contributes to poverty reduction, especially for female participants, and also to the local economy. Microfinance raised per capita household consumption of participants and also benefitted nonparticipants through growth in local income. Similarly, NGUYEN (2007) found that formal credit in Vietnam positively affects borrowers' consumption. In India, participation in self-help group microfinance programs reduces the vulnerability of households, largely because of poverty reduction (SWAIN & FLORO, 2008). Using the concept of future counterfactuals to assess the long-term impact of farm households' participation in microcredit, BERHANE & GARDEBROEK (2009) reported that the timing of membership matters - the earlier the onset of membership the better the effect on household consumption. Up until now, little attention has been given to the time effect of microfinance services. In terms of income and assets, MOSLEY (2001) reported that the net impacts of borrowing are positive. Net impact on wealthier borrowers was greater than that which poorer borrowers experienced. Using Analysis of Covariance (ANCOVA) procedures, DUNN & ARBUCKLE (2001) reported that microfinance has a positive impact on income, income diversification and poverty reduction. The impact evaluation in Bolivia (MKNELLY & DUNFORD, 1999) gives evidence that credit and education services, when provided together, can increase income and savings, improve household health and nutrition, and empower women.

In terms of the effect of microfinance on entrepreneurs, TEDESCHI (2008) found that credit was assisting small business owners in Lima, Peru. Using quasi-experimental techniques and household fixed effects, impact estimates were robust for weekly and monthly enterprise profits. In an earlier study, Dunn & ARBUCKLE JR. (2001) found that a microcredit program in Peru had a positive impact at the enterprise level (net revenues, fixed assets, employment, business ownership, input supplies, and business licenses). BANERJEE ET AL. (2009) and BARNES ET AL. (2001) also found significant impact on start-up businesses and profitability of existing businesses in India and Uganda, respectively. In Kenya, access to interest-free accounts had a positive impact on productive investments among market women (DUPAS & ROBINSON, 2010). Likewise, TAKAHASHI ET AL. (2010) suggested that microcredit programs contribute to increased business size in Indonesia, but a decomposition of the sample showed that the enlargement of businesses occurred only for non-poor participants. Contrary to TEDESCHI (2008), COPESTAKE ET AL. (2005) found no significant effect of a microfinance program

on business sales and profit using difference-in-difference analysis of respondents in Lima and Cuzco, Peru. However, they found significant effects on both individual and household income.

HUSSAIN & NARGIS (2008) found evidence against the popular belief that microcredit is instrumental in elevating the rural poor to a higher economic status. Regular microcredit group participants experienced the lowest welfare gain, while non-participants gained the most. DUNN & ARBUCKLE (2001) found no indication that microcredit had an impact on per capita food expenditures for all respondents, but did find positive impacts on poor households, albeit with rather weak results. As found by TAKAHASHI (2010), the impact of microfinance varies between levels of poverty. LENSINK & PHAM (2008) revealed that neither access to microcredit nor participation in microcredit programs significantly affects household self-employment profits in Vietnam. Using multiple indicators, COLEMAN (1999) found that program loans in Thailand made minimal impact. Studies have also analysed the impact of microfinance by comparing household outcomes differentiated by credit limit, while controlling for various factors that affect the outcome. DIAGNE & ZELLER (2001) found that access to credit had no significant impact on the per capita incomes, food security, and nutritional status of credit program members in Malawi. They found that borrowers may be worse off (in terms of net crop incomes) after repaying the loan. Loan use may also be a determining factor in the effects of microfinance services. IMAI & AZAM (2010) found that loans did not increase per capita household income significantly, but that household access to loans from MFIs for productive purposes significantly increased the per capita household income.

As for studies that used descriptive statistics on panel data, MUSTAFA ET AL. (1996), HUSAIN (1998) and CHOWDHURY & BHUIYA (2004) found positive impact of credit at the household and individual level in Bangladesh. CHOWDHURY & BHUIYA found wider impacts of microfinance on child survival and nutritional status, family planning practices, and children's education.

Overall, the studies present differences in results of the impact of microfinance on various household social indicators. Several studies have raised doubts about the positive effect of microfinance services. Nevertheless, the majority of the studies found evidence that microfinance has a positive impact on its clients. The overview of methods and results reveal three major research gaps. First, more attention should be given to the impact variations across different poverty levels. Second, very few studies look into the temporal and long-term effects of microfinance or the difference in impact on new entrants and long-term clients. Third, many studies do not include the dropouts in their sample, which can result

in an overestimation of the impact of the program (KARLAN, 2001). This paper contributes to filling these three research gaps.

Methodology, self-selection, non-random placement of microfinance services and incomplete selection bias are issues that need to be considered in impact studies. Recent studies have focused on propensity score matching to address these issues. In our study, we employ several techniques to test for these biases. Also, fixed-effect estimation has been the popular choice in impact analyses. Other models that capture change should also be tested in future impact studies. Here, we use the conditional change score method and the fixed-effects model with interaction variables to assess impact on household food consumption.

6.3   Methodology

6.3.1 Description of panel data

Our findings are from the analysis of a two-round panel data set from surveys conducted by AMK's research team (including one of the authors of this paper) from 2006 to 2008. AMK is one of the leading MFIs in Cambodia. The majority of their clients borrow through group loans with different repayment modes (monthly installments, end-of-term, and credit-line). Group members are self-selected and consist of four to six individuals who guarantee each other's loans. AMK keeps their loan amounts small in order to attract poor clients.

The total sample of households in the panel data was spread through 55 villages from nine provinces in Cambodia (Banteay Meanchey, Battambang, Kampong Cham, Kampong Chnang, Kampong Speu, Kampong Thom, Oddar Mean Chey, Pursat, and Siem Reap). To ensure unbiased answers from the respondents, data were collected by a research team and not by loan officers. The surveys used a detailed questionnaire to elicit information on social, economic, and demographic household characteristics which were useful in understanding correlates of poverty.

Table 6.1   Some Panel Studies on the Impact of Microfinance Services

Source	Country	Periods	Period of Study	Welfare indicator	Panel Size	Theme
Takahashi (2010)	Indonesia	2	2007, 2008	Household income, profits and sales, assets, expenditures	97 participants and 100 non-participants in treated communities, 250 control households	Combination of propensity score matching to account for selection on observables and difference-in-difference estimation to account for selection on time-invariant unobservables.
Imai & Azam (2010)**	Bangladesh	4	1997/98, 1998/99, 1999/2000, 2004/05	Household income per capita	1211 with access to MFI, 1423 without access to MFI	Treatment Effects Models; Propensity Score Matching
Berhane & Gardebroek (2009)*	Ethiopia	4	1997, 2000, 2003, 2006	Annual household consumption	140 non-borrowers, 211 new borrowers	Combination of propensity score matching to adjust for initial differences between participants and control group, and the forward looking sequential counterfactual method to identify the causal effect from the timing of participation in credit.
Banerjee et al. (2009)*	India	2	2005, 2007/08	Household consumption, business (creation and income), human development (education, health, women's empowerment)	6,850 households	Randomized evaluation of the impact of introducing group lending microcredit in an area using intent to treat (ITT) estimates.
Dupas & Robinson (2009)*	Kenya	3	2006, 2007, 2008	Average daily savings, business investment, expenditures	279 logbooks (92 men, 187 women)	Field experiment; ITT; instrument variable approach to estimate average effect
Hussain & Nargis (2008)**	Bangladesh	4	1997-2004	Household income	774 regular participants, 1174 occasional participants, 758 non-participants	Welfare dominance approach over time; social welfare function approach across participants and non-participants
Lensink & Pham (2008)**	Vietnam	2	2004, 2006	Household self-employment profits	3000 households	OLS estimation, fixed-effect estimation, IV with fixed-effect estimation
Tedeschi (2008)	Peru	2	1997, 1999	Enterprise profits	225 clients, 169 non-clients	Impact of credit on microenterprise profits while controlling for selection bias using quasi-experimental technique and fixed effects estimates.
Swain & Floro (2008)**	India	2	2000, 2003	Food and household consumption	858 members, 167 non-members	Impact of self-help microfinance groups via the income effect and non-pecuniary effect on aggregate or idiosyncratic risk
Nguyen (2007)**	Vietnam	2	1992/93, 1997/98	Household consumption	6,000 households	Fixed-effects regression and propensity score matching estimation on cross-sectional and panel data
Copestake et al (2005)	Peru	2	2001, 2002	Change in individual and household monthly income; business sales and profits	547 clients, 388 non-clients	A comparison of impact assessment methods using difference-in-difference estimation in the econometric analysis and client's own

						unprompted explanation of reasons for changes in their economic status.
Khandker (2005)	Bangladesh	2	1991/92, 1998/99	Yearly consumption per capita (total, food and non-food)	1104 clients, 292eligible non-clients, 242 non-target households	Household level fixed effect method of the impact of microfinance loan to calculate the marginal returns to borrowing for men and women.
Chowdhury & Bhuiya (2004)	Bangladesh	2	1992, 1995/96	Nutritional status of children, child survival, expenditures, family planning, education, violence against women, village health networks	1072 members, 223 non-members	Comparative study of changes in different indicators using descriptive analysis
Barnes et al (2001)*	Uganda	2	1997, 1999	Multiple indicators	572 clients, 322 non-clients	Gain score test to analyse value or percentage difference between comparison groups; one-way analysis of variance (ANOVA) for distinctions between districts.
Diagne & Zeller (2001)*	Malawi	3	1995 (seasonality)	Income, food security, nutritional status of children	564 members, 4135 non-members	Based on the credit limit as a central concept for measuring access to credit and its benefits.*
Dunn & Arbuckle Jr. (2001) *	Peru	2	1997, 1999	Enterprise performance (revenue, fixed assets, etc.), household (income, food expenditures, etc.), and individuals (control over resources and income, self-esteem and respect, etc.)	400 clients, 301 non-clients	Impact of credit drawn from ANOVA estimations which "matches" observations in the treatment and control group using baseline values
Mosley (2001)	Bolivia	2	1993, 1999/2000	Income of borrower and assets	25 experienced borrowers, 20 new borrowers, 15 non-borrowers	Measurement of income impact – change in income of borrowers as percentage of income change of control group.
Coleman (1999)	Thailand	4	1995/96 (seasonality)	Multiple indicators	445 households	Fixed effects model; non-fixed effects model; naïve model, super-naïve model
MkNelly & Dunford (1999)*	Bolivia	2	1994/95, 1997	Women's economic capacity, mothers' health/nutrition practices, women's empowerment	71 participants, 86 non-participants in program communities, 96 households in control communities	Comparison of differences between the responses and measurements in the baseline and follow-up periods.
Husain (1998)*	Bangladesh	2	1993, 1996	Multiple indicators	1250 members, 450 non-members	Poverty reduction and women's empowerment using descriptive analysis
Mustafa et al (1996)*	Bangladesh	2	1993, 1994 (seasonality)	Multiple indicators	1500 members, 750 non-members	Comparative study of changes in different indicators (descriptive analysis)

*Not peer-reviewed articles; **Academic papers

For the baseline survey, one set of client and non-client households was surveyed in 2006 and another set in 2007. The survey employed a two-stage sampling method resulting in a self-weighting sample (TORRES, 2009). The first stage of sampling used an equal-proportion method by which villages were selected proportionately to the number of group clients in the provinces where AMK operates. A list of all clients in the selected villages was obtained from the Management Information Systems (MIS) Department of AMK. Twelve clients were selected from each of the chosen villages using a simple random sampling method on the village list. In each of the villages, three non-clients were randomly selected using a systematic random walk method. This method was implemented to avoid bias of spatial clustering in terms of economic status although a survey of the villages showed no spatial clustering in terms of wealth in rural Cambodia (TORRES, 2009). As a result, we had 450 households (90 non-clients and 360 clients) in our 2006 data and 375 households (75 non-clients and 300 clients) in our 2007 data.

All households surveyed in 2006 and 2007 were revisited in 2008 for the second round of data. Due to the high incidence of temporary and permanent migration in Cambodia, some of the households surveyed in 2006 and 2007 could not be tracked in 2008. Out of the 825 households surveyed in first rounds, only 641 households were available for interview in 2008. The 2006-2008 panel data (2-year interval) consists of 47 non-clients and 291 clients (new and long-term) from the baseline year. The 2007-2008 panel data (1-year interval) consists of 59 non-clients and 244 clients (new clients only). It is important to note that the 2-year interval dataset includes both new and long-term AMK clients, while the 1-year interval data set only includes new clients. Attrition is further discussed in Section 6.4.

To allow for comparison over time, households were interviewed at the same time of year as they were in the first round. Respondents were asked the same questions with the same length of recall period as in the first round. Clients who dropped out of the AMK group loan were included in the second round of the panel data, hence incomplete sample bias caused by program dropouts (KARLAN, 2001) was avoided. We also use a balanced panel in our analysis as it is likely to be less biased than that of an unbalanced panel (VERBEEK & NIJMAN, 1992).

The households included in the panel data have one of the following characteristics: (1) the household remained fully intact between 2006 and 2008, keeping the same person as the head; (2) the household remained fully intact between 2007 and 2008, keeping the same person as the head; (3) the household head was the same for the two points in time at which data was collected, but all

members of the household have not stayed together; and (4) the household head has changed but the rest of the household is intact.

6.3.2 Probit regression on participation

To identify the factors which influence household participation in group lending, binary probit regression was applied (see GREENE, 2003 for a detailed explanation of the binary probit model). The dependent value was the participation of a household in the AMK group loan, taking the value one for participation and zero for non-participation. We tested the impact of explanatory variables of household participation into categories – household characteristics, source of income, assets (liquid and fixed) and household needs. Each regression is estimated separately for the period 2006 and 2007 to account for the difference in time span.

6.3.3 Food poverty and poverty status

Inherent in the measurement of poverty are the selection of a welfare indicator and the establishment of a poverty line. In measuring poverty, we use the non-welfarist approach (RAVALLION, 1992) which emphasises specific commodity forms of deprivation such as inadequate food consumption. ZELDES (1989) suggested that food consumption patterns were consistent with liquidity constraints. In our study, we measure absolute food poverty levels using the daily food expenditure per capita variable which can be compared to the food poverty line of Cambodia. The food poverty line shows the food-energy requirement (RAVALLION, 1998) for a person with normal dietary patterns to obtain 2,100 kcals per day. The Cambodian food poverty line was estimated at 1,389 Riel for rural areas in 2004 (NIS, 2004; WORLD BANK, 2006), which translated the food intake into KHR to provide the needed 2,100 kcals per person in a day. We refer to those with per capita daily food expenditure below the food poverty line as food poor. For comparability over different points in time, the rural food poverty lines were inflated according to the available Consumer Price Index (for food, beverages, and tobacco) reported by the Cambodian government through the NIS. Expenditure variables and land values were adjusted accordingly. The 1- and 2-year intervals of the panel data were considered in terms of percentage change.

The calculation of daily food expenditure per capita includes cash expenses for food items (average of daily and weekly expenditure), quantified consumption from household's own production (including rice, vegetables, livestock, and other crops) and other food items gathered (received, collected or caught).

6.3.4 Multinomial logit on poverty status

Using a multinomial logistic (logit) model, we try to identify the factors that affect the likelihood of the client household becoming chronically poor, transiently poor (worsen and improved, separately), and never poor, in terms of food consumption. The explanatory variables include: household and enterprise characteristics; number of loan cycles; location; variables that represent a household's ability to absorb shocks, such as assets owned; and previous events or shocks that may have affected their economic status. The data set includes indicators such as health shocks, crop failure, natural disasters and major events that require large, unplanned expenditure. These factors are likely to affect chronic and transitory poverty. We give attention to the effects of loan cycles especially on clients who are transiently poor. The geographic variables are dummies of the nine provinces visited.

6.3.5 Panel data analysis on the impact of microfinance

We chose the conditional change score model and the conventional fixed effects model to analyse the impact of group lending on food consumption. Using both methods allows us to check the consistency of our results. The fixed effects model has been widely used in impact studies of microfinance services. To our knowledge, the conditional change score model has not been employed in microfinance research.

6.3.5.1 Conditional change score models

One simple model for assessing predictors of change in response between two time periods where the response at the first time period is included as a predictor is the conditional change score model, where change in the variable of interest is regressed on the predictors of interest:

$$\Delta Y = \beta_0 + \beta_1 X_t + \ldots + \beta_n X_t + (\beta_{2-1}) Y_{t-1} + e_i$$

where ΔY denotes endpoint measurement of food consumption minus baseline measurement; X_t represents the independent variables; β_1 is the coefficient for that independent variable; Y_{t-1} is the baseline measurement of food consumption; and e_i is the error term.

Change is assumed to be dependent upon the response at the first round. See FINKEL (1995) for discussion of conditional change score models. JOHNSON (2005) compared change score and lagged dependent variable methods and suggested that change score models have advantages over the latter in estimating the effect of events on outcomes in two-wave panel data. LIKER ET AL. (1985)

also found substantial advantages to the change score method over conventional two-wave models. In our study, we consider the different time intervals (1 and 2-year intervals) between periods of observation. KESSLER (1977) stated that a sufficient time lapse between periods (to ensure that true change has taken place) is necessary for reliable change scores. We check if this statement holds true for our data.

6.3.5.2 Fixed Effects Models

In addition, our impact study focuses on the classic two-period panel data fixed effect methods. It has the advantage of controlling for unobserved household characteristics that do not change over time. The equation for our fixed effects model is:

$$Y_{it} = \beta_1 X_t + \beta_2 X_t + \ldots\ldots + \beta_1 X_t + \alpha_i + u_{it}$$

where Y_{it} is the dependent variable daily food consumption per capita; i = entity and t = time; X_{it} represents the independent variables; β_1 is the coefficient for that independent variable; α_i is the unobserved time-invarying effects of each household; and u_{it} is the error term.

We used the Hausman test to check if the fixed effect model is appropriate or if the model requires random effects. We also checked for autocorrelation and homoskedasticity of the model.

6.4   Panel data and biases

Inherent in a quasi-experimental design are biases. This section tackles the issues of selection bias and attrition bias in our panel data.

6.4.1 Selection bias

The sampling technique of this study faces threats of selection bias. There are two scenarios of selection bias problems in our type of research. The first scenario of selection bias involves missing information on the dependent variable for part of the respondents. We minimised this problem by including a control group in our survey which consists of non-client households in the same area as the clients. The inclusion of non-clients that are living in the same area as the clients also eliminates most locational biases. Table 6.1 shows some household characteristics of clients and non-clients. Client and non-client, on average, were insignificantly different in terms of household characteristics such as gender of household head, gender of primary income earners, literacy of household head,

etc. We can therefore infer that the households are similar in intrinsic characteristics thus selection bias is minimal.

The second scenario is when information on the dependent variable is available for all respondents but the distribution of respondents over the independent variables are taken in a selective way (WINSHIP & MARE, 1992). Households that chose to participate in group credit may differ systematically in many characteristics from the households who do not participate. We use the Heckman procedure (HECKMAN, 1979) to test for this second form of bias due to self-selection into the borrowing group. We tested whether the likelihood of joining a borrowing group (see Section 6.5.1) and the household's social relationship in the community (1=member of any group in the community, 0=no membership) depends on the same variables that are positively related to the likelihood that a household takes a loan plus variables that describe individual household characteristics and the household's relationship with their neighbors. The likelihood ratio test of the independent equations suggested that selection bias is not a problem for the model estimation. The Heckman two-step procedure is therefore not necessary.

6.4.2 Attrition bias in panel data

The attrition rate of our panel data was quite substantial at 24.89 percent for the 2006 group and 19.20 percent for the 2007 group. Several factors caused the high attrition. The main factor is migration for employment, either temporarily or permanently. Others were away on errands or simply out of town at the time of visit. We performed several tests to check whether attrition bias exists in our panel data. HERRERA & ROUBAUD (2005) pointed out that there is not always a relationship between attrition levels and attrition bias. In our case, it depends on whether attrition is related to the poverty status of the respondents in the first round or to the outcome variable of daily food expenditure per capita.

We used four analyses to test for attrition bias in our panel data. Initially, we tested for difference in frequencies of poverty status (below or above the poverty line) in the first round by attrition status and found no significant difference between the groups. Then, we compared the household characteristics in the first round by attrition status to identify possible attrition process. The number of adults in a household seems to be lower with the attritors. The ratio between income earners and number of adults in the attritors group is close to one. This indicates that the adults in the household must have been at work at the time of the visit for the second round hence the substantial attrition rate. There were no significant differences in the literacy of the household head, gender of household

head, daily food expenditure per capita, and value of landholdings between the attritors and non-attritors.

We estimated two different models to test the existence of attrition bias (see Appendix B and Appendix C. First, we estimated probit equations (MOFFIT ET AL., 1999) for whether households have attrited from the 2008 survey using first round regressors. We found that the attrition probability was not affected by the level of daily food expenditure per capita in the base period. Four regressors with strong correlation with future non-response are the number of adults in the household, the number of income earners, the ratio between the income earners and the number of adults, and client status (1=AMK client, 0=non-client). These variables were also significant in our bivariate analysis. The latter comes as no surprise as AMK clients are easier to track and non-clients have no incentives to participate in the second round. Also, the value of daily food expenditure per capita was regressed on respondents' characteristics in the first round and on the dummy for attrition in the second round (ALDERMAN ET AL., 2001 based on BECKETTI ET AL., 1988). We found that the dummy for attrition was not significant in the daily food expenditure per capita equation which is consistent with the other attrition test we performed. Hence, we feel confident with the panel data without applying specific attrition correcting techniques.

6.5   Results and discussion

6.5.1 Probit on participation

In this section, we explore the determinants of group lending participation using baseline data. Following literature on credit participation, we expect clients to have a demand for these loans (for example DIAGNE, 1999; ZELLER & SHARMA, 2002) and to be creditworthy (JOHNSTON & MORDUCH, 2008). We specify participation as a function of household characteristics, enterprise characteristics that may pinpoint demand for a loan or creditworthiness, and wealth. We expect evidence that households headed by women participate in group lending. We hypothesise that participation of older households (represented by age of household head) is negative as their access to information and risk-taking ability may be less than younger households. The number of adults in a household may also negatively affect participation. Households with diversified sources of income (measured by number of economic activities) are considered creditworthy by lenders hence we expect a positive effect on participation. We test whether the types of economic activities have different effects on participation. Home manufacturing and livestock enterprise may have greater use for loans as they constantly require inputs.

We test whether wealth is a significant determining factor in credit participation as better endowment of poor clients may enable the households to participate. On the other hand, better-off households may be averse to participating in group lending (JOHNSTON & MORDUCH, 2008) where loan amounts are relatively small. A negative and significant sign of asset accumulation (measured by asset building as highest expenditure), liquid assets (television and plowing/threshing machine) and fixed assets (total land area) variables would indicate that better-off households have less demand for small loans. On the other hand, poorer households (measured by the daily food consumption per capita) may have more demand for small loans.

Binary probit estimates of the group lending participation equation are presented in Table 6.2. As mentioned in Section 6.4.2, the likelihood ratio test suggests that selection bias is not a problem for the model estimation, hence the Heckman two-step procedure is unnecessary.

Table 6.2   Determinants of Household Participation in AMK Group Lending Program

Variables	Coefficient	s.e.	z
Household characteristics			
Age of household head	-0.0075	.0051	-1.48
Female household head	0.2219	.1381	1.61
Number of adults*	-0.0883	.0534	-1.65
Daily food consumption below rural FPL***	0.3170	.1191	2.66
Asset building as highest expenditure***	-0.3651	.1393	-2.62
Enterprise characteristics at time of baseline survey			
Number of economic activities***	0.3887	.0425	9.14
Home manufacturing as main income	0.1303	.1731	0.75
Livestock enterprise***	-0.5687	.1422	-4.00
Liquid Assets			
Television ownership**	-0.2670	.1172	-2.28
Plowing/threshing machine***	-0.6218	.2124	-2.93
Fixed Assets			
Total area of landholdings	0.0067	.0269	0.25
Constant	-0.2479	.2759	-0.90

Dependent variable is =1 if household participated in the group lending program and =0 otherwise

Number of observations: 823

Model χ^2 = 138.19, ρ < .01, R^2= 0.168 (MCFADDEN), 0.155 (COX & SNELL), 0.245 (NAGELKERNE)

*ρ < .10; **ρ < .05; ***ρ

Source: AMK data using own computation

A number of variables are found to significantly affect participation. Households whose daily food consumption per capita (in KHR) was below the Cambodian rural food poverty line (FPL) were more likely to take a group loan. This is expected since AMK targets poor clients in rural Cambodia with their small loans. This reflects the fact that households borrow to smooth consumption when they are in need. The number of economic activities in a household depicted that participation in credit increases significantly, by 39 percent, as the diversity of economic activity increases. Our measure of income diversity includes income from farming and livestock activities, fishing and other common property resources, casual and regular employment, manufacturing at home, and services offered. Diversity of economic activities signals less risky households and is a key component of creditworthiness.

The probability of participation is negatively related with the dummy variables of livestock farming, ownership of television, and ownership of a plowing/threshing machine, as evident from the negative coefficient of the probit regression. The ownership of a television and a plowing machine confirms that households which own high-valued assets are less likely to participate. Better-off households are less likely to participate in AMK's group loan where loan amounts have been kept relatively low. Also, since livestock (including buffalo, cows, pigs, and poultry) can easily be sold in times of need, these households may not find it necessary to participate in a credit program. For the expenditure variables, respondents were asked if they had spent money on certain items and services within the last 12 months, and were then asked to rank the three main ways in which they spent their money. Households, with the highest annual expenditure on asset building, show a significant negative effect on participation. Those that are able to build their assets are also less likely to borrow. Availability of liquid assets and the ability to accumulate assets seems to have the largest impact on the probability of credit participation. Households with a plowing/threshing machine are 62 percent less likely to participate.

The number of adults (18 years old or older) in a household shows significant negative effect on participation. Similar results are found by DIAGNE (1999). This implies that the more adults able to enter the workforce there are in a household, the less need there is for credit. The other variables (households headed by women, age of household head, dummy variable for household manufacturing, and total area of landholdings) have the expected signs but we found no significant evidence of their effect on credit participation.

The results demonstrated that a household participates in the AMK group loan program when they have spending constraints, but also have a number of

economic activities to qualify for and to pay for the loan. Those who are more economically stable and are able to build on existing wealth have less demand for small loans offered by AMK.

6.5.2 Food poverty and poverty status

Poverty is measured by comparing household food expenditure per capita with the rural food poverty line for both rounds of the panel data. A transition matrix was used to identify households that moved in and out of food poverty based on the two period panel data. A simple transition matrix enables us to identify: (1) households fixed in the poor group - chronically poor, (2) households fixed in the better off group – never poor, and (3) unstable households with dynamic shift between the social strata – transiently poor. We further classify the unstable households as ascended transient poor (households which improved their situation and that moved to above the food poverty line) and descended transient poor (households whose situation worsen and that moved to below the food poverty line). Food poverty incidence profiles for the panel data by client status is presented in Table 6.3. 1-year and 2-year intervals were differentiated. The incidence of chronically poor is higher among clients (59 percent) than non-clients (46 percent). On the contrary, the incidence of never poor is higher among non-clients at 26 percent while it is only 13 percent among clients. This is a good indication that AMK is able to target the poor households. Out of the 101 respondents classified as ascended transient poor, 50 are clients and 34 are dropouts. Client dropouts who ascended poverty between periods might have less need of additional loans.

6.5.3 Multinomial logit regression of poverty status

To analyse the factors determining poverty status of AMK clients, the multilogit model is used. The dependent variable in this model is a categorical variable for which a household is either chronically poor (=1), transiently poor divided into: descended transient poor (=2) and ascended transient poor (=3), and never poor (=4). The case-specific regressors represent household head characteristics, household demographics, asset holding, coping mechanisms and saving capability. The values of these variables are from the baseline years 2006 and 2007. The never poor are used as the comparison group. Results are shown in Table 6.4.

Larger families are likely to be transiently poor and have a much higher probability of being chronically poor than they do of being never poor households. We found significant results in the case of the chronically poor and the ascended transient poor in our study. BHIDE & MEHTA (2004) found similar

results in their study with Indian households. Although not dramatically so, the positive coefficient of the age of the household head (squared) suggests that older household heads increase the likelihood that the household is chronically and transiently poor (this is significant for the ascended transient poor). The education level of household member (measured by the number of years in school), reduces the possibility of being chronically poor and transiently poor (descended and ascended). The effect is significant in the chronically poor group. There is strong evidence that higher education reduces the probability of being poor.

The dependency on non-farm casual/temporary labor as a source of income and the number of income earners are determining factors that affect both transient (descended and ascended) and chronic poverty. A household's dependency on casual/temporary labor increases the likelihood that it is transiently and chronically poor. YAQUB (2002) stated that economic insecurity (fluctuations in income) is one key factor that drives households to poverty. A stable income protects households against shocks and is important when poverty is transient and even more so when it is chronic. On the other hand, as the number of income earners in a family increases, the more likely it is to remain in the never poor group. Similar results were reported by HERRERA & ROUBAUD (2005) where an increase in family workforce favored the emergence from poverty.

Total land value and ownership of high-valued assets (such as motorcycles, plowing machines, cars, tractors and karaoke machines) are also determining factors that affect poverty groups, although significance in our study varies between groups. Lack of high-valued assets and land are found to be significant determinants of chronic poverty as it relates to the ability of the household to cope with shocks or crisis. ZELDES (1989) concluded that food consumption patterns were consistent with liquidity constraints (low assets).

As expected, those that experienced income shock, such as enterprise failure or employment retrenchment, and natural disaster, such as drought or flooding, that caused crop failure have difficulty moving out of poverty. The likelihood-ratio test for independent variables (see LONG & FREESE, 2001) shows that the effects of the two variables representing shocks/major events are significant. The effect of enterprise/employment shock (X^2=2353.77, p=0.000) and the effect of natural disaster including loss of land (X^2=1418.34, p=0.000) on poverty status are significant.

Table 6.3   Number and Percentage of Food Poor by Client Status

	Never poor			Transiently poor						Chronically poor			Total		
				Ascended transient poor			Descended transient poor								
	2006/08	2007/08	**Total**	2006/08	2007/08	**Total**	2006/08	2007/08	**Total**	2006/08	2007/08	**Total**	2006/08	2007/08	**Total**
Clients	20	20	**40**	24	26	**50**	24	17	**41**	96	91	**187**	164	154	**318**
%	12%	13%	**13%**	15%	17%	**16%**	15%	11%	**13%**	59%	59%	**59%**	100%	100%	**100%**
Dropouts	13	10	**23**	22	12	**34**	16	12	**28**	76	56	**132**	127	90	**217**
%	10%	11%	**11%**	17%	13%	**16%**	13%	13%	**13%**	60%	62%	**61%**	100%	100%	**100%**
Non-clients	13	12	**25**	6	9	**15**	6	5	**11**	19	25	**44**	44	51	**95**
%	30%	24%	**26%**	14%	18%	**16%**	14%	10%	**12%**	43%	49%	**46%**	100%	100%	**100%**
Now clients	1	3	**4**	1	1	**2**	0	0	**0**	1	4	**5**	3	8	**11**
%	33%	38%	**36%**	33%	13%	**18%**	0%	0%	**%**	33%	50%	**45%**	100%	100%	**100%**
Total	47	45	**92**	53	48	**101**	46	34	**80**	192	176	**368**	338	303	**641**
%	14%	15%	**14%**	16%	16%	**16%**	14%	11%	**12%**	57%	58%	**57%**	100%	100%	**100%**

Source: AMK data using own computation

Table 6.4   Determinants of Poverty Status of AMK Clients Using the Multinomial Logit Model

Variables	Chronically Poor			Transiently Poor					
				Descended/Worsened			Ascended/Improved		
	Coeff.	s.e.	z	Coeff.	s.e.	z	Coeff.	s.e.	z
Household and enterprise characteristics									
Number of household members	.5959***	.1296	4.60	.1976	.1532	1.29	.4735***	.1438	3.29
Age^2 (household head)	.0002	.0002	1.05	.0003	.0002	1.40	.0003*	.0002	1.79
Highest education level of household member	-.1281**	.0594	-2.16	-.0120	.0688	-0.17	-.0387	.0671	-0.58
Non-farm casual/temporary labor as source of income	.8274**	.3268	2.53	.7014*	.3899	1.80	.6781*	.3797	1.79
Number of income earners	-.3551**	.1750	-2.03	-.4000*	.2128	-1.88	-.3984**	.1974	-2.02
Assets									
Total land value in KHR	-.1781**	.0825	-2.16	-.0829	.0936	-0.89	-.1592	.0968	-1.64
Own high-valued assets	-1.0519***	.3424	-3.07	-.2164	.4062	-0.53	-.1831	.3907	-0.47
Shocks or major events									
Experienced economic crisis (enterprise failure, job loss, etc)	20.7845***	.4371	47.55	20.7651***	.5719	36.31	.0000 [a]		
Experienced natural disaster (drought, flooding, fire, etc)	21.7197***	.5908	36.77	.0000 [a]			22.1138***	.6884	32.13
Number of loan cycles	-.1009	.0959	-1.05	-.0211	.1142	-0.18	-.0295	.1073	-0.27
Location (Reference= Banteay Meanchey)									
Battambang	-1.0000*	.5646	-1.77	-.4464	.6568	-0.68	.0181	.6644	0.03
Kompong Cham	.9412	.7737	1.22	.9754	.8737	1.12	1.2883	.8835	1.46
Kampong Chhnang	.4087	1.2987	0.31	.0897	1.5759	0.06	1.1840	1.4082	0.84
Kompong Speu	-.5710	.5043	-1.13	-.3735	.5968	-0.63	-.0139	.6044	-0.02
Kompong Thom	-.2678	.6655	-0.40	.0407	.7903	0.05	-.8687	.9870	-0.88
Pursat	-.0383	.5399	-0.07	-.3606	.6606	-0.55	.8218	.6237	1.32
Siem Reap	-.2791	.5929	-0.47	.1739	.6940	0.25	.8007	.6849	1.17
Banteay Meanchey	.1180	.8871	0.13	-.0338	1.0825	-0.03	1.0734	.9825	1.09
Constant	.6127	.7673	0.80	-.2122	.8992	-0.24	-1.7006*	.9070	-1.88

Never poor is the comparison group

Number of observations: 824

Model χ^2 = 131.96, $\rho < .01$, R^2= 0.111 (McFADDEN), 0.219 (Cox & Snell), 0.245 (Nagelkerne)

*$\rho < .10$; **$\rho < .05$; ***$\rho < .01$;

[a]= Coefficient constrained to zero, since no cases occupy this cell

Source: AMK data using own computation

The number of loan cycles does not significantly affect the poverty status, but the negative coefficients in all three groups indicate that long-term clients will likely stay in the never poor group. For better comparison, we examined the effects of long-term clientele between the descended and the ascended transient groups while holding other variables constant. We found that the odds of a long-term client belonging to the ascended transient poor group rather than to the descended transient poor group are 6 percent.

The location of households (dummy of provinces in Cambodia) does not significantly affect the poverty status of the clients except for the dummy variable for Battambang province in the chronically poor group.

In the next section, we look into the consumption pattern of the clients and compare them with those of non-clients to see if microfinance services have impacted their food consumption.

6.5.4 Impact of microfinance on food consumption

Tables 6.5 and 6.6 present the results from examining the impact of household participation in the group lending service of AMK on food consumption using the conditional change score method and fixed effects method with interaction variables, respectively.

In the conditional change score equation, the change in daily food consumption per capita is regressed on the baseline variable of the daily food consumption per capita (per model specification, baseline values – baseline mean), poverty status, location (province dummies), household participation in the group lending program, and interaction variables of client classification (new clients and long-term clients) with the number of loan cycles. The models were tested for heteroskedasticity and results indicated that we needed to use robust standard errors on the specified models.

Table 6.5   Estimation Results of Conditional Change Score Regression Models

Change in daily food consumption per capita in KHR	1-year interval (2007-2008)			2-year interval (2006-2008)		
	Coef.	Robust s.e.	t	Coef.	Robust s.e.	t
Daily food consumption baseline variable	-0.72***	0.15	-4.88	-0.86***	0.05	-17.05
Client Status (Reference = Non-clients)						
Client	-47.93	223.57	-0.21	46.57	212.23	0.22
Drop-out	-104.46	220.20	-0.47	-458.82	444.51	-1.03
Now client	-72.86	283.79	-0.26	46.75	209.88	0.22
Poverty Status (Reference=Never poor)						
Chronically poor	-1551.31***	200.32	-7.74	-1555.57***	150.52	-10.33
Descended transient poor	-1671.16***	176.54	-9.47	-1569.95***	142.12	-11.05
Ascended transient poor	-4.19	213.70	-0.02	-82.15	176.95	-0.46
Number of loan cycles	-31.02	140.68	-0.22	-277.55	166.83	-1.66
Province (Reference=Banteay Meanchey)						
Battambang	203.59	139.50	1.46	-173.07	119.86	-1.44
Kompong Cham	57.62	121.49	0.47			
Kampong Chhnang	263.35	204.46	1.29			
Kompong Speu	385.48**	198.58	1.94	131.96	81.64	1.62
Kompong Thom	195.41*	116.11	1.68			
Pursat	125.87	146.28	0.86	215.19**	92.44	2.33
Siem Reap	89.93	155.10	0.78	170.07	131.49	1.29
Oddar Mean Chey	299.35	183.90	1.63			
Interaction variables						
Client*Number of loan cycles				68.61*	34.69	1.98
Now Client*Number of loan cycles	15.27	268.65	0.06	56.64	35.55	1.59
Constant	1683.34	213.51	7.88	1831.60***	152.12	12.04
R^2	0.63			0.74		
Observations	303			338		

*$\rho < .10$; **$\rho < .05$; ***$\rho < .01$

Source: AMK data using own computation

Table 6.6   Estimation Results of Fixed Effects Regression Models

Daily food consumption per capita in KHR	1-year interval (2007-2008)			2-year interval (2006-2008)		
	Coef.	Robust s.e.	t	Coef.	Robust s.e.	t
AMK Client	-373.70***	94.38	-3.96	-126.14	122.11	-1.03
Owns high-valued assets	170.44*	96.20	1.77	42.03	78.93	0.53
Size of household	-111.94***	25.33	-4.42	-127.83***	34.21	-3.74
Difficulty with health-related expenses	-239.34**	104.47	-2.29			
Ability to save	137.54*	79.15	1.74	124.58*	72.69	1.71
Below food poverty line	-1147.80***	74.86	-15.33	-1290.10***	110.22	-11.71
Experienced household-related crisis/events				-79.04	62.80	-1.26
Interaction variables (Reference=baseline year)						
Farming as source of income*2008	231.12***	74.73	3.09	221.14**	105.68	2.09
Total land value*2008	4.56e-07	6.37e-07	0.72	1.09e-06	8.29e-07	1.31
AMK client*2008	296.09***	89.83	3.30	256.02**	114.94	2.23
Chronically poor*2008	-66.99	68.63	-0.98	165.55*	92.95	1.78
Never poor*2008	875.34***	181.98	4.81	551.29***	166.56	3.31
Constant	3066.86***	188.06	16.31	3032.57***	208.15	14.57
R^2 (within)	0.68			0.62		
Observations	606			676		

*$\rho < .10$; **$\rho < .05$; ***$\rho < .01$
Source: AMK data using own computation

In the fixed-effects and random-effects regression models, the change in daily food consumption per capita is regressed on the change in household characteristics, change in asset holdings, change in economic situation, change in client status, and on the constant over time variables using interaction with year dummies (see WOOLDRIDGE, 2009). Interaction of variables with year dummies allows us to test whether the effect of a variable was constant over this time period. It also allows us to include the drop-outs in our analysis. The Hausman test indicated that we use the fixed effect estimators for both datasets. The model was diagnosed to test for autocorrelation and heteroskedasticity. The modified Wald test was used to test for group-wise heteroskedasticity. The results indicated that we needed to use robust standard errors in both datasets.

6.5.4.1 Conditional change score models

Not surprisingly, the daily food consumption baselines are significant with negative coefficients. One of the earliest observations (AICKIN, 2009) was that change scores tend to be negatively related to the baseline values. The datasets with 1-year interval and 2-year interval showed no significant effect of client status on food consumption. However, the signs of the coefficients give an indication that participation in group lending has different effects. The 1-year interval analysis shows that being a client or a new client has a negative effect on the daily food consumption. Analysis of the 2-year interval shows that group lending participation has a positive effect on households' food consumption when compared with non-clients, while dropping out of the group has a negative effect. We check whether the loan cycles affect food consumption by client type. The 2-year interval model shows a significant positive effect of long-term membership in group lending on food consumption.

As expected, those identified as chronically poor fare worse than the transiently poor when compared with the never poor. The values were strongly significant with the chronically poor and the descended transient poor. Households which descended below the poverty line had a higher negative effect. The effect of the ascended transient poor is minimal and insignificant. We found some locational effects in our analysis. In the 1-year interval, Kompong Speu and Kompong Thom have significant positive effects while Pursat province had a significant effect in the 2-year interval.

6.5.4.2 Fixed effects regression models

The results of the fixed effects regression indicate that becoming a client has a negative effect on food consumption and is significant for the 1-year interval.

DUNN & ARBUCKLE JR. (2001) found similar results in their study on food expenditures. Similar to the conditional change score results, this indicates that microcredits may have a negative impact on food consumption for new clients but can improve with long-term clients. We found that the effect of being an AMK client in 2008 is significantly larger than in the baseline years, as shown in the interaction variable. This result strongly suggests that being a long term client has a positive effect on the food consumption patterns of a household. The negative impact for the new clients may be temporary and the variable will increase with time spent in the program. Often, seasonality and long gestation periods of enterprise and farming are disparate with payment schedules. This happens when the design of the financial service does not meet the needs and income cycle of the clients. The burden of new monthly payments may have triggered poor households to reduce food consumption as a coping strategy.

All of the other variables have the expected sign although not all variables have significant effects. The increase in household size has a significant negative effect on food consumption. As expected, the descended transient poor (who moved below the poverty line on the second round) had lower food consumption. In the 1-year interval, health related expenses or shocks have a negative effect on food consumption.

Those who managed to save between periods had improved food consumption. Farming as the source of income (constant in the second round) also has a significant positive effect on food consumption. We believe that this is especially true for rice farmers in rural Cambodia.

6.6   Conclusions

Because our panel analysis is based on two periods, it allows us to improve our understanding of the characteristics and poverty dynamics of microfinance clients in rural Cambodia and the impact of microcredit with respect to the observation of food consumption. Our findings suggest that households which are more economically stable and have the ability to build assets have less demand for small loans. It supports the notion that poor households use liquid assets to smooth consumption or cope with emergencies. For example, since livestock can easily be sold in times of need, livestock farmers may not find it necessary to participate in a credit program. Households with liquid assets are less likely to borrow. Instead, the small loans have attracted households which are economically active but have spending constraints. This is a manifestation of AMK's effort to continue to reach the poor by keeping the loan amounts small.

Our review of impact studies in microfinance reveals that there are differences in results on the impact of microfinance on various household social indicators. Several studies have raised doubts about the positive effects of microfinance services, while most found evidence that microfinance has a positive impact on its clients. Little attention is given into the temporal and long-term effects of microfinance or the difference in impact on new entrants and long-term clients. Because our panel data include new entrants and long-term clients collected at 1- and 2-year intervals, we shed light on the importance of long term participation in group lending. An important finding of the fixed effect model with interaction variables and the conditional change score model is that access to group loans has a negative impact on food consumption of new clients but a positive impact on long-term clients. The multinomial logit regression shows that for a long-term client the odds of belonging to the ascended transient poor group rather than the descended transient poor group are 6 percent. The negative impact for the new clients may be temporary and the variable will increase with the length of time in the program. Often, seasonality and long gestation periods of enterprise and farming are disparate with payment schedules. It is important to review the design of financial services offered to clients. Loans for consumption and credit lines can offset the negative impact on the food consumption of new client. We believe that financial education before loans are given could also address this problem. The need for financial literacy training is widely acknowledged among MFIs. Without basic financial literacy on managing credit, poor clients will continue to struggle from the initial shock of monthly payments. Good management of the money they have is important in fulfilling their day-to-day needs and unexpected emergencies. However, evidence does not exist to support this notion. Future studies should work to fill this gap. In addition, further research on loan use and activities of new entrants can shed light upon the impact of loans on food consumption.

Poverty dynamics and poverty indicators take some time to change. The slight differences between the results of the 1-year and 2-year intervals give an indication that this is so. We believe that true impact can be effectively measured with sufficient time lapse. These findings should be confirmed with wider intervals of panel data. Also, future research should be conducted on clients with individual loans to determine if the results are unique to group lending or are representative of rural clients in general. The research method and analysis should be easily implemented in urban settings.

Acknowledgements

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7 A REVIEW OF SOCIAL PERFORMANCE INITIATIVES IN MICROFINANCE

Florence Milan and Manfred Zeller

Abstract

This paper explores the state of the art in social performance (SP) initiatives in the microfinance sector. It briefly outlines the driving forces of the current initiatives and the main themes in SP. The paper then reviews some widely held SP initiatives in the institutional and organization levels and towards a global level. By reviewing some of the existing methods, the research aims to draw insights from different perspectives that will aid in the formulation of a practical measurement method that can be applied across different types of microfinance institutions (MFIs). It closes by attempting to create a standard framework for a social performance tool compatible with an existing audit and management information system of a MFI by which management, donors and investors can assess the double bottom-line approach of the institution.

Keywords: accountability, microfinance, social performance, social reporting, stakeholder

7.1   Introduction

In recent years the microfinance industry has experienced the emergence of social performance (SP) as a major topic. SP has been defined by the microfinance sector as the effective translation of an institution's social goal into practice related to providing financial services to the poor and excluded (SOCIAL PERFORMANCE WORKING GROUP, 2006) . The considerable interest in SP is in response to the mounting pressure from donors that microfinance institutions (MFIs) provide proof that microfinance services are sustainable ways to assist the poor in their economic development. Donors started to require MFIs to prove that microfinance empowers the poor hence impact assessments of these programs emerged. Accordingly, SP initiatives were conceived with an aim of making microfinance more effective in achieving its social mission. So far, SP integration into MFI principles and operation has been variable. There are those who believe that the process approach is more comprehensive in evaluating SP and most useful to MFIs. The process approach reviews how an organization identifies, integrates, and manages its social goals. An organization is assessed on how it internalizes the expectations of society in terms of socially responsible behavior and how they implement socially responsible actions. Some believe that microfinance is a development tool hence SP is systematically and routinely investigated using the outcome approach, mostly through impact assessment on clients. The outcome approach is based on an organization's relationship with its stakeholders and on the effect of their services assessed by the primary stakeholders' satisfaction and impact of microfinance to various stakeholders and the society. Others view the task of impact assessment on microfinance as better left to independent researchers (COPESTAKE, 2007).

There are a number of ongoing SP initiatives in the microfinance sector. Each tool follows a different conceptual framework. Thus far, only a few of these SP initiatives have been reviewed by MFIs. Since each tool was reviewed by a different MFI, a comparative analysis of the different frameworks is missing. For MFIs to make effective decisions as to which SP tool suits their organization, a comparative analysis of the frameworks, SP indicators, strengths, and weaknesses is important. This paper contributes to filling this gap by reviewing and comparing some of the widely held existing methods. The paper aims to draw insights from different perspectives that will aid in the formulation of a practical measurement method that can be applied across different types of MFIs.

The main aim is to provide a pattern for guidance which may lead to a prescribed level of social performance by which management, donors and investors can assess the double bottom-line approach of an institution. The objectives of this

paper are: to review different widely known SP initiatives in terms of functionality and suitability for meeting MFI needs; to compare and contrast the SP tools based on context, reporting, and design; and to identify quantifiable indicators and design requirements that can be used as guidance for SP tools. We do not attempt to reinvent the frameworks in SP but to generate insights into a standard guidance. A standard generally includes some form of consensus among stakeholders (LEIPZIGER, 2003) hence we approach the analysis from different perspectives through the various initiatives of consortia, MFIs, large organizations, and rating agencies. We explore the academic and practical discussions of SP and relate it to the main aim of this paper.

Section 7.2 presents a brief review of key concepts in SP based on the driving forces of current initiatives and why they were developed. We categorize the origins of SP in the institutional and organizational levels. Section 7.3 reviews some of the better known SP initiatives on the two levels discussed in Section 7.2 and towards a global level. We discuss the current initiatives according to the nature of the organization, functionality of the tools, and its suitability to stakeholder needs. Section 7.4 explores the possibility of creating a standard framework for social performance tools. In Section 7.5 conclusions are made.

7.2   Social performance in microfinance

We categorize SP in microfinance based on how the initiatives were developed. At the institutional level, initiatives were developed by a network of organizations or by external organizations such as rating agencies. At the organizational level, initiatives started within the MFIs.

7.2.1 Institutional level – SP as organizational responsibility

The accountability theory places society at the centre of analysis as it questions the legitimacy of an organization's action (GRAY, 2001). It sets out the argument why organizations should report on their social performance and not just financial performance (WILSON, 2003). The fundamental premise of accountability is that organisations should provide information or justify their actions to stakeholders and society (GRAY ET AL., 1997; WOODWARD ET AL., 1996). The major means of social accountability is creating transparency through reporting on social indicators with the same regularity of financial reporting.

SP initiatives at the institutional level were driven by a network of organizations or by external organizations who believe that MFIs should aim at becoming both sustainable commercial institutions as well as driving forces for social

development (COPESTAKE ET AL., 2005; TULCHIN, 2003). Working under the premise that microfinance is an important poverty reduction strategy in developing countries, they recognized that there is a need to develop practitioner-friendly and useful social performance assessments to promote social reporting. One example is CERISE based in France which is comprised of five organizations. They developed an easy assessment system that responds to the needs of the MFIs and other stakeholders. We will further discuss the SP tool CERISE promotes in the next section.

7.2.2 Organizational level – SP for stakeholders

A stakeholder is defined by FREEMAN (1984) as any group or individuals affected by, or who can affect, the achievement of an organization's objectives. The theory is a strategic managerial concept concerning how the organization manages its stakeholders (GRAY ET AL., 1997). Ethically, managers "should" manage for the benefit of all stakeholders (HASNAS, 1998). In the accountability framework which we previously mentioned, stakeholders are entitled to information about the institution and reports are prepared for them. The goal is to strengthen relationships with stakeholders to develop a competitive advantage (WILSON, 2003). Thus, the aim of SP for stakeholders was to voluntarily analyze and report how institutions serve their clients and earn profits while also serving other stakeholders such as employees and communities. SP initiatives were driven by the need of MFIs to demonstrate social performance, transparency and credibility which would lead donors/investors to reallocate funds towards socially-oriented MFIs. Most of the tools under this category were developed for internal assessments.

Up until recently, most MFIs and researchers focused social performance measurement on their primary stakeholder, the clients. Social performance was measured by poverty outreach and impact on clients. Client assessments were implemented by MFIs to establish that their clients are satisfied with the loan services they are receiving and that their organization is reaching the poor. The most recognized SP initiatives in this category are perhaps the Grameen Foundation Progress out of Poverty (PPI) tool and the USAID IRIS Poverty Assessment Tool (PAT) which are advocated as simple and accurate tools that measures poverty levels of groups and individuals. PPI and PAT are among the SP initiatives which started in the organizational level but are gaining acceptance at the global level.

7.3   Social performance initiatives

In this section, we take stock of some of the SPM tools available including those designed specifically for poverty assessment. We take into account the process approach and the outcome approach in SP. The process approach reviews how MFIs integrate SP in their planning and operations while the outcome approach focuses on the end result including impact of microfinance. The SP initiatives will be described and analyzed in terms of, but not limited to: the nature of the organization, functionality of the tool, and suitability for meeting stakeholder needs. We categorize the tools according to classifications mentioned in the previous section − at the institutional level and the organizational level; and towards a global level. At the end of the section, we set out to compare and contrast the different SP initiatives.

7.3.1 Institutional level

7.3.1.1 Social performance indicators (SPI) tool of CERISE

Comité d'Echanges de Réflexion et d'Information sur les Systèmes d'Epargne-crédit (CERISE) was founded through the aspiration of French organizations *Centre International de Développement et de Recherche (*CIDR), GRET, IRAM, CIRAD and *Institut des régions chaudes* (IRC) to share and learn from each other. CERISE developed the Social Performance Indicators (SPI) tool with a "questionnaire plus guide" aimed at evaluating the intentions, actions and corrective measures implemented by an MFI in order to determine whether it is able to attain its social objectives. Using a scoring system, it includes four dimensions of SP: outreach to the poor and excluded, adaptation of products and services to target clients, improving social and political capital, and corporate social responsibility. The tool was designed based on the criteria that they could be self-reported by the MFIs and could be rapidly verified by an external audit. The SPI tool is easily accessible at the CERISE (website http://www.cerise-microfinance.org/-tools-). It has recently been updated to include indicators compatible to the Social Performance Standard reported to the Microfinance Information Exchange (MIX) Market. MIX is a non-profit organization that collects, standardizes, and validates financial, operational, product, client, and social performance data from MFIs all over the world. The information is made available on MIX Market (www.mixmarket.org).

This "questionnaire plus guide" is among the low-cost and time-saving SP tools, addressing a range of issues from geographical and individual targeting to social responsibility to the employees, the community and the environment. One of its strengths is that results can be compared with other MFIs as the tool is

quantifiable. It is one of the few tools that encompass the process and outcome approaches although the outcome approach does not include the measurement of impact of financial services and satisfaction of other stakeholders. Because the tool uses EXCEL program, no extra training is required to run it. The guide is well-articulated and easy to follow. The tool promises a short duration of the implementation and reporting process. The use of the tick-box system makes it simple to use. However, inherent in a tick-box system is the lack of explanatory power and responses are limited. One of the weaknesses of the tool reported by MFI users is the limited client interaction because there is no field-level survey (SUMMERLIN ET AL., 2009a).

The graphic representation of SPI results generated from the questionnaire (see Figure 7.1 for an example) is unique in the industry. The fact that the output is self-generated by an EXCEL file makes the tool attractive to MFIs that do not have analytical manpower. The tool is appropriate for MFIs making their first inroads into the field of SP. One of the challenges of the tool is to accommodate variability in the preset answers on the questionnaire.
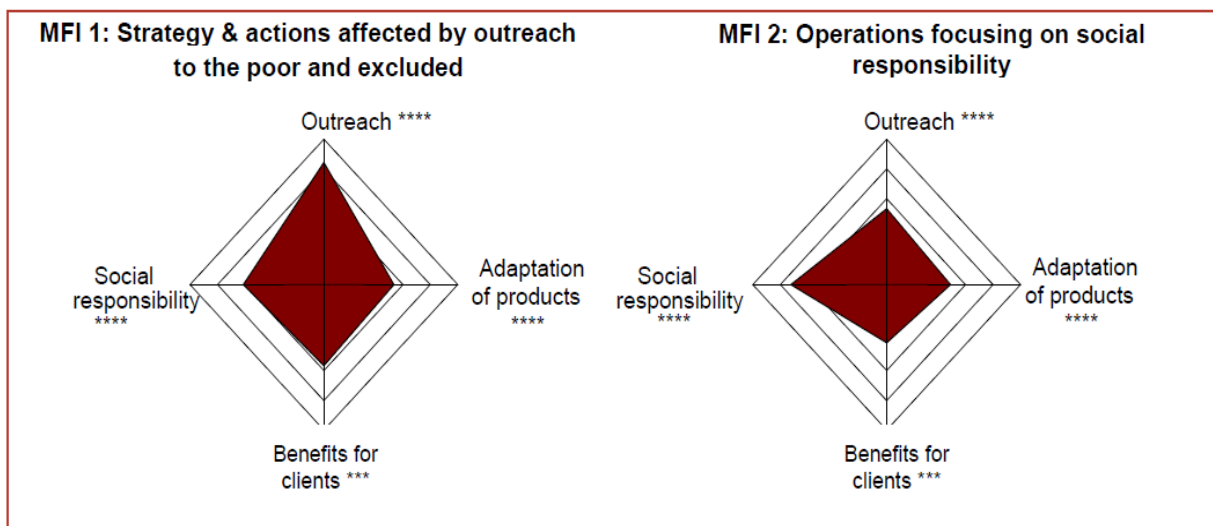
Figure 7.1   Example of the Graphic Output of the SPI Results
Source: http://www.cerise-microfinance.org/-tools-

7.3.1.2 Quality audit tool (QAT) of MFC

The Microfinance Centre (MFC) is a network of 110 member institutions mostly in Central and Eastern Europe born from a need for regional microfinance networking and information exchange. Its members range from banks and non-governmental organizations to investors and development institutions. The Quality Audit Tool (QAT) is an internal tool designed to review and improve the effectiveness of management processes for achieving social goals. It is aligned with the Social Performance Management (SPM) approach developed by the Imp-Act Consortium. It focuses on an organization's stated objectives and the effectiveness of its system for achieving it. The QAT is a process approach and has been designed to be aligned with the social rating methodologies of M-CRIL and Microfinanza. The tool is not readily available in the MFC website but can be requested through communications with the organization.

QAT is among the most comprehensive SP tools using the process approach, addressing a range of issues from the intent and design of a MFI, to the SP information and management systems. It has three steps of implementation: the gap analysis using a Yes-No-Partially questionnaire and the in-depth follow-up with preset questions; the analysis of data and drafting of report; and the audit panel. MFC offers free training of QAT to its member-MFIs and to people interested in learning the processes. The distinguishing feature of the tool is the audit panel comprising of organizational stakeholders who review the findings and address the issues to be improved. MFI users have reported the comprehensive analysis on the SP gaps as one of its strength, which is useful in effective decision making and developing action plans (SUMMERLIN ET AL., 2009b). The preparation and implementation processes require an external facilitator with sound knowledge of SP practices as implementation may be too complex especially on its initial implementing year. The cost of hiring an external consultant may be a limiting factor for small MFIs. This is especially a concern for thriving MFIs who want to demonstrate their SP to attract donors or investors but cannot afford such service.

The QAT is creating strong networks in Asia and throughout Central and Eastern Europe. The tool is a useful starting point for all MFIs seeking to assess its strengths and weaknesses in social performance. Because it uses the process approach, there is no benchmarking therefore it is not for MFIs seeking to compare their results with other MFIs. The biggest challenge of the tool is to counter subjectivity as results are based on self-reported data.

7.3.2 Organizational level

The first two initiatives discussed in this section focus on client poverty assessment. The methods are limited to predicting whether a client is poor or not based on national poverty lines or international poverty lines. The third is a social rating initiative while the fourth focuses on an MFI's voluntary SP initiative.

7.3.2.1 Progress out of poverty index (PPI) of Grameen Foundation

Grameen Foundation is a global non-profit organization with a network of partners in Asia, the Americas, Europe, Middle East, North Africa and Sub-Saharan Africa. Inspired by the achievements of Grameen Bank in Bangladesh, it was created to combine microfinance technology and innovation to empower the world's poorest people to escape poverty by providing MFIs in poor communities with access to the capital they need. The Progress out of Poverty Index (PPI) was created as a client poverty assessment tool designed to provide statistical information and track the economic poverty levels of clients with the use of poverty scorecards. The tool is a combination of country-specific and easy-to-collect indicators using household data based on national poverty survey data to predict the probability that a household is poor. So far, country-specific indicators have been identified for 38 countries. These tools can easily be accessed at the website of Progress out of Poverty (http://progressoutof poverty.org/).

The main strengths of the tool are simplicity, low-cost, and low technical requirements. The PPI consists of ten indicators with an individual response for each that is assigned a value. The sum of all indicators is the single PPI score which is associated with a poverty likelihood that predicts the probability that the household falls into certain poverty bands. Data entry can be integrated within the current MIS/database or an MFI can create a PPI Intake Tool with the EXCEL program. The survey can be applied at in-take of new clients or through field visits. Additionally, the tool aims to measure changes in poverty over time. The tool warns users that the PPI does not detect causality. The tool may be susceptible to query due to some level of subjectivity in the selection of indicators and the technical accuracy of the design of the scorecard inherent in indicator-based poverty measurements.

To avoid the pitfalls of repetitive, safe and limited reporting, Grameen Foundation offers PPI certification to verify that MFIs are using the standards of use of the tool and that results are valid. The PPI can be applied to any country with data from a national income survey. So far, the tool has been developed for 38 countries. The tool deals with only a fraction of SP issues. It does not contain

management systems and it is best used in conjunction with process standards. Because it is an indicator-based measurement, keeping the tool updated is important to ensure accurate results.

7.3.2.2 Poverty assessment tool (PAT) of USAID

The United States Agency for International Development (USAID) is an independent agency that provides economic, development and humanitarian assistance around the world in support of the foreign policy goals of the United States. USAID commissioned the IRIS Center of the University of Maryland to develop, test and disseminate tools for assessing the poverty levels of microenterprise beneficiaries. The IRIS Center recommended country-specific tools as they tend to be more accurate than international tools. The tools for 33 countries may be downloaded from www.povertytools.org and can be implemented by anyone. The tool requires the users to download the Epi Info or the CSPro software for the data entry and analysis.

Similar to the PPI of Grameen Foundation, the PAT uses scorecards that are simple, practical and low-cost. A combination of statistical and practical criteria was used to select the ten to 20 indicators for each country. PAT uses a variety of regression models earning it early approval in terms of accuracy. PAT serves its purpose of measuring the percentage of poor clients and how the percentage changes over time. But MFI users have reported the limited reporting flexibility of the tool and low effectiveness as a management tool (FORD FOUNDATION ET AL., 2010). The use of new software requires training through a seminar, online courses or by reading the manual.

Keeping the indicators up to date is important. The IRIS Center has been quick in updating some of the tools since its inception. However, changes in the indicators may cause inaccurate estimates of the change in poverty of MFI clients. MFIs must be careful when interpreting results from their updated tools.

7.3.2.3 Social rating of M-CRIL

Micro-Credit Ratings International Limited (M-CRIL) started as a financial rating agency of MFIs in response to the need for an agency that would bring about standardized assessments of financial performance. As the microfinance industry focused on SP, M-CRIL developed a systematic methodology for social rating. The tool covers context information about the MFI, the steps involved in translating social mission into practice, and compliance with principles of social responsibility. Social performance dimensions included in the social report are: mission and systems; responsibility to clients; other social responsibilities; depth

of outreach; and appropriate services. M-CRIL offers three types of rating: standard (without field data); comprehensive (with field level data provided by the MFI); and enhanced comprehensive (field level data collected as part of the social rating).

M-CRIL performs its social rating by first using the information provided by the MFI. The process includes a visit from an external consultant to verify information provided by the MFI and gather information at the management, branch and field levels. The results are reviewed by an independent external committee that prepares the report and assigns an overall grade to the MFI. One of the strength of the tool is the single index assigned to the MFI which clarifies the SP position of the MFI and improves the comparability of their social efforts across the microfinance industry.

The tool is well suited for MFIs seeking to compliment their financial rating with a social rating with the help of external consultants. It is appropriate for users who want a field-level survey as part of their social rating. Employing social rating agencies can give assurance of credibility. However, rating agencies are quite expensive for small and medium MFIs.

The challenge for M-CRIL and companies involved in social rating is to come up with standardized indicators for comparability. Another important challenge is to include impact assessment into the process. Indicators, such as depth of outreach, which measure poverty levels of clients, may not be sufficient as donors and shareholders are interested in the impact of microfinance on clients.

7.3.2.4 Social performance tools of AMK

Angkor Mikroheranhvatho Kampuchea (AMK) is a licensed MFI in Cambodia which originated from the village banking activities of Concern Worldwide. In adhering to the double bottom line concept, AMK created a Financial Audit Committee and a Social Performance Committee that reports directly to the board. While the company operates in a financial climate and aims to be economically viable, the board members and its social performance committee ensures that the institution does not forget its social mission in pursuit of their financial goals. The initial focus of AMK's SP tool was on client outreach and impact. As AMK expanded, its model changed along with its dynamic organization. More SP measurements were added by integrating key features of SP into its different departments (see Table 7.1 for a list of these tools). The tools include Staff Satisfaction Survey, Financial and Operations Audit, Client Protection Audit, Outreach and Impact, Client Satisfaction Report, Exit Client Survey, and Competition Analysis. AMK measured outreach and impact using a modified

CGAP poverty assessment tool (HENRY ET AL., 2003) by assigning a Well-being Score to its client respondents using food security as its benchmark. Non-clients were used as control group.

Table 7.1 AMK's Social Performance Measurement Tools

AMK Department	Tool	Users of output
Human Resource	Annual staff satisfaction survey	Management
		Board
Internal Audit	Financial procedures and operations audit	Management
	Client protection audit	Board
		Shareholders
Research	Client profile	Shareholder
	Outreach and impact (Well-being)	Board
	Client Satisfaction	Management
	Exit client survey	External agents
	Quarterly competition analysis	

Source: Own depiction

In 2010, AMK launched the PPI tool of Grameen Foundation to replace their outreach and impact measurement. Table 7.2 shows a comparison of the poverty indicators used in AMK's Well-being Score and Grameen Foundation's PPI tool. We also included the poverty indicators of the USAID IRIS PAT. Commonalities in the social indicators are highlighted. AMK's Well-being Score measures relative poverty while the PPI tool and the PAT fulfill exactly the same purpose of measuring in absolute terms. The difference of the two lies in the statistical method used. The change in the outreach and impact method from the Well-being Score to the PPI may cause inaccurate estimates of the change in poverty of MFI clients that were previously assessed using its own Poverty Score method. The change in methods requires a new set of data for its impact measurement.

The AMK SP tools can be useful starting points for MFIs especially so for institutions seeking the process and outcome approaches. The SP model allows flexibility as it is a learning process. The challenge for AMK is to translate their

findings into external reports for the benefit of its primary stakeholders and the public. For an SP initiative to succeed, codes and standards must have strong support at a senior level including the board of directors of an MFI.

Table 7.2   List of Poverty Indicators Identified for Cambodia by Grameen Foundation, IRIS and AMK

	PPI	PAT	Well-being Score
Number of household members	√	√	
Number of adults			√
Gender of household head		√	
Age of household head		√	
Household head can read and write			√
Number of children attending school	√		
Number of adults who can read		√	
Type of floor of the dwelling			√
Type of wall of the dwelling	√		√
Type of roof of the dwelling		√	√
Type of fuel for cooking	√	√	
Type of light source		√	
Type of toilet facility	√		
Type of treatment of drinking water		√	
Number of bicycles and motorcycles	√	√	√
Total land area owned (including dwelling area)			√
Owns a bed set	√		
Owns a wardrobe or cabinet/No. of wardrobes or cabinets	√	√	
Owns a water pump	√		
Owns a television/Number of televisions	√	√	√
Number of video tape players/recorders		√	
Number of suitcases		√	
Number of dining sets		√	
Food as a major expense			√
Number of times the household ate seafood in 1 week		√	
Number of times the household ate meat in 1 week		√	
Food security			√
Total household food expenditures			√
Diet changed (worsened, same or improved)			√
Clothing and footwear expense per capita			√
Casual labor as source of income			√
Investment in non-farm income activities			√
Investment in durable assets and household equipments			√
Has leftover to save (cash, gold, rice, etc)			√
Dealing with large expense			√
Dealing with medicine and healthcare cost			√
Coping with crisis by selling personal belongings			√
Relationship with neighbors and community			√
Owns low- to high-valued assets			√

Source: www.progressoutofpoverty.org; www.povertytools.org; AMK

7.3.3 Towards a global level

7.3.3.1 SPTF Framework

The overall challenge of most of the above reviewed tools is to attract a global following. This is the major aim of the Social Performance Task Force (SPTF). SPTF is a global initiative of over 850 members comprising of practitioners, donors/investors, national and regional networks such as the SEEP Network and the IMP-ACT Consortium, technical assistance providers, rating agencies, academics, and researchers. It was charged by CGAP, the Argidius Foundation, and the Ford Foundation to define SP in microfinance and address questions about measuring and managing SP. The SPTF is currently working to create a common reporting framework for MFIs which include standardized SP indicators which can be found at their website (http://sptf.info/).

The broad components of the SPTF framework includes: intent of an MFI; strategies and systems, policies and compliance; and achievement of social goals. It contains 22 main indicators with quantitative and qualitative properties. For example, quantitative data were used to measure client outreach (e.g. percentage of clients living in rural areas, percentage of clients that are literate, percentage of clients that are female) while qualitative data were used to measure social responsibility to staff (e.g. What is the organization's policy on employment of women? What training opportunities are provided to the staff?). Like CERISE, the SPTF coordinated with MIX Market on reporting of some of its social indicators. Over 1,800 MFIs are reporting their financial and SP data on MIX Market (www.mixmarket.org) giving investors and other stakeholder easy access to the information. By developing strong partnerships with other key SP initiatives, the SPTF was able to promote the SP indicators and the reporting by MFIs.

The tool is one of the most significant documents drafted where different stakeholders were involved in the deliberate selection of social indicators. The norms of the SPTF framework with regard to SP are very comprehensive integrating the process and outcome approach. The challenge is to bring more MFIs, investors, and governments into the discussion and implementation of SP. In the absence of statutes in governments and at the international level, there is a danger that the achievements of various social reporting initiatives in microfinance will easily be swept away.

7.3.3.2 Comparison and contrast of SP tools

Table 7.3 shows a comparative review of the SP initiatives in terms of process and outcome indicators; output; and tool design and requirement. As mentioned, the process approach reviews how MFIs integrate SP in their planning and operations while the outcome approach focuses on the end result or impact of microfinance. The output refers to the SP report of an MFI. The tool design and requirement pertains to the resources needed to implement the SP initiative including time expenditure, expense and needed human resources. The SP indicators, output and tool requirements included in the analysis are further discussed in the next section.

Among the seven initiatives reviewed, the SPI of CERISE, the M-CRIL Social Rating, the SPTF framework and the AMK SP tools covers both process and outcome approach at different degrees. We focus on these four tools as we find it necessary that SP initiatives should encompass both process and outcome approaches.

All four tools are intended to support effective management of SP in an organization, monitor the processes, and report the outcome of their SP initiatives. The main aim is to provide standardized SP indicators (some of which are quantifiable) that are applicable to all MFIs. The tools put strong emphasis on social mission clarity and governance.

The strongest synergy between the four tools is to be found in the assessment of financial services and SP to clients. The tools put strong emphasis on the diversity of financial services offered that caters to the needs of its target clients. The SP to clients emphasizes mostly in the area of client protection and outreach of an MFI. However, less emphasis is given to the poverty impact/change on clients. Some argue that the task of impact assessment is rigorous, costly, and very technical which is not in the capacity of a MFI. AMK's attempt to periodically assess impact of its financial services sets an example to other MFIs that voluntary impact assessment is feasible.

The SPI tool and the SPTF framework include provision for non-financial services, which the AMK SP tools and the M-CRIL do not. As more and more practitioners agree that financial services are not sufficient to lift clients out of poverty, complementary services offered by MFIs or through partnership with other agencies such as financial literacy and skill training is essential. M-CRIL's social report and AMK's social performance committee provide recommendations for SP. This is an important component for MFIs aiming to improve their SP.

Table 7.3   Comparative Review of Some SP Tools

	SPI	QAT	PPI	PAT	M-CRIL	AMK	SPTF
Process							
Social mission clarity and governance	√√	√√			√√	√√	√√
Embedded codes of conduct		√√			√√	√√	
Alignment of systems		√√			√√	√√	
Decision making	√√	√√			√√		
Financial services	√√	√√			√√	√√	√√
Non-financial services	√						√√
Communication of SP		√√					
Outcome							
Gender approach	√	√			√√	√	√√
SP to clients	√√	√	√√	√√	√√	√√	√√
Outreach	√		√√	√√	√√	√√	√√
Poverty impact/change			√	√	√	√	√
SP to staff	√√	√			√√	√√	√√
SP to community	√	√			√√		√√
SP to the environment	√	√			√√		√√
Output							
Quantifiable	√√		√√	√√	√√	√√	√
Standardized SP indicators	√√	√	√√	√√	√√	√	√
Comparable Output	√√		√	√	√√		√
Recommendations for SP		√√			√√	√√	
Applicable to any MFI	√√	√√			√√	√√	√√
Tool Design and Requirements							
Accessibility	√√	√	√√	√√			√√
Low cost	√√		√√	√√			√√
Flexibility	√	√√				√√	√
Low need for training	√√		√√	√	√√		√√
Easy software	√	√√	√√	√			√√
Less time requirement			√√	√√			√
Manageable impact analysis			√√	√√		√	√
Ease of overall analysis	√	√	√√	√√		√	√

√√ = strong emphasis; √ = some emphasis
Source: based on own analysis, CERISE SPI, SPTF framework, M-CRIL Social Rating

One of the starkest contrasts between the tools is the design and requirements in terms of technical knowledge, time, and cost. AMK's SP tools on outreach and impact requires staff with good statistical background to deal with the data collection and analysis. In contrast, M-CRIL brings in external raters so it does not tie up members of the staff. The SPI and the SPTF tools do not necessarily need trained implementers.

Overall, the SPI tool is easy to implement for self-assessment while M-CRIL as an external review provides greater emphasis on most SP indicators.

7.4   Towards a common standard

Drawing from the experiences of the SP initiatives mentioned above and other SP initiatives we reviewed, there are issues in SP assessment that we want to point out. As shown, initiatives in the microfinance industry look into SP approaches at the process or as outcome or both. We work under the premise that it is necessary to look into both approaches. SP is about both creating outcomes (stakeholders' satisfaction and impact) through socially responsible actions, and the process leading up to the results. This section sets out the SP indicators of the main aspects of the process and outcome approaches and discusses the issues of SP reporting.

7.4.1 Process dimensions and impact areas of SP in microfinance

According to GRAAFLAND ET AL. (2004), the practice of assigning values to the actions of an organization can enhance transparency; improve accountability; enhance the possibility of comparison across industry; simplify procedure into a systematic approach with a more objective view; and institutionalize the information database. There are inherent problems in benchmarking and the biggest challenge is subjectivity. It is very difficult not to be subjective in creating and assessing benchmark scores especially when working with qualitative data. Quantitative data or indicators can minimize this problem in one aspect and establish credibility (OWEN ET AL., 2000). Any attempt to make an objective social audit must be limited to the items that are measurable (KREPS, 1940 as cited by CARROLL, 1999). Below, we look into the possibility of limiting our indicators to items that are quantifiable or those which can be assigned to values. We find ways to translate qualitative indicators to quantitative values. For example, social mission clarity can be translated into quantifiable questions such as "Do you target the poor?" and "Do you target the rural areas?". We start by briefly defining these indicators, and then Table 7.4 provides a list of some quantifiable information for SP measurement.

7.4.1.1 Process – Organizational level

Social mission clarity and governance refers to the clarity of terms and social objectives of an MFI which specifies its target client. Strong governance committed to the social goals is vital in the implementation of SP initiatives. Clear communication of its social mission within the organization leads to the achievement of these social objectives.

Embedded codes of conduct on SP makes sure that the organizations social mission is supported with relevant policies, plans, objectives, targets and

processes. Effective processes require clear articulation of roles and responsibilities and good information to MFI staff. This ensures appropriate integration of SP in all sections of an organization and with other aspects of management.

Alignment of systems refers to how MFIs integrate, implement and improve their processes in order to support its SP policy and strategy. Alignment of all sections of an organization (human resources, incentives, research, internal audit, and management information system) with the social objectives is essential in the process approach. Educating the people in the organization on the SP concepts is important.

Decision making using information about the SP of an MFI and the corrective actions taken based on this information is an integral part of SP assessment. Using the output helps board members and management to identify the strengths of its organization and the areas for improvement. An indicator showing evidence of learning reflects an organizations good practice and evidenced-based decision making. Also, the usefulness of the output to decision makers is essential in buy-in of the SP initiative at management and board level ensuring continued support of the initiative.

Financial services refer to the availability of different services, such as different loan products, savings, insurance, and money transfer, to poor clients with different household and business needs. Poor people need a wide array of financial services that is demand-driven and flexible. Provision of financial services that are designed to meet the needs of the poorest ensures better outreach.

Non-financial services offered by MFIs (or through strategic partnership with other organizations) that goes hand in hand with the financial services is important when we focus on poverty alleviation. In addition to their core financial services, some MFIs or their partners offer entrepreneurial training, financial literacy, skill training, health care services and education, and empowerment. Poverty-focused organization should include non-financial services in their agenda to have a comprehensive approach to poverty alleviation (POVERTY OUTREACH WORKING GROUP, 2006)

7.4.1.2 Outcome – Client and other stakeholders

Gender approach analyzes the policies towards gender equity for clients and for management and staff. Gender policies relate to strategies addressing the social

and economic constraints women face especially in developing countries and the representation of men and women within an MFI.

SP to clients is a fundamental dimension in SP reporting which refers primarily, among others, to client protection which encompasses fair and transparent pricing, client complaint mechanism and ethical behavior of staff towards clients. MFIs have been criticized for charging very high interest rates. Fair pricing coupled with clear explanation on pricing, terms, conditions, and client's rights prior to disbursement are essential when serving poor clients. An organization must not be abusive in its pricing policies (ZENISEK, 1979) and should be reflected in the social performance reports. SP to client also refers to client outreach and impact/change.

SP to staff focuses on an MFI's roles and responsibilities to its staff. It ensures appropriate development and training of its prime movers and guarantees appropriate benefits and proper safety procedures. It aids an MFI in maintaining a satisfactory relationship with its staff and highlights the organization's accountability to the well-being of their prime movers.

SP to community in microfinance refers to the financial support an MFI offers to the local community in case of natural disasters and to the policies of the organization supporting positive community value such as job creation and prevention of illegal enterprises. MFIs are expected to consider unrepresented stakeholders, such as the community.

SP to environment refers to a MFIs environmental approach within its own organization and towards supported activities. The latest trend in SP is that of sustainable development. MFIs are expected to consider under-represented issues, such as the environment.

7.4.2 Social reporting

SP reports provide information to stakeholders about the social mission and social impact of a MFI. Public availability of these information increases the approval and involvement of stakeholders and the general public hence enabling MFIs to strengthen their reputation.

As more and more MFIs are disclosing social information, it is important to formulate a standardized output which is in the capacity of all MFIs. We discuss the different aspects of social reporting that SP initiatives should consider for wider acceptance in the microfinance sector. Professionals in charge of SP reporting are looking for tools that are not burdensome.

Table 7.4   Some Quantitative Information of SP*

Process		
Social mission clarity and governance	What is your social mission?	
	Do you target the poor?	0=no; 1=yes
	Do you target the very poor[*]?	0=no; 1=yes
	Do you target the rural areas?	0=no; 1=yes
Embedded codes of conduct	Does the MFI have written staff ethical codes or client protection code?	0=no; 1=yes
	Does the MFI have a formal written policy on environmental issues?	0=no; 1=yes
	Does the MFI have a formal written policy on social responsibility to the community?	0=no; 1=yes
Alignment of systems	What is the percentage of staff that participated in training or orientation sessions related to any aspect of social performance?	%
	Does the MFI have in place a staff incentives scheme related to social performance goals?	0=no; 1=yes
	Does the MFI use market research to identify the needs of clients and potential clients?	0=no; 1=yes
	Drop-out rate	%
	Does the MFI conduct exit surveys to get feedback from exit clients?	0=no; 1=yes
	Number of staff working on monitoring and reporting social objectives	#
Decision making	Has information about your social performance been used for decision making?	0=no; 1=yes
	Have corrective actions been taken based on information about your social performance?	0=no; 1=yes
Financial services	Number of loan products offered	#
	Number of saving services offered	#
	Number of insurance products offered	#
	Number of other financial products offered (money transfer, checks, etc)	#
	Does the MFI have a client feedback mechanism?	0=no; 1=yes
	Percentage of clients that has unsecured loans (no collateral)	%
	Results of survey measuring client:	grade
Non-financial services	Does the MFI offer services related to enterprise management?	0=no; 1=yes
	Does the MFI offer services related to financial literacy or education?	0=no; 1=yes
	Does the MFI offer services related to health information and services?	0=no; 1=yes
Outcome		
Gender approach		
Client	What is the percentage of women among clients?	%
Staff	What is the percentage of women among staff?	%
	Ratio of basic salary of men to women	ratio
Management	What is the percentage of women at the management level?	%
	What is the percentage of women on the board?	%
	Ratio of basic salary of men to women	ratio
SP to clients	Results of survey measuring client satisfaction or percentage of satisfied	grade or #
	Number of received complaints from clients satisfaction or number of complaints received	
	Does the MFI use the declining balance interest rate method?	0=no; 1=yes
	Does the MFI use the flat interest rate method?	0=no; 1=yes
	What is your effective interest rate (EIR)?	%
	Does the MFI provide clear explanation on price, terms and conditions of financial products?	0=no; 1=yes
	Does the MFI explain the client's rights, responsibilities and collection procedure before loan is disbursed?	0=no; 1=yes
Outreach	Percentage of clients identified as poor	**%**
	Percentage of clients identified as very poor	**%**
	Percentage of clients in rural areas	**%**
	Percentage of clients in urban/semi-urban areas	**%**
	Number of regular service points located in areas where there are no other MFIs or bank branches	#

Impact	Does the MFI track changes in poverty levels or economic status of clients?	0=no; 1=yes
	What percentage of new clients improved their poverty level?	**%**
	What percentage of old clients improved their poverty level?	**%**
SP to staff	Rate of employment turnover	**%**
	What is the percentage of your permanent staff?	**%**
	What is the percentage of your contract staff?	**%**
	What is the percentage of employees receiving regular performance review?	**%**
	Does the MFI have health coverage for employees?	0=no; 1=yes
	What is the percentage of employees who have received training?	**%**
	Average hours of training per year per employee	**#**
	Number of injury or work-related accident?	**#**
	Result of survey measuring employee satisfaction or number of complaints received from employees	Grade or #
SP to community	Financial contribution to good causes	**$$**
	Does the MFI support local communities in case of emergencies?	0=no; 1=yes
	Does the MFI support local communities for social or economic development?	0=no; 1=yes
	Does the MFI assess the impact of operation on communities?	0=no; 1=yes
SP to environment	Energy/Amount saved due to conservation and efficiency improvements	**$$**
	Quantification of environmental impacts of transporting staff	**$$**

[*] The very poor is defined as those living below the international poverty line of $1/day (PPP) or in the bottom half below the national poverty line (US Congress Amendment of the "Microenterprise for Self-Reliance Act of 2000", 2003 as cited by ZELLER, 2004)
Source: based on own analysis, CERISE SPI tool, SPTF framework, M-CRIL Social Rating

7.4.2.1 Output

Standardized SP indicators is the most important component in SP reporting as it is difficult to compare results without standardized reporting. Reports need to target stakeholders and the selected indicators should be relevant to them. The indicators should present information required by stakeholders but avoid unnecessary details. There is a wide range of topics on SP therefore relevant topics needs to be reasonably considered for reflecting the processes and outcome of an MFI.

As previously mentioned**,** *quantifiable indicators* of social performance dimensions enhance the possibility of comparison across the industry; simplify procedure into a systematic approach with a more objective view; and institutionalizes the information database. Using qualitative data requires judgement by the auditor or person performing the social rating which is easily contested. There is concern that MFIs become their own interpreters.

Comparable output relating to different operating periods of a MFI or between different MFIs should be possible. Reported information should be presented in a way that enables stakeholders to analyze changes in the MFI's social performance over time, and could compare analysis with other MFIs. Consistency with the methods used to quantify indicators facilitates comparability over time while standardized SP indicators aids comparison between organizations.

Recommendations or future actions in SP is a list of future objectives and actions in response to the results of the report. Stakeholders would want to see published objectives for ongoing improvement as well as performance level against those objectives in future reports.

Initiatives those are *applicable to any MFIs* consider the different orientations and services offered by organizations. An adaptable framework is important for an initiative to be accepted across the microfinance sector.

7.4.2.2 Tool design and requirements

Flexibility in reporting is needed especially when MFIs are expected to publish a variety of reports with categories of information depending on the user of the output. The option to evaluate other subject areas other than those stated should be possible.

Low need for training and use of *easy software* are important in the implementation of SP initiatives. SP initiatives tie up MFI staff as it would

require at least one staff to be exclusively assigned to the implementation. Trainings and workshops tie up additional time and expense. Additional costs arise with new software and when software training is needed. Complex tools may be difficult to implement without the support of an external auditor/rater.

Less time requirement on planning and implementation of the SP initiative makes a tool attractive to MFIs. Establishing SP can occupy top management and staff for several months or years. Gathering data through interviews with clients, management, and staff require additional time. An information system that stores data useful in reporting SP indicators is needed but most of the time does not exist in MFIs.

Manageable outreach and impact analysis may be the most important challenge for SP initiatives. Measurement techniques of outreach and impact are not standardized and robust impact measurements require statistical skills. Most MFIs do not have the human resources for statistical analysis. The accuracy of the analysis depends on the specific methods used to gather and analyze data. There are gaps in SP initiatives regarding analysis and reporting of microfinance impact.

Ease of overall analysis is necessary for MFIs to implement an SP initiative. Rigorous and complex tools will be rejected by MFIs. Intense activity during implementation may have a negative impact on staff and management perception of SP initiatives.

7.5   Conclusions

As current methods are tested, critiqued and modified, the vision continues to be that, in the future, MFIs will report their SP with the same regularity and system they now report on financial performance.

Evidently, some SP initiatives are promoting social accountability to a wide range of stakeholders with key areas of concern in the well-being of employees, environmental protection, client protection, community and civil society. For a social performance initiative to succeed, it must have strong support at a senior level including the board of directors. This ensures that the organizations social mission is supported with relevant policies, plans, objectives, budgets, targets and processes. Reporting of SP provides information to stakeholders and enables MFIs to strengthen their reputation. It is important to formulate a standardized output which is in the capacity of all MFIs. Rigorous tools will be rejected by MFIs if they see it as time consuming and a financial burden.

It is necessary to include the process and outcome approach in SP initiatives. The challenge is to quantify indicators so that they are comparable and less subjective. A sufficient number of indicators are identified as quantifiable (percentages, ratios, number of incidences, etc) or those which can be assigned to values (0 or 1). However, some of the identified indicators lack explanatory power (e.g. number of loan services offered) and needs additional data.

SP measurement geared towards poverty outreach and impact needs further consideration. There are various initiatives on poverty assessment with different methods and levels of robustness. Because some of these poverty assessments are inherently complex, only a few MFIs are reporting on outreach and impact of microfinance services. Future research should be conducted on the feasibility of standardized outreach and impact assessment tools for MFIs. The PPI of Grameen Foundation, the PAT of USAID, and other assessment tools should be tested in their ability to measure change or impact on clients.

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8 SUMMARY AND CONCLUSIONS

The main objectives of the study are: to review and synthesize the theoretical frameworks on social performance measurement; to describe and review a practitioners approach in social performance measurement in view of the synthesized framework; to analyze the impact of group lending in household food consumption as it is one of the identified indicators in social performance; and to review the different social performance measurement tools in existence today, draw lessons and select common criteria for selecting a social performance measurement tool.

The research undertook three stages: First, existing literature was reviewed to examine the theory and concept of microfinance and social performance. Second, empirical data were collected while the researcher was integrated into the AMK environment working with the Research Department. Quantitative cross-sectional and panel data were collected from 2006 to 2008 and qualitative data were collected from 2007 to 2009. Third, ongoing social performance measurement initiatives in the private, NGO and microfinance sectors were evaluated in terms of: categories applicable across the microfinance industry; a MFIs capacity; and stakeholders' requirements.

8.1 Summary of empirical findings

This section present the empirical findings of the study according to the dissertation framework presented in Figure 1.2 of Chapter 1.

8.1.1 Framework of social performance measurement in microfinance

Social performance measurement pulls together three dominant frameworks in corporate social responsibility- CSP model, stakeholder theory, and accountability theory- into one theme. The CSP model is centred on the continuous interaction of the principles-processes-policies concept in addressing social issues. It pertains to how organizations embody the principles of social responsibility and how they identify, integrate and manage their social goals. The stakeholder theory provides a complimentary framework for the systematic collection, analysis and evaluation of social performance based on an organization's relationship with its stakeholders.

The frameworks provide the grounds for MFIs to not only be accountable for fulfilling the institution's financial responsibility to its shareholders but also its social responsibility to other stakeholders. Once the social mission and policies are defined, institutions and managers have social and ethical principles to

consider. An MFI has the duty to provide an account of actions for which one is held responsible. A holistic approach of social performance measurement encompasses the process approach and the outcome approach. The process approach reviews how an MFI identifies, integrates, and manages its social goals. The outcome approach measures stakeholder satisfaction (client, staff, etc), outreach and impact of MFI policies and financial services. The study shows that in current social performance measurements there is an overemphasis of the outcome approach on one stakeholder, the clients, and is limited on the depth of outreach of MFIs.

Among MFIs, AMK is one of the most advanced in social performance management. They have successfully integrated the process and outcome approaches in their operations. AMK's social performance measurement tools include an annual staff satisfaction survey, financial procedures and operations audit, client protection audit, client profile, depth of outreach, client satisfaction, exit client survey, and competition analysis implemented by their Human Resource Department, Internal Audit Department and Research Department. While most outcome approaches used by other MFIs focus on social performance to clients with emphasis on outreach, AMK takes on a broader outcome approach to its stakeholders by also devising a system to measure satisfaction of clients and staff.

8.1.2 Social performance to clients - Poverty outreach and impact

Depth of outreach and impact of microfinance are important indicators in the measurement of social performance to clients. Using the PCA method on cross-sectional data, the study was able to develop a poverty index from a combination of various indicators which capture the multi-dimensionality of poverty. The PCA method can be used by MFIs to show that they have properly targeted poor clients in the community and to report on the depth of their poverty outreach. The statistical analysis shows that there is a significant difference in the relative poverty levels between clients and non-clients. The results indicate that more AMK clients fall under the poorest group. The PCA method also paves the way for the measurement of poverty changes over time for individual households.

By applying the PCA weights of the base years (2006 and 2007 cross-sectional data) to panel data collected in 2008, the study was able to identify households that moved in and out of poverty. Second round data of 2008 were applied to the weights of the base year data to generate the new poverty index of the households revisited. With two time-variant poverty indexes per household in the panel data,

a transition matrix identified those households that are transiently poor and chronically poor. Contrary to other studies that apply PCA over pooled data, this study shows the advantage of using different set of weights on different time periods. Using different set of weights accounts for the changes in poverty characteristics and the different time intervals of the panel data.

One component of the panel data analysis is to examine the patterns of chronic and transient poverty and understand the changes in the mean of some social indicators such as consumption and savings. The study showed that household's movement to a wealthier group has been significant among AMK clients, notably among the chronically poor. The results shows that clients who remained clients (long-term clients) have significantly increased expenditures and asset accumulation while non-clients show insignificant increase on some indicators. Among the chronically poor, clients have considerably increased their clothing and footwear expenditure compared to the non-clients. The analysis also shows that non-clients who are chronically poor have insignificantly increased their ability to save and accumulate assets. Among the transiently poor, clients have significantly increased their clothing and footwear expenditure, in addition to accumulating savings and other assets while no significant change could be found among non-clients in terms of savings.

The other component of the panel data analysis is to understand the determinants of credit participation, analyze the factors of poverty dynamics, and test the impact of microfinance on food consumption in rural Cambodia. The findings suggest that households which are more economically stable and have the ability to build assets have less demand for small loans. It supports the notion that poor households use liquid assets to smooth consumption or cope with emergencies. Households with liquid assets are less likely to borrow. The small loans in group lending have attracted households which are economically active but have spending constraints. The panel data included new entrants and long-term clients collected at 1- and 2-year intervals which shed light on the importance of long term participation in group lending. An important finding of the fixed effect model with interaction variables and the conditional change score model is that access to group loans has a negative impact on food consumption of new clients but a positive impact on long-term clients. The multinomial logit regression shows that for a long-term client the odds of belonging to the ascended transient poor group rather than the descended transient poor group are 6 percent.

8.1.3 Standards for common reporting of social performance

Drawing from the review of some of the well-known social performance initiatives in the microfinance industry, the study finds it necessary to integrate both the process and outcome approaches in social performance measurement for a holistic approach. In general, the weaknesses on the social performance initiatives lie on its comparability of results and missing analysis on some social issues. A practical measurement method should have quantifiable indicators to minimize subjectivity and establish credibility.

The study identified the following indicators which are useful and quantifiable in social performance measurement: process approach – social mission clarity, embedded codes of conduct, alignment of systems, decision making, financial services, non-financial services; and outcome approach – gender approach, social performance to clients, social performance to staff, social performance to community, social performance to environment. For wider acceptance of social reporting, social performance measurement tools should have outputs with standardized and quantifiable social performance indicators, and comparable output including recommendations for future actions and applicable to any MFI. The tool should be flexible, have simple software for easy learning, less time consuming, have manageable outreach and impact analysis and easy to implement.

8.2 Conclusions and implications

As current methods are tested, critiqued and modified, the vision continues to be that, in the future, MFIs will report their social performance with the same regularity and system they now report on financial performance. For a social performance initiative to succeed, it must have strong support at a senior level including the board of directors. This ensures that the organizations social mission is supported with relevant policies, plans, objectives, targets, budgets, and processes. Reporting of social performance provides information to stakeholders and enables MFIs to strengthen their reputation. It is important to formulate a standardized output which is in the capacity of all MFIs. Rigorous tools will be rejected by MFIs if they see it as a financial burden and time consuming. The challenge is to quantify indicators so that they are comparable and less subjective. A sufficient number of indicators are identified as quantifiable (percentages, ratios, number of incidences, etc) or those which can be assigned to values (0 or 1). However, some of the identified indicators lack explanatory power (e.g. number of loan services offered) and need additional data.

In view of the stakeholder theory, client satisfaction and satisfaction of other stakeholders such as the staff and community need further consideration in social performance measurement. Likewise, the CSP model and the accountability theory highlight the importance of social issues in social performance. Hence, it is necessary to include the process and outcome approach in social performance measurement. Impact of financial services to the community will be a step further in social performance measurement.

The research finds that microfinance has positive effect on long-term clients in terms of increase in expenditure and asset accumulation. At different degrees, chronically poor and transiently poor clients have increased clothing and footwear expenditures and are able to accumulate assets and savings as compared to non-clients. Furthermore, microfinance has positive impact on food consumption on long-term clients but have negative impact on new clients. The negative impact for the new clients may be temporary and the variable will increase with the length of time in the program. Often, seasonality and long gestation periods of enterprise and farming are disparate with payment schedules. It is important to review the design of financial services offered to clients. Loans for consumption and credit lines can offset the negative impact on the food consumption of new client.

8.3 Issues for further research

Poverty dynamics and poverty indicators take some time to change. The differences between the results of the 1-year and 2-year intervals in Chapter 6 give an indication that this is so. True impact can be effectively measured with sufficient time lapse. The findings of the study as presented in Chapters 5 and 6 should be confirmed with wider intervals of panel data. Up until now, little attention has been given to the time effect of microfinance services. Only one study has reported that the timing of membership matters where the earlier the onset of membership the better the effect on household consumption.

The analyses presented in this study used data which is restricted to clients with group loans. Future research should be conducted on clients with individual loans to determine if the results of this study are unique to group lending or are representative of rural clients in general. The research method and analysis could also be implemented in urban settings.

Social performance measurement geared towards poverty outreach and impact needs further consideration. There are various initiatives on poverty assessment with different methods and level of robustness. Because some of these poverty

assessments are inherently complex, only a few MFIs are reporting on outreach and impact of microfinance services. Future research should be conducted on the feasibility of standardized outreach and impact assessment tools for MFIs.

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Appendix A. AMK Household Questionnaire

1. Questionnaire number: _____	**5**. Date: _____
2.a. Time started: _____ **2.b.** Time finished: _____	
3.a. Interviewer(s): _____ **3.b.** Supervisor : _____	
4. Location **4.a.** Minutes from branch to location: _____ **CODES LOCATION**	
4.b. Code Village ☐☐☐☐☐☐☐ **4.c.**Commune ☐☐☐☐☐ **4.d.**District ☐☐☐ **4.e.**Province ☐☐ .	

Introduce yourself, TRAM/AMK and the purpose of your visit -- [*Notes]

A. INDIVIDUAL and HOUSEHOLD (HH) INFORMATION

A.1. AMK client?	**A.2.1** Month joined AMK	**A.2.2.** Year joined AMK	**A.3.** Number of cycles	**A.4.1.** # of persons in HH who earned income over last 12 months.	**A.4.2.*** Gender of primary income earner
y / n					M / F / B

A5 ID #	**A.6.*** Relation to HH head [cycle]	**A.7.** * Gender	**A.8.** Age	**A.9.*** Marital Status	**A.10.** Can read & write a letter? *Only if age >=14*	**A.11.** * Is child in school? *Only if 6-18*	**A.12.*** Highest Educ.Fin	**A.13.*** Clothing & footwear expenses last 12 months.	**A.14.** AMK Client
	h / s / c / p / ss/ gc / o	M / F		s / m / msm / d / w	y / n	y / n		R_____	☐ .
	h / s / c / p / ss/ gc / o	M / F		s / m / msm / d / w	y / n	y / n		R_____	☐ .
	h / s / c / p / ss/ gc / o	M / F		s / m / msm / d / w	y / n	y / n		R_____	☐ .
	h / s / c / p / ss/ gc / o	M / F		s / m / msm / d / w	y / n	y / n		R_____	☐ .
	h / s / c / p / ss/ gc / o	M / F		s / m / msm / d / w	y / n	y / n		R_____	☐ .
	h / s / c / p / ss/ gc / o	M / F		s / m / msm / d / w	y / n	y / n		R_____	☐ .
	h / s / c / p / ss/ gc / o	M / F		s / m / msm / d / w	y / n	y / n		R_____	.
	h / s / c / p / ss/ gc / o	M / F		s / m / msm / d / w	y / n	y / n		R_____	.
	h / s / c / p / ss/ gc / o	M / F		s / m / msm / d / w	y / n	y / n		R_____	.
	h / s / c / p / ss/ gc / o	M / F		s / m / msm / d / w	y / n	y / n		R_____	.
	h / s / c / p / ss/ gc / o	M / F		s / m / msm / d / w	y / n	y / n		R_____	.
	h / s / c / p / ss/ gc / o	M / F		s / m / msm / d / w	y / n	y / n		R_____	.
	h / s / c / p / ss/ gc / o	M / F		s / m / msm / d / w	y / n	y / n		R_____	.

B. HOUSEHOLD INFLOWS in the past 12 MONTHS

1. During the past 12 months, what were the major income earning activities and inflows in this HH (inc. food production or collection of CPR and gifts or remittances received from friends/relatives /NGOs/others)?	1.☑/--	**2. For** consump tion	**3.For** Cash	**4. Rank 1 to 3** (more cash per year)	ONLY FOR THOSE 3 RANKED IN B.4 **Months receiving cash income** 5.6.7.8.9.10.11.12.13.14.15.16
B.1.1. Farm: Rice **cropping**					1 2 3 4 5 6 7 8 9 10 11 12
B.1.2. Farm: Non-rice, chamkar & veget.**cropping**					1 2 3 4 5 6 7 8 9 10 11 12
B.1.3. Farm: Fruit **cropping**					1 2 3 4 5 6 7 8 9 10 11 12
B.2.1. Farm: Pig **raising**					1 2 3 4 5 6 7 8 9 10 11 12
B.2.2. Farm: Poultry (Chicken or Duck) **raising**					1 2 3 4 5 6 7 8 9 10 11 12
B.2.3. Farm: Cow or Buffalo **raising**					1 2 3 4 5 6 7 8 9 10 11 12
B.3.1. Farm: Fishing/aquaculture (eels, fish, etc)					1 2 3 4 5 6 7 8 9 10 11 12
B.3.2. Farm: Wood collection					1 2 3 4 5 6 7 8 9 10 11 12
B.3.3. Farm: Other Common Property Resource (**CPR**)*					1 2 3 4 5 6 7 8 9 10 11 12
B.4.1. Casual/part time **local labor** (agri + non-agri)					1 2 3 4 5 6 7 8 9 10 11 12
B.4.2. Temporary **migration** (domestic, int'al)					1 2 3 4 5 6 7 8 9 10 11 12
B.4.3. Regular **salary** - civil service					1 2 3 4 5 6 7 8 9 10 11 12
B.4.4. Regular **salary** - factory/services wage					1 2 3 4 5 6 7 8 9 10 11 12
B.5.1.* **Manufacturing** - Code 510 = Food processing					1 2 3 4 5 6 7 8 9 10 11 12
Code 511 = Rice alcohol & other beverages					1 2 3 4 5 6 7 8 9 10 11 12
Code 512 = Textiles					1 2 3 4 5 6 7 8 9 10 11 12
Code 513 = Handicrafts					1 2 3 4 5 6 7 8 9 10 11 12
Code 514 = Thatch or mats					1 2 3 4 5 6 7 8 9 10 11 12
Code 515 = Others [specify]_____					1 2 3 4 5 6 7 8 9 10 11 12
B.6.1.* **Services** – Code 610 = Petty trade or petty					1 2 3 4 5 6 7 8 9 10 11 12
Code 611 = Transport					1 2 3 4 5 6 7 8 9 10 11 12
Code 612 = Sales in shops/stalls					1 2 3 4 5 6 7 8 9 10 11 12
Code 613 = Grooming (hairdresser, clean serv)					1 2 3 4 5 6 7 8 9 10 11 12
Code 614 = Ceremonies planner & Entertainment					1 2 3 4 5 6 7 8 9 10 11 12
Code 615 = Others [specify]_____					1 2 3 4 5 6 7 8 9 10 11 12
B.7.1. Remittances or gifts (domestic, int'al)					1 2 3 4 5 6 7 8 9 10 11 12
B.8.1.* **Other inflows** Code 810=Rental or provas (owned)					1 2 3 4 5 6 7 8 9 10 11 12
Code 811 = Asset sales (inc. land sale)					1 2 3 4 5 6 7 8 9 10 11 12
Code 812 = Assets Pawned					1 2 3 4 5 6 7 8 9 10 11 12
Code 813 = Rental or provas (used)					1 2 3 4 5 6 7 8 9 10 11 12
Code 814 = Loans received					1 2 3 4 5 6 7 8 9 10 11 12
Code 815 = Inflow back from loan given					1 2 3 4 5 6 7 8 9 10 11 12
Code 816 = Other inflows [specify]_____					1 2 3 4 5 6 7 8 9 10 11 12

C. HOUSEHOLD OUTFLOWS in the past 12 MONTHS

1. Rank the 3 principal ways you used your money in the last 12 months, tell me the one you used most money for, first]	← **1.**Rank 1-3 [do not read options]	**2.**☑/ - [Probe]	ONLY FOR THOSE 3 RANKED IN **C.1** Months where expenses occur 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14.
C.1. Food			1 2 3 4 5 6 7 8 9 10 11 12
C.2. Clothing			1 2 3 4 5 6 7 8 9 10 11 12
C.3. School expenses and schooling			1 2 3 4 5 6 7 8 9 10 11 12
C.4. Medicine, doctors or healers and health related costs			1 2 3 4 5 6 7 8 9 10 11 12
C.5. Inputs for agricultural crops (fertilizer, pesticides, labor, etc)			1 2 3 4 5 6 7 8 9 10 11 12
C.6. Inputs for animal raising (animals + feed + vaccine + etc.) or CPR			1 2 3 4 5 6 7 8 9 10 11 12
C.7. Re-invest in or inputs for **other non-farm** income activity			1 2 3 4 5 6 7 8 9 10 11 12
C.8. Pay loan principal and interests [ask separately if necessary]			1 2 3 4 5 6 7 8 9 10 11 12
C.9. Ceremonies, festivals, wat, gifts, bride-price, leisure, social events			1 2 3 4 5 6 7 8 9 10 11 12
C.10. Buying land			1 2 3 4 5 6 7 8 9 10 11 12
C.11. Buying households materials/equipment +durable assets			1 2 3 4 5 6 7 8 9 10 11 12
C.12. Buying gold or jewelry			1 2 3 4 5 6 7 8 9 10 11 12
C.13. Other [specify]:_____			1 2 3 4 5 6 7 8 9 10 11 12

D. HOUSEHOLD EXPENSES: (inc. Monthly Food Expense Estimate)

D.1.1. To support your household during a normal (average) day this month, how much do you normally spend *each day* for **buying food**? [Include value of barter, if any]	R_____day
D.1.2. For example, what did you spend *yesterday*? [include value of barter, if any]	R_____day
D.1.3. Now, let us turn to what you spent on an average week during the past 12 moths, how much does your household usually spend *per week* for **buying food**? [include also value of barter]	R_____week
D.2.1. How much rice did this HH produced in the last 12 months (rice yield)?	_____Kg
D.2.2. Of this yearly rice yield during the last 12 months, how much rice has this household sold?	_____Kg
D.2.3. What is the market **value of the rice** that this household has consumed (instead of selling it) *per year*?	R_____year
D.3. Over the last 12 months, how many **months** did you have to **buy rice** for your household consumption?	_____ months
D.4. What is the value of **other food** that your household has **produced** on your farm/garden during the last 12 months and that has consumed (instead of selling it) *per year*? [Verify with B.1.2, B.1.3 & B.2]	R_____year
D.5. What is the value of **other food** that your household has **gathered, collected or fished** from the forest or river/pond/lake and that has consumed (instead of selling it) *per year*? [Verify w/ B.3.1&B.3.3]	R_____year
D.6. Considering the preparations for Khmer New Year during the last 2 years, in how many years did you buy new clothes for **ALL** members of the household including children? [Verify with A.13]	_____years

D.7. Comparing all your income and all your expenses, "is there leftover to save"? Y / N | **D.7.1... If Yes** How did you save?

1 = In cash (kept on hand)   3 = bought land   5 = provide loan to others   7 = other [specify]:————
2 = In gold   4 = bought other assets   6 = kept in bank or MFI

E. HOUSEHOLD ASSETS

E.1. If there was agricultural activity (If yes to B1, B2 or B3 Or B.8.1=810). How much cultivable land do you own?

Plot #	Area of the Plot	Value*:	Plot #	Area of the Plot	Value*:
	_____ m2 / Are / Ha /Rai	R / $ / Chi / Damloeng		_____ m2 / Are / Ha /Rai	R / $ / Chi / Damloeng
	_____ m2 / Are / Ha /Rai	R / $ / Chi / Damloeng		_____ m2 / Are / Ha /Rai	R / $ / Chi / Damloeng
	_____ m2 / Are / Ha /Rai	R / $ / Chi / Damloeng		_____ m2 / Are / Ha /Rai	R / $ / Chi / Damloeng

E.2. How many large animals do you own at present? [Ignore poultry]
1= buffalo #:_____   2= cows #:_____   3 = pigs #:_____   4 = goat/sheep #:_____

E.3.1. Type of floor	**E.3.2.** Type of roof	**E.3.3.** Type of walls	**E.3.4.** Size of the house
1= Mud floor or rudimentary stilts	1= thatch/leaves	1= bamboo /thatch	
2= On wooden/stone stilts	2= tin/zinc sheets	2= low quality wood/logs	_____m x _____ m=
3= Cement base/expensive wood stilts	3= tiles / other good materials	3= brick / cement / high quality wood	_____m2

E.4. *Relatively Modest* Value (<$100)	**E.5.** *Mid-range* Value ($100-$500)	**E.6.** *High-range* Value (>$500)	**E.7.** What type of toilet facility is available?
1= Radio or tape player	1= Expensive tools, e.g. carpentry	1= Motorcycle	
2= Plow+harrow / palm-sugar tools / equivalent	2= Boat (expensive boat)	2= Plowing/ threshing machine ['electric cow']	1. Bush, field, no facility
3= Television (b/w)	3= Water pump	3= Car/ pick-up/truck	2. Shared pit toilet/latrine
4= Bicycle	4= Rice mill machine	4= Tractor	3. Own pit toilet / latrine
5= Ox-cart	5= Generator	5= (Big) Karaoke	4. Flush toilet
6= Boat (simple)	6= Mobile phone	6= Other _____7= Other	
7 =Other _____	7= Other_____		

F. LOAN and INDEBTEDNESS INFORMATION

F.1. How much money does this household owe at this moment? (include all HH members) R_____

F.2. How much of this total money do you owe to AMK?   R_____

F.3. Money owned to other credit providers [**F.1 - F.2**] R_____   **F.4.** How many loans are not fully repaid today? #_____

LOAN Information (all currently outstanding loans, from largest to smallest, repeat AMK loans F5 to F.10)	**1. Largest loan #1**	**2. Medium loan # 2**	**3. Small loan # 3**
F.5. Amount / size of loan	R	R	R
F.6. Monthly interest rate (%)			
F.7. From what source? 1 =Moneylender (cash)	1	1	1
2=Trader (moneylender in-kind, paddy or rice)	2	2	2
3 = Relatives or close friends	3	3	3
4 = ACLEDA/Other bank	4	4	4
5= AMK	5	5	5
6 = Other MFI/MFO [specify]	6:_____	6:_____	6:_____
7 = Other NGO or Other [specify]:	7:_____	7:_____	7:_____
F.8. Term of loan	____months	____months	____months
F.9. Did you face or are you facing any difficulty repaying your loan?	y / n	y / n	y / n
If yes, **F.9.1.** What caused your repayment problems? *[Do not read answers]*	[*Probe*]	[*Probe*]	[*Probe*]
1 = Enterprise problems (no profits in activity, animal died, problem w/sales on credit)	1	1	1
2 = Illnesses in the family	2	2	2
3 = Natural disasters (floods/drought/fire or natural calamity	3	3	3
4 = Other [specify] _____	4:_____	4:_____	4:_____

F.10. In what did you use the loan? What did you buy with it? [Multiple resp. possible]	*[Probe+Amount]*	*[Probe+Amou]*	*[Probe+Amou]*
1= Inputs for **agriculture** (rice, other crop/fruit production)	1 [R_____]	1 [R_____]	1 [R_____]
2= **Animals** or inputs for animal raising (pig, duck, chicken, cow, buffalo)	2 [R_____]	2 [R_____]	2 [R_____]
3= Inputs for **fishing, wood** collection or other CPR	3 [R_____]	3 [R_____]	3 [R_____]
4= Inputs **manufacturing** (food processing, textile, crafts, rice alcohol, palm sugar)	4 [R_____]	4 [R_____]	4 [R_____]
5= Inputs for **petty trade or petty grocery**	5 [R_____]	5 [R_____]	5 [R_____]
6= Inputs for other **services** (transport, grocery shop, food stalls, clean, hairdress)	6 [R_____]	6 [R_____]	6 [R_____]
7= Costs of migration or costs of securing job/salary	7 [R_____]	7 [R_____]	7 [R_____]
8= Buy land	8 [R_____]	8 [R_____]	8 [R_____]
9= Buy house (house materials) or other **assets** (including small household items)	9 [R_____]	9 [R_____]	9 [R_____]
10= Buy gold or jewelry	10 [R_____]	10 [R_____]	10 [R_____]
11= Pay existing debt / **repay other debt**	11 [R_____]	11 [R_____]	11 [R_____]
12= **Give** or loan the **money to someone else**	12 [R_____]	12 [R_____]	12 [R_____]
13= Buy **food**	13 [R_____]	13 [R_____]	13 [R_____]
14= Pay for **health / hospitals** costs	14 [R_____]	14 [R_____]	14 [R_____]
15= **Celebrations, festivals**, gifts or leisure activities ["da leing"]	15 [R_____]	15 [R_____]	15 [R_____]
16= Keep money on hand in case of an emergency or to repay the loan	16 [R_____]	16 [R_____]	16 [R_____]
17= Other: [specify] _____ :	17[R_____]	17[R_____]	17[R_____]
	_____	_____	_____

LOAN Evaluation	**Loan #1**	**Loan # 2**	**Loan # 3**
F.11. Please name **three** things you like **most** about the source of the loan	1= 2= 3=	1= 2= 3=	1= 2= 3=
F.12. Please name **three** things you like **least** about the source of the loan. What things made you unhappy about the source of the loan?	1= 2= 3=	1= 2= 3=	1= 2= 3=

G. HH INCOME and VULNERABILITY INFORMATION

G.1. Over the last 12 months, has your overall **household economic situation**? [Read answers] 1 = Decreased Greatly 2 = Decreased 3 = Stayed the Same 4 = Increased 5 = Increased Greatly	**G.1.1.** If **decreased** at all, Why? [**Do not read answers**. Multiple answers possible] 1. Household member (or self) has been sick/died 2. Natural disaster (flood, earthquake). 3. Poor agricultural season (not due to natural disasters) 4. Poor sales (not due to natural disasters) 5. Lost job 6. Unable to get inputs or increased costs in business 7. Could not collect credit due on sales 8. Other [specify] :_____

G.2. I will read 4 choices for your response. Please tell me which statement best describes the food situation in your HH 1 = Often not enough to eat 2 = Sometimes not enough to eat 3 = Enough but not always what we want to eat 4 = Enough and the kinds of food we want to eat	**G.3.** During the last 12 months, has your household's diet *[Read answers]* 1 = Worsened *[check consistency with G.1]* 2 = Stayed the same 3 = Improved

G.4. Over the last 12 months, was there ever a time when your family ate< 3 meals/day <u>because of a lack of food or money?</u>	0 = No	1 = Yes
G.5. During the last 12 months, was there ever a time when it was necessary for your household to eat less nutritious food (eat worse foods/ less delicious/nutrient foods) <u>because of a lack of food or a lack of money to buy food</u>?	0 = No	1 = Yes

G.6. Over the last 12 moths, have you ever faced with any of the following crises or major events?
   10 = Loss of household member (# of members_____)
   11 = Household member very sick or badly injured
   12 = Paid bride-price for marrying son
   13 = Other family events such as death and funeral, birth
   14 = Paid compensation for accident, problem, etc.
   20 = Loss of enterprise asset (animal death, shop burned down, theft or being cheated)
   21 = Business shutdown or enterprise failure
   22 = Household member lost job/wage employment
   30 = Crop damage due to food/drought or other natural disaster (earthquake, thunder fire)
   31 = Other damage due to food/drought, fire or other natural disaster   [**Read** and **circle**]
   32 = Land conflicts or land grabbing   [Multiple answers possible]

G.7.	If **NO to all** in **G.6.**

G.8. Only if any YES in G.6, What did your household do to get through (to cope with) this difficult situation? [**Do not read answers**]
10. Spent past savings   [Multiple answers possible] [Probe if necessary]
20. Borrowed money/gold or food from family/friend at no cost *[Is this from the same sources outlined in F.5-F.11 - see below]*
21. Borrowed money/gold or food at cost *[Is this from the same sources outlined in F.5-F.11 - if different: from whom, how much, how long, etc…]*
30. Increase existing economic activities or undertake more CPR
31. Rented personal property to others (land, house, cattle, transport, farm or household equipment)
32. Self or someone else in family got local employment (including casual work)
33. Self or someone else in family left area to seek employment (including casual work)
40. Reduce food consumption/eat worse foods/eat less times per day
41. Reduce other non-food expenses (school, clothes, etc)
42. Sold personal property (land, house, cattle, transport, farm or household equipment)
50. Other [specify]:_____

G.9. I will read 3 choices for your response. Please tell me which describes best the situation in this HH about large expenses in the last 12 months 3 = We had *no difficulty* to afford large expenses (plan ahead + save enough) 2 = We had *some difficulty* to afford large expenses 1 = We had *great (a lot) difficulty* to afford large expenses	**G.10.** I will read 3 choices for your response. Please tell me which describes best your school-age children attending school N/A ☐ I 1 = *None of them* are expected to complete secondary school 2 = *Not all of them* are expected to complete secondary school 3 = We expect *all of them* to complete secondary school
G.11. I will read 4 statements. Please tell me which describes best this HH situation when you need to pay for medicine & healthcare: 1 = We *never* borrow money or sell assets 2 = We *seldom (rarely)* need to borrow money or sell assets 3 = We *often (frequently, regularly)* need to borrow money/sell assets 4 = We *always* need to borrow money or sell assets (difficult)	**G.12.** I will read 4 choices for your response. Please tell me which best describes your HH in this community where you live… 1 = We have *few* good friends/neighbors [>other village] 2 = We have *some* good friends/neighbors 3 = We have *many* good friends/neighbors 4 = *All* the neighbors here are good friends of ours

G.13. Are you or is someone in your household currently a member of any group, organization or association? [Probe with tongtine, civic group, pagoda group, youth group, farmers/traders group) etc.]	0 = No	1 = Yes

G.14. Is there anything that you want to ask us or anything else that you want to say? Do you have any recommendation for AMK to improve our financial products or our service?

Thank you for your help and patience – we will do our best so that this information helps us in AMK to better serve you!

Appendix B. Model 1 for Attrition (Probit Model)

Attritor	Coef.	s.e.	t
Daily food consumption per capita	-3.61e-05	1.01e-4	-0.36
Below FPL	-0.10	0.17	-0.57
AMK client	-0.55***	0.13	-4.31
Number of income earners	0.50**	0.17	2.97
Number of adults	-0.73***	0.20	-3.75
Ratio of income earners over number of adults	-1.76***	0.47	-3.78
Constant	2.41**	0.77	3.14

Dependent variable is =1 if attritor and =0 otherwise; Number of observations: 823; **$\rho<.05$ ***$\rho< .01$
Note: Model χ^2 = 71.87, $\rho< .01$, R^2= 0.082 (McFadden), 0.084 (Cox & Snell), 0.128 (Nagelkerke);
    Other variables included are total land value, household characteristics, different economic activities, and
    province dummies.
Source: AMK data using own computation

Appendix C. Model 2 for Attrition (OLS Regression)

Daily food consumption per capita	Coef.	s.e.	t
Attritor	-2.70	57.08	-0.05
Number of household members	-94.70***	25.20	-3.76
Female household head	-184.30**	59.81	-3.08
AMK client	-136.96**	62.05	-2.21
Total land value in KHR	3.48e-06**	1.20e-0	2.91
Number of adults	-0.73***	6	-3.75
Constant	1822.15***	0.20	9.38
R^2	0.24	194.22	
Observations	823		

$\rho<.05$ *$\rho< .01$
Note: Other variables included are the different economic activities, household characteristics, and province
    dummies.
Source: AMK data using own computation

Author's Declaration

I hereby declare that this doctoral thesis is a result of my personal work and that no other than the indicated aids have been used for its completion. All quotations and statements that have been used are indicated. Furthermore, I assure that the work has not been used, neither completely nor in parts, for achieving any other academic degree.

Florence Marie Milan
Stuttgart-Hohenheim, June 2011