Poverty Monitoring, Measurement and Analysis (PMMA) Network

Microfinance in Sri Lanka : A Household Level Analysis of Outreach and Impact on Poverty

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Abbreviations

ADB	Asian Development Bank
CBO	Community Based Organization
CBSL	Central Bank of Sri Lanka
D.S. Division	Divisional Secretary Division
G.N. Division	Grama Niladhari Division
MDG	Millennium Development Goal
MFI	Microfinance Institution
MPCS	Multi-Purpose Corporative Society
NDTF	National Development Trust Fund
NGO	Non-governmental Organization
RDB	Regional Development Bank
ROSCAS	Rotating Savings and Credit Associations
SDB	Sanasa Development Bank
SEEDS	Sarvodaya Economic Enterprise Development Society
TCCS	Thrift and Credit Cooperative Society
VRP	Village Resource Profile

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Abstract

Microfinance, one of the widely accepted instruments for poverty alleviation throughout the world, has been used in Sri Lanka spanning for over several decades. Despite the long history and the large number of institutions providing microfinance services particularly to the poor, there is limited knowledge on the impact of microfinance on poverty alleviation in Sri Lanka. This study fills this gap by studying some important issues related to microfinance sector: outreach of microfinance, role of informal sources of finance and the impact on poverty and welfare of households.

Microfinance services in Sri Lanka have a wide geographical outreach but the extent of outreach of private operators including NGOs and commercial banks in rural areas is rather limited. Although the poor and the poorest groups have been reached by Microfinance Institutions (MFIs), a significant proportion of their clientele seems to be from the non-poor groups. Microfinance has helped households in middle quintiles to increase their income and assets; helped the very poor to increase consumption expenditure; has worked as an instrument of consumption smoothing among almost all income groups; and has helped women to increase their social status and improve the economic conditions. The study also finds that informal financial market is pervasive across districts and among different income groups.

The study recognizes that financial services alone are not sufficient to raise the living conditions of the poor. To create sustainable micro-enterprise and other economic activities, it is important that MFIs facilitate or directly involve in providing 'credit-plus' services to their clients, particularly those in low income categories. Development of rural infrastructure facilities is of prime importance to improve the outreach of MFIs in remote rural areas and encouraging the private and NGO sectors to involve more effectively in microfinance provision. The study also stresses the need to take in to account the differences among microfinance clients of different income groups and their needs in designing more effective microfinance instruments.

Introduction

In recent years, microfinance has been looked upon as an effective instrument for poverty alleviation by many governments, international organizations and donors. Today, there is hardly any donor agency - multilateral or bilateral - that is not active in the field of microfinance. The United Nations General Assembly, in recognition of the significance of microfinance in reducing poverty and achieving the Millennium Development Goals (MDGs), has designated the year 2005 as the International Year of Microcredit (resolution 53/197). The Year aims at raising public awareness of the importance of microcredit and microfinance, supporting sustainable access to financial services and promoting innovation and new partnerships to expand the outreach of microfinance.

The term Microfinance refers to "the provision of a broad range of financial services such as deposits, loans, payment services, money transfers, and insurance to poor and low income households and, their micro enterprises."[1] The idea of providing credit to the poor as a tool for increasing their income and thereby reducing poverty is not new. What is new in microfinance is the innovative methods of providing credit to the poor (e.g. the usage of social collateral such as group guarantee instead of physical collateral, progressive lending approach, peer pressure and peer monitoring), mobilization of savings from the poor and linking credit provision to savings, social mobilization process that involves awareness building and formation of self-help groups and provision of other services such as insurance to cover risks and distresses faced by the poor.

In Sri Lanka, provision of financial services to low income households has a long history dating back to the early years of the 20th century. Thrift and Credit Cooperative Societies (TCCSs), which were first established in 1911, were the pioneers in providing financial facilities to the poor. Nevertheless, it was only in late 1980s, with the enactment of the Government's *Janasaviya* programme[2] that microfinance, in its strict sense, began to be widely recognized in Sri Lanka as a central tool for alleviating poverty and empowering the poor. In the 1990s, the expansion of microfinance activities embraced all sectors namely

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[1] ADB definition of microfinance

[2] *Janasaviya* was established by the government in 1989, with the dual objective of short-term income-supplementation and long-term employment creation of the low income households. This had several components which include provision of credit facilities to low income households, improve nutrition, and small enterprise development.

governmental, non-governmental and cooperative sectors. The establishment of the National Development Trust Fund (NDTF) in 1991 as an apex lending institution was also another turning point in the microfinance sector in Sri Lanka.

Currently, there is a wide range of institutions that are involved in providing microfinance services to low income groups. These include, Co-operative Societies (e.g. TCCSs), hundreds of local and international Non-governmental Organizations (NGOs), commercial banks (both state-owned and private) and development banks such as the Regional Development Banks (RDBs) and the *Sanasa* Development Bank (SDB). In addition, the Government's *Samurdhi* Savings and Credit Scheme established in 1996 is presently one of the largest social mobilization programmes in Sri Lanka, with over 32,000 village level societies and over 1000 bank branches operating island-wide. Moreover, The Central Bank of Sri Lanka (CBSL) is another key player, which functions as the executing agency of a number of rural credit programs funded by various donor agencies and the Government of Sri Lanka.

Despite the large number of institutions involved in providing microfinance facilities in Sri Lanka, their impact on reducing poverty or improving household welfare is not very clear. Only few studies have been undertaken to assess how microfinance have impacted poverty and living conditions of the households in Sri Lanka. Even these studies, in general, are confined to one or few microfinance institutions (MFIs) /programs, or to limited geographical locations (Colombage, S.S., 2004; Shaw, J., 2004; Gunatialka R. and R.Salih, 1999; Gunatilaka *et al*, 1997; Hulme and Mosely 1996). A comprehensive study covering participants from a wide range of MFIs and diverse geographical locations has been an important lacuna in evaluating the effectiveness of microfinance in reducing poverty in Sri Lanka. Hence, this study attempts to fill some of these gaps in literature related to microfinance by analyzing its outreach and impact at household level. The specific objectives of the study are:
- To analyse microfinance outreach with regard to the extent, scale, spatial and depth of outreach in Sri Lanka
- To examine the extent and the role of informal sources of finance.

- To analyse how microfinance has impacted on poverty and living conditions of households, particularly the poor households in Sri Lanka

In order to achieve these objectives of the study, a national level household survey covering a number of MFIs and several geographical locations in Sri Lanka was conducted.

1. Survey Design

Coverage of Household Survey

The household-level survey was designed to cover about 1500 households from 50 Grama Niladhari divisions (G.N. divisions) across 17 districts of Sri Lanka. The survey covered all the districts except those in Northern and Eastern parts of the country.[3] As some villages in Sri Lanka were found to be too small in terms of the number of households, the next lowest administrative unit in the country, G.N. division, was used as the sampling unit in this survey[4]. From each of the selected 50 G. N. divisions, a sample of 30 households was selected for conducting the survey.

Selection of G.N. Divisions

The data from 'The National Microfinance Study of Sri Lanka (2004)[5] on average per capita loan amount from MFIs by district was used as a basis for allocating the 50 G.N. divisions among the 17 districts. In other words, the number of G.N. divisions from each district was selected in proportion to the average per capita loan amount of the given district. According to this method, the number of G.N. divisions allocated for a district varied between two and five.[6] Once the number of G.N. divisions from each district was decided, the random sampling method was used to first select the (decided number of) District Secretary divisions (D.S. divisions) within each district totalling up to 50 D.S. divisions.

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[3] Northern and Eastern parts of Sri Lanka were excluded due to security reasons.

[4] Sri Lanka's administrative system from bottom: Village, Grama Niladari division (G.N. division), district secretary division (D.S. division), district and province.

[5] Richard Gant *et al* (2002) National Microfinance Study of Sri Lanka: Survey of Practices and Policies, Co-Sponsored by Aus AID and GTZ.

[6] The justification for using this method as a basis for allocating the number of G.N divisions from a district, is that it was expected that selecting more areas/locations from districts with better involvement of microfinance (as against more areas from districts with relatively higher level of population- the method most frequently used), would be more appropriate to analyze the impact of microfinance on household welfare in the country.

Then, within each of the selected 50 D.S. divisions, one G.N division was selected using the random sampling method.[7]

Selection of Households

A semi-controlled method was used to select a sample of 30 households within each of the selected G.N. divisions. Initially, it was expected to select 80 percent of the sample (24 out of 30 households from each G.N. division) from the participants of MFIs, while the rest was selected from the non-participants. In each G.N. division, participants were selected randomly using the member lists of all the MFIs in the area. The non-members were selected randomly using a list of names (e.g. election name list) obtained from the *Grama Niladari*/Village Headman (excluding the names of the microfinance members). The latter group was used as the control group in this study.

Nevertheless, in some G.N. divisions, a slight deviation from the expected ratio of participants and non-participants of MFIs had to be experienced due to several reasons. For example, there were some households who claimed to be non-participants of MFIs at present, but who were found to have obtained financial services from MFIs during the last two years. Similarly, some other households who claimed to be non-participants as they had taken no loans from MFIs were found to have saved with MFIs. Reclassification of both these categories as microfinance participants led to some changes in the size of the participant and non-participant groups. In the data cleaning process some household questionnaires had to be taken out from the sample due to inconsistencies.

The final sample taken for the analysis consisted of 1,480 households of whom 1,286 were participants of MFIs while the remaining 194 were non-participants of MFIs. The participants of MFIs were found to be a heterogeneous group in terms of the nature of their link with the MFI. For example, out of the 1,286 participants only 1,153 households had borrowed from MFIs, while the rest had only saved with MFIs. There were 1,108 households in total who had saved with a MFI, but had no borrowings. Overall, only 975 households of the total participants had both credit and savings from a MFI. The

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[7] The list of 50 G.N. divisions selected for the survey – see Annex 1

distribution of households according to type of financial services received from MFIs is depicted in the Figure 1.

Figure 1: Nature of the Sample of Households

E = {total sample}
C = {participants with credit}
S = {participants with savings}

Participants
$n\,(\,C \cup S\,)=\,1,286$

Participants with Credit
$n\,(\,C\,) = 1,153$

Credit and Savings
$n\,(\,C \cap S\,)\, = \, 975$

E

C S

975

Total sample
$n\,(\,E\,)=\,1,480$

Participants with Savings
$n\,(\,S\,) = 1,108$

Non participants
$n\,(C' \cap S')\, = 194$
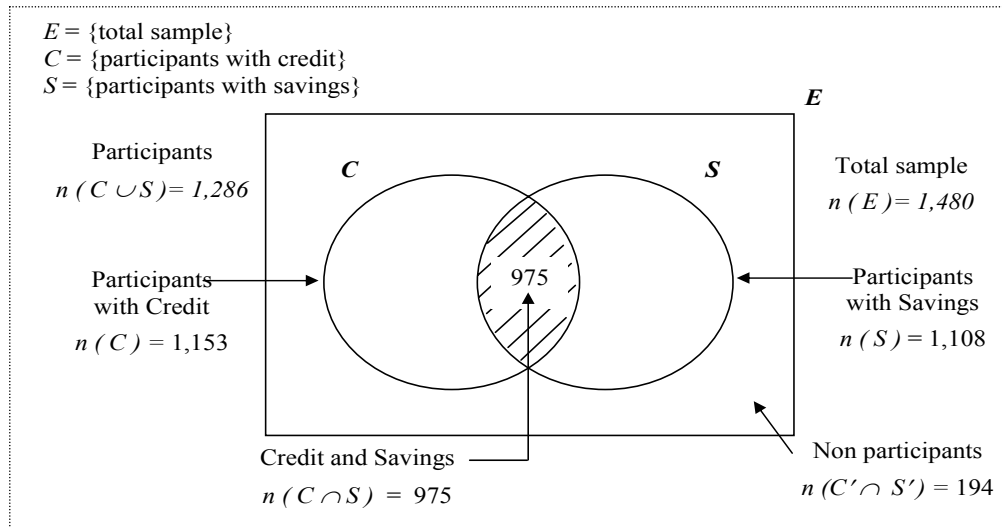
Design of Questionnaires

Two types of questionnaires were used in this study. First, a *Household Questionnaire* was used to obtain various data from the selected households such as households' income, expenditure, assets, economic activities, risks and vulnerabilities and details of credit and savings activities. Second, a *Village Resource Profile* (*VRP*) was prepared to collect the village level (G.N. division level) information including infrastructure facilities (transport, electricity, communication, etc) and various MFIs in the area.

The data obtained using the two questionnaires were used to analyze the impact of microfinance on poverty and welfare of the households in Sri Lanka. Furthermore, the outreach of microfinance sector in Sri Lanka and the extent and role of informal sources of finance in the country were also looked at in this study.

2. Microfinance Outreach

In analyzing the effectiveness of microfinance in alleviating poverty, it is crucial to look at the outreach of MFIs. It is argued that microfinance can play an important role in poverty alleviation only if the extent of outreach is reasonably large. On the contrary, if MFIs are

restricted to only few geographical locations or serve only a small fraction of the population or the poor, their importance in poverty alleviation efforts would be limited. Outreach of microfinance sector can be looked at in numerous aspects: extent and scale of outreach, spatial outreach, depth of outreach, etc.[8]

The findings of the survey, conducted in 50 G.N. divisions across 17 districts in Sri Lanka, show that there is a wide range of microfinance service providers in the country. Broadly, they can be classified into: (i) formal institutions, (ii) semi-formal institutions and (iii) informal sources. Formal institutions include commercial banks - both state owned and private banks and development Banks. Semi-formal institutions include various NGOs and cooperative societies.   A considerable number of small NGOs and community based organizations (CBOs) operate only in one or few locations. Moreover, a wide range of informal sources exists that provide small scale financial services to individuals and households. Such sources include professional money lenders, shop keepers and Rotating Savings and Credit Associations (ROSCAS). Nevertheless we have defined Microfinance Institutions (MFIs) to include only the institutional sources, that include formal and semi formal providers providing microfinance services as their major or the important part of their business.[9]

The results of the survey show a reasonably wide geographical outreach of microfinance services in Sri Lanka. As shown in Table 1, all the selected G.N. divisions have at least one MFI. The number of MFIs in a G.N. division varied between one and eight with an average of four[10]. Moreover, we found that 80 percent of the G.N. divisions have access to at least three MFIs, while three G.N. divisions have access only to the government's *Samurdhi* Credit and Savings Societies[11].

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[8] For details on various dimensions of outreach of MFIs, see Chapter 13 of Sanderatne (2004), 'Leading Issues in Rural Finance', PGIA, University of Peradeniya, Sri Lanka

[9] Note that this is somewhat different to the ADB definition that defines MFIs as institutions whose major business is the provision of microfinance services (ADB, 2000). The reason for this deviation is that, in Sri Lanka, there are a large number of NGOs, commercial banks, etc, that are involved in microfinance as an important part of their activities, but not necessarily as their major business.

[10] Note that in some cases even if the MFI is not located within the selected G.N. Division, if it is located close by but within the same D.S Division and more than 10% of the selected household sample from the G.N. Division has access to it, we consider it as that MFI having outreach in the G.N. Division concerned. The reason to do this is that there are many households who make use of nearby financial institutions located within the same DS division, when there is no financial institutions in the GN division they live in.

[11] See annex 2 for density of selected MFIs in selected locations.

Table 1: Distribution of MFIs across G.N. divisions

No of MFIs in a G.N. Division	No of G.N. Divisions	% of G.N. Divisions
1	3	6
2	7	14
3	12	24
4	7	14
5	14	28
6	6	12
7	0	0
8	1	2
Total	**50**	**100**

Source: Microfinance Survey 2004, IPS

Table 2 shows the spatial outreach of the key microfinance providers in the country according to the survey results. As we can see, spatial outreach of MFIs varies largely from one institution to another. It is interesting to find that the government's *Samurdhi* Credit and Savings programme operates in all the G.N. divisions covered in the survey. The TCCSs, one of the oldest credit organizations in the country, have shown a spatial outreach of approximately 56 percent, followed by the Multi-Purpose Corporative Societies (MPCSs) with 40 percent. Moreover, the RDBs have 30 percent coverage of G.N. divisions in Sri Lanka. Nevertheless, the majority of NGOs (with very few exceptions) has relatively lower spatial outreach, where many of them are represented in less than 10 percent of the G.N. divisions in the country. Furthermore, the private commercial banks are not in operation in any of the randomly selected 50 G.N. divisions, although few households (less than 10 percent of the sample from a G.N. division) transacts with private commercial banks, located further away from their area of residence.

Table 2: Spatial Outreach of Some Key Microfinance Providers

MFIs	Coverage of G.N. Divisions (No.)	Coverage of G.N. Divisions (%)
Samurdhi	50	100
TCCSs /SANASA	28	56
Cooperative Societies (MPCSs)	20	40
Rural Development Bank (RDB)	15	30
SEEDS / Sarvodaya	12	24
People's Bank	11	22
Farmers' Organizations	5	10
Bank of Ceylon	4	8
Fishermen's Organizations	4	8
Arthacharya Foundation	3	6
Ceylinco Grameen bank	2	4

Note: In addition to the above Institutions, a number of other MFIs were found, which operate only in one or few G.N. divisions covered in the survey
Source: Microfinance Survey 2004, IPS

A number of factors limit the spatial expansion of MFIs, particularly to remote rural areas. First, remote areas are often associated with poor or inadequate infrastructure facilities such as roads, transportation, electricity and communication networks. Second, many remote areas, offer only limited opportunities for non-agricultural activities that limit the number of clients a MFI can serve. Poor infrastructure often raises unit cost of operating businesses including microfinance services. As a result, extending outreach (spatially) to remote areas could often lead to higher unit cost of lending and hence, can have adverse impacts on institutions. Moreover, excessive expansion of MFIs is also associated with difficulties in monitoring their clients.

The distribution of credit obtained from MFIs by size shows that the total amount of credit obtained by the participant households during the last two years range from less than Rs. 3,000 to over 100,000 with an average of about Rs. 27,084.[12] More than 50 percent of the participants had borrowed over Rs. 10,000, while about 20 percent had borrowed over Rs. 30,000. However, about 10 percent of the participants were found to have taken no loans (and have only saved in MFIs) during the last two years. Nevertheless, the variation of borrowings across districts is quite high. For example, in the districts of Badulla and

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[12] Note that in this paper, credit amount refers to the total credit obtained from MFIs by households during the last two years.

Gampaha, only less than 10 percent of the participants had their total borrowings over Rs. 30,000, while it was nearly 45 percent in Kalutara district. Moreover, nearly 23 percent of the borrowers in Kalutara district had obtained credit over Rs. 100,000. On the contrary, no total borrowings over Rs. 100,000 were found in the districts of Badulla and Galle, while in majority of other districts the figure was less than five percent. [13]

It is also important to look into the household savings, the other significant dimension of microfinance. Household savings with MFIs are observed to vary between less than Rs. 1,000 to over 100,000.[14] The average savings of the participants of MFIs is Rs. 7,526. However, about 15 percent of the households had savings less than Rs. 1,000 while another 13.8 percent of participants had no savings. Savings of over 80 percent of the households were found to be less than Rs. 10,000.[15] On the distribution of savings across districts, we observed considerable variations. For example, in Badulla district, nearly 60 percent of the households have savings less than Rs. 1,000 or no savings. Moreover, in many districts, including Anuradhapura, Badulla and Ratnapura, household savings in MFIs are less than Rs. 25,000. On the contrary, in districts like Kalutara, nearly 25 percent of the households have savings above Rs. 25,000.[16]

When assessing the outreach of microfinance sector, it is also important to look at the depth of outreach -that is whether the MFIs have reached the poor groups- particularly the 'poorest of the poor'. Several studies on microfinance have shown that many MFIs tend to serve 'better-off poor' (moderate poor) and the vulnerable non-poor categories, rather than the poorest groups (Hulme and Mosely 1996, Sebstad and Cohen, 2000). There are number of reasons for why the MFIs may not reach the poorest groups. On one hand, the demand for credit from the extreme poor may be limited as they often lack capacity for undertaking micro-enterprises owing to lack of skills, technical know-how and marketability of products. The existing demand for credit by the poorest groups is often for consumption needs. On the other hand, many MFIs may not be willing to serve the poorest groups as

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[13] See Annex 3 for the distribution of credit by size and district.

[14] Note here household savings refer to total household savings in MFIs during the last two years.

[15] Data on the amount of savings were not available for about 77 households (6.95 percent) in the sample. This is due to unawareness of the households about the exact level of savings they have in the bank or in some cases, unwillingness to reveal the information about the savings.

[16] See Annex 4 for the distribution of savings with MFIs by size and district

they are considered to be 'risky' and have less capacity to pay back loans and hence may adversely affect on the viability of the MFIs.

Although the percentage of the extreme poor among the participants of MFIs seems to be relatively low, the survey results show that MFIs have reached the poor and the poorest groups. Table 3 shows that 36 percent of microfinance participants have monthly income les than Rs. 5,000. This is followed by nine percent with income below Rs. 2,500 and 2.95 percent with income even below Rs. 1,000 a month. However, approximately 39 percent of the participants have monthly income above Rs. 7,500 while more than 20 percent have more than Rs. 10,000, indicating that a significant proportion of not-so-poor groups, including the vulnerable non-poor, participate in MFIs.

Moreover, the survey data confirm that the total borrowings of the participants falling into low income groups are relatively small compared to the richer income groups. For instance, more than 50 percent of households in the lowest income group (i.e. less than Rs. 1,000 a month) have borrowed less than Rs. 5,000, including about 29 percent with no borrowings during the last two years. On the contrary, in the richer income groups, less than 25 percent of the households have borrowed less than Rs. 5,000 while the majority have borrowed relatively larger amounts.

Table 3: Distribution of Loans by Household Income

Income Level	No Loans %	<3,000 %	3,001-5,000 %	5,001-10,000 %	10,001-30,000 %	30,001-50,000 %	50,001-100,000 %	100,000 < %	% of Total HHs
< 1000	28.95	5.26	18.42	13.16	21.05	10.53	2.63	0.00	2.95
1001-2500	15.19	10.13	18.99	17.72	27.85	7.59	2.53	0.00	6.14
2501-5000	12.36	4.31	25.57	16.09	32.18	6.32	2.30	0.86	27.06
5001-7500	10.90	3.74	18.38	14.33	30.22	14.02	6.85	1.56	24.96
7501-10000	6.64	2.21	16.81	15.93	30.97	11.95	9.29	6.19	17.57
10001-15000	5.00	1.88	13.13	7.50	37.50	14.38	13.13	7.50	12.44
15001-20000	9.80	1.96	7.84	3.92	33.33	13.73	9.80	19.61	3.97
20000 <	6.35	6.35	12.70	9.52	23.81	12.70	17.46	11.11	4.90
Total	10.34	3.89	18.74	13.76	31.18	11.04	7.08	3.97	100.00

Source: Microfinance Survey 2004, IPS

Table 4 provides the distribution of savings in MFIs by the average monthly household income. Similar to the case of credit, there is considerable variation in savings across different income groups. It is interesting to note that over 75 percent of the poorest category (with monthly income less than Rs. 1,000) had savings less than Rs. 5,000 in MFIs. However, in higher income groups, a considerable proportion of households have relatively higher amount of savings.

Table 4: Distribution of Savings by Household Income

Income level	No Data %	No Savings %	<1000 %	1001-2500 %	2501-5000 %	5001-10000 %	10001-25000 %	25001-50000 %	50001-100000 %	100000 < %	% of total HHs
< 1000	7.89	7.89	18.42	21.05	21.05	10.53	13.16	0.00	0.00	0.00	2.95
1001-2500	10.13	11.39	20.25	30.38	13.92	8.86	5.06	0.00	0.00	0.00	6.14
2501-5000	7.47	10.34	16.38	21.55	18.39	13.51	8.91	2.01	0.57	0.86	27.06
5001-7500	4.67	13.71	18.38	16.20	15.89	16.20	11.84	1.56	1.25	0.31	24.96
7501-10000	6.19	16.37	12.83	15.04	16.81	14.16	12.83	3.54	1.77	0.44	17.57
10001-15000	4.38	15.00	15.00	14.38	13.13	13.13	18.75	3.75	2.50	0.00	12.44
15001-20000	5.88	19.61	5.88	7.84	21.57	9.80	17.65	0.00	7.84	3.92	3.97
20000 <	1.59	23.81	4.76	11.11	17.46	11.11	14.29	3.17	7.94	4.76	4.90
Total	**5.99**	**13.84**	**15.40**	**17.65**	**16.72**	**13.61**	**12.05**	**2.18**	**1.79**	**0.78**	**100.00**

Source: Microfinance Survey 2004, IPS

3. Informal Sources of Finance

Despite the availability and widespread use of MFIs, the informal financial market seems to have continued to play an important role, particularly in the rural areas of Sri Lanka. In this section, we look at the extent and nature of informal financial market and the reasons for the pervasiveness of informal lending in Sri Lanka.

The survey results show that nearly 32 percent of the households in the total sample have borrowed from various informal financial sources. It is interesting to find that about 34 percent of the participants of MFIs also use informal financial markets. (The figure is only 20 percent for the non-participants). The informal financial sources include friends and relatives, shopkeepers or traders, professional money lenders, ROSCAS, landlords and employers. It was found that friends and relatives account for over 53 percent of the total amount of credit obtained from the informal sources. This is followed by money lenders

(about 20 percent) and traders/shopkeepers (about 14 percent). The importance of landlords and employers was found to be marginal. In terms of the number of loans, traders/shopkeepers were found to be the second largest source of informal finance (friends and relatives being the first), indicating its importance particularly as a source of small-sized informal loans. As shown in Figure 2, traders and shopkeepers account for approximately 38 percent of the total number of informal loans, followed by money lenders who account for 10.7 percent.

Figure 2: **Distribution of Informal Credit by Source**
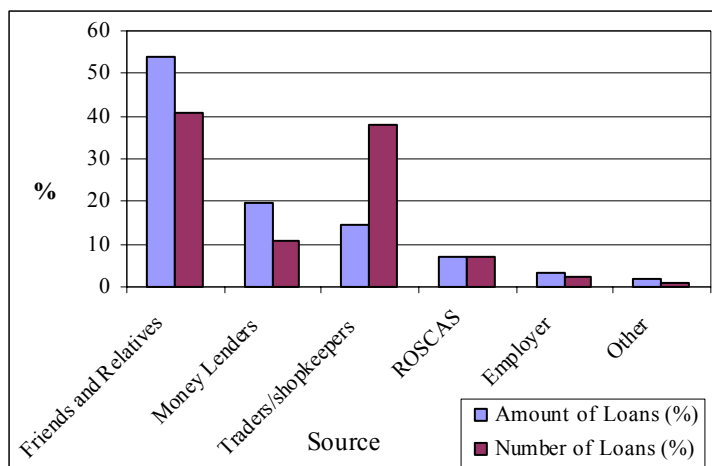
Source: Microfinance Survey 2004, IPS

The results show that on average, total informal credit (as a percentage of credit obtained from MFIs) is about 15 percent. However, considerable variations were observed across the districts. For instance, in districts of Hambantota, Puttalam, Colombo and Nuwaraeliya, informal credit accounts for about 25-35 percent of the credit from MFIs. On the contrary, in the districts of Gampaha and Ratnapura, the informal credit (as a percentage of credit from MFIs) was less than five percent. Further analysis may be needed to ascertain why this may have happened.

The findings also show that the amount of informal credit obtained by households varies from less than Rs. 1,000 to over Rs. 100,000.[17] However, the average credit amount from informal sources is relatively small (Rs.10, 862) compared to borrowings from MFIs. The

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[17] Note here informal credit refers to total credit borrowed from informal sources of finance during the last two years.

data show that over 60 percent of the households have borrowed less than Rs. 5,000, while about 20 percent have borrowed less than Rs. 1,000 from informal sources. In some districts like Matale, over 90 percent of the households have borrowed below Rs. 5,000. Overall, only less than 10 percent of the households have borrowed more than Rs. 25,000 from informal sources. Moreover, in some districts like Anuaradhapura, Badulla, Gampaha and Kandy, no household have borrowed more than Rs. 25,000 from informal sources. [18] In addition, informal credit distribution by household income level shows that households of various income categories tend to use informal sources fairly equally to fulfil their credit needs.

Table 5 shows the distribution of credit according to the purpose of borrowing. It is interesting to find that over 40 percent of the total amount of credit from informal sources has been obtained for consumption purposes[19]. In terms of the number of loans from the informal sources, consumption loans account for over 58 percent. This is significantly higher compared to the credit borrowed from MFIs for consumption purposes. For example, only about seven percent of the total loan amount from MFIs has been used for consumption purposes. Moreover, more than 25 percent of the informal loans have been obtained for income generating activities. However, the amount of loans obtained from MFIs for such activities is much higher (about 58 percent) compared to informal sources.

Table 5: Credit by Purpose of Borrowing

Item	Amount of Loans		Number of Loans	
	MF %	Informal %	MF %	Informal %
Income generation activities	58.15	28.89	64.56	23.37
Purchasing or improving assets	21.83	16.89	17.88	7.66
Consumption	7.12	40.21	8.57	58.62
Repaying debt	2.83	3.84	1.74	2.49
Other	10.07	10.17	7.26	7.85
Total	**100.00**	**100.00**	**100.00**	**100.00**

Source: Microfinance survey 2004, IPS

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[18] See Annex 5 for the scale of informal credit by district
[19] Consumption purposes here include buying food and other goods, medical expenses, family events such as weddings, funerals and childbirth, etc.

A number of reasons can be identified for the pervasiveness of the informal financial sources. First, the flexibility for borrowing without restrictions in terms of the purpose is a key factor contributing to importance of informal finance. As shown earlier, many people tend to borrow from informal sources to meet their consumption needs. Many MFIs, on the other hand restrict credit facilities largely for productive activities or income generating activities. Second, many formal financial institutions like banks tend to operate only in limited areas, hence many people, particularly those living in remote rural areas, have little access to them. Third, despite the relatively good depth of outreach by some MFIs, it was found that a significant proportion of the clients of many MFIs tend to be the 'better-off poor' or the vulnerable non-poor categories. The poorest of the poor, who are often being excluded from many formal and semi-formal financial institutions, find it necessary to rely on the informal sector for credit. Fourth, the results revealed a number of other factors for the persistence of informal finance in the country, which include better accessibility, flexibility in repayments and simplicity in obtaining loans. Fifth, there is no collateral requirement when borrowing from informal sources such as friends, relatives and traders/shopkeepers which is another contributory factor for the continuing importance of informal finance.

5. Linking Microfinance and Poverty

Poverty is a multi-dimensional phenomenon, which needs to be addressed in all its many dimensions. As described in the World Development Report 2000/2001, the poor "often lack adequate food and shelter, education and health, deprivations that keep them from leading the kind of life that everyone values. They also face extreme vulnerability to ill health, economic dislocation, and natural disasters. They are often exposed to ill treatment by institutions of the state and society and are powerless to influence key decisions affecting their lives. These are all dimensions of poverty."[20] Based on this description, the key dimensions of poverty can be broadly classified into three: (i) economic dimension, often measured by the level of income and expenditure, ownership of assets, and employment; (ii) vulnerability to risks and income failures; and (iii) powerlessness and low social status.

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[20] World Bank, 2000, World Development Report 2000/2001: Attacking Poverty

It is argued that microfinance has the potential to impact directly or indirectly on each of the dimensions of poverty.

(i) _Tackling economic dimension of poverty:_ It is claimed that microfinance can be an effective instrument to raise income, production and employment of the poor households. Lack of access to credit has, therefore, been considered as a major obstacle for them to raise their income and production levels. The formal institutions such as banks have bypassed the credit needs of the poor due to lack of credit worthiness, higher transaction costs or perceived higher default rates. The lenders in the informal sector are often considered to charge exorbitant rates of interest. Thus, it is argued that microfinance, by providing financial services to individuals, households and micro-entrepreneurs, promotes income and employment generation opportunities for the poor.

(ii) _Reduction of Vulnerability_**:** The poor suffer not only from low incomes but also from various vulnerability and risks. They often lack reserves to fall back upon in times of need or buffers to absorb the shocks of income losses. It is claimed that microfinance programs that facilitate savings among the poorer segments and provide access to credit facilities and insurance services help the poor to accumulate assets (expand the asset base) and strengthen their capacity to deal with risks.

(iii) _Empowerment of the poor, particularly women_**:** Microfinance programs are said to help the poor, particularly the poor women to gain economic and social empowerment. Through the provision of financial services to improve income, assets and employment opportunities, microfinance programs help the poor to gain economic empowerment. In addition, the social mobilization process, which often accompanies financial services in many microfinance programs, contributes to build social assets such as social networks, group/society membership, mutual trust and help. Participation in microfinance programs can also help improving self-reliance, social recognition and social status of the poor. These are some elements of empowerment which can be gained through microfinance programs.

6. Economic Impact of Microfinance

Household Income

An expanded income gives the households many options: they can increase consumption possibilities, allow the household the possibility of saving for the future, reduce the vulnerabilities arising from future income failures, gives the children better educational opportunities, and so on. Therefore, an expansion of household income is one of the most desirable household outcomes regardless of the current level of income. A slight improvement of income of the poor may not be much in absolute terms, but the marginal benefits may be much higher in comparison to their rich counterparts. As a result, household income has a particular place in all the poverty alleviation programs. The microfinance programs all over the world make attempts to raise the level of incomes of their participants. Sri Lanka's microfinance programs are no exception in that a significant part of the effort is geared towards achieving the objective of raising household incomes. Therefore, the impact of microcredit and other financial services on income needs to be evaluated to see the extent to which microfinance programs have been successful in alleviating poverty.

We asked the households a relatively straightforward question: has income changed as a result of their participation in microfinance programs? [21]A relatively large percentage of households (i.e., 44.2 percent) indicated that it was indeed the case. A larger percentage of households (i.e., 53.57 percent) seem to think that there was no change of income as a result of their participation in microfinance institutions. Nevertheless, the fact that microfinance programs have enabled 44 percent of households to increase their income is a welcome relief given the difficulties that development planners experience in raising incomes of households in developing countries owing to a well-known set of constraints.

We were interested to find out the distribution of the households who experienced a positive change according to income quintiles[22]. We find that the households in different income quintiles have only slight variations with respect to positive benefits. For example, 38.77 per cent of households in quintile 1 had indicated that their income rose, while the

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[21] See Annex 6 for the perceptions of the MFI members on the impact of microfinance on household income ,assets, housing ,employment, etc for the whole sample and income quintiles

[22] Households were allocated to quintiles (five equal groups) based on per capita household monthly income.

percentage for all the remaining quintiles were 38.73, 46.47, 40.79 and 57.84, respectively. It is interesting to note that relatively higher proportion of households in higher quintiles (compared to lower quintiles) has experienced improvement in household income, owing to their participation in MFIs.

In the above case we simply allocated households based on their responses to the question if the participation in microfinance has improved their income. This does not say anything about the possibility of having some impact of credit or other variables on income here. The impact of credit on income is of particular interest to us. Therefore, we allocated households not only according to the income quintiles but also according to the extent of loan obtained. [23]The new distribution offers some interesting insights. First, we find that the highest number of households (i.e., 27 percent) have obtained loans within the range of Rs. 10,000 to Rs. 30,000. Within that category of households who obtained loans (i.e., Rs. 10,000 to Rs. 30,000), income quintile four has the highest number of households. Second, the Pearson Chi Square test confirmed that there is a significant difference among the income groups with respect to loan amounts[24].

Since there seems to be some association between the loan amounts and income levels of households, it is of interest to calculate the magnitude of this association. The simple correlation coefficients were calculated between the total income and a number of other variables viz. the total loan amount, total asset value, the number of income earners in the household, occupation and education level of the household.[25] As for the correlation between income and loan amount, we find that there is a significant, positive correlation for the whole sample having a correlation coefficient of 0.202. The correlation coefficients were also calculated for different quintiles, and we observe a significantly positive correlation between credit and income among the middle income quintiles (2nd, 3rd and 4th quintiles), while it is not significant for the poorest and the richest groups.

It is of particular interest to see the extent of credit in relation to their income. In this particular case, we were interested to find out the amount of total credit extended to

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[23] See Annex 7
[24] This is significant at $\alpha = 0.01$ level.
[25] See Annex 8

households within the last two years. Figure 3a shows the actual values for household mean income against the total loan amount obtained by households. This suggests that the higher income groups have obtained more loans from microfinance institutions. One may erroneously conclude that even the microfinance schemes favour the relatively rich households. However, once the percentage share of loans in relation to their monthly income takes into consideration, a totally different picture emerges, which shows clearly that in relation to the mean income levels of the poor, they have obtained much higher amount of loan than the rich. (Figure 3b) The loan amount as a percentage of mean monthly income is 490 (i.e. 490 percent) for the poorest quintile, while it is 290 (i.e. 290 percent) for the richest quintile. This ratio declines for each quintile except for the fourth where there is a slight upward trend compared to the third quintile. This indicates that for the poorer groups, the amount of credit obtained from MFIs, though small in absolute terms, is much larger in relation to their income levels.

Figure 3a: Mean Credit and Income by Quintiles
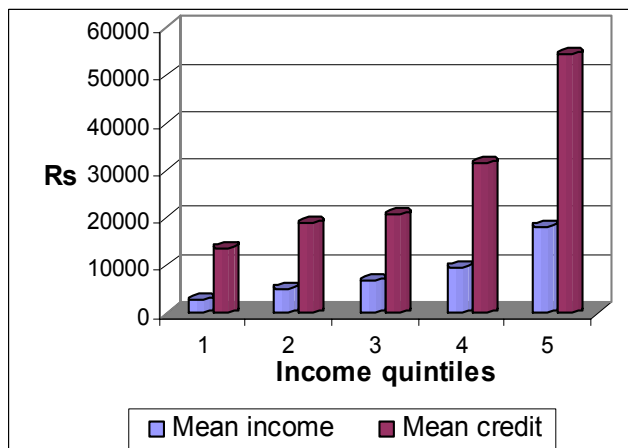
Figure 3b: Mean Credit as a % of Income
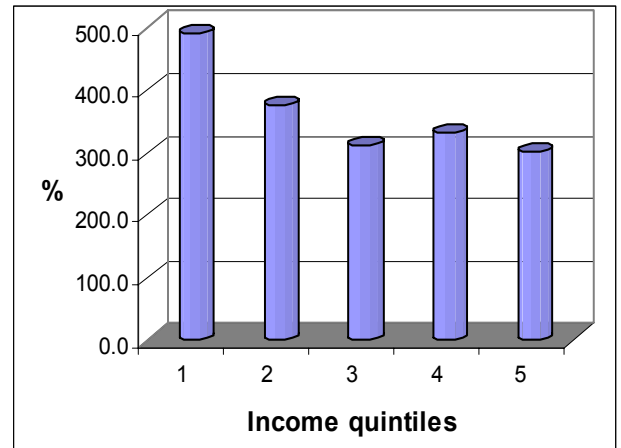
Source: Microfinance survey 2004, IPS

Household Expenditure

Expenditure is another critical variable in analyzing the effect of microfinance on household welfare. A higher level of household expenditure is generally associated with higher consumption and better standard of living. A microfinance scheme may exert a positive impact on household welfare through their effects on expenditure at all levels, but the marginal effect would be the highest among the lowest income groups.

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In order to see if such a relationship exists between microcredit and household expenditure[26], the Pearson correlation coefficients were calculated for the whole sample as well as for quintiles[27]. The Pearson's correlation coefficients between loan amount and expenditure are significant for the whole sample as well as for all the quintiles.

We also calculated correlation coefficients between household expenditure and a number of other variables viz. monthly income, the number of family members, total household assets, sex and education level of the household head and the distance from the consumer market. As can be seen from the correlation coefficients with respect to the number of family members, total household value and the distance to consumer market are highly significant, both in the whole sample as well as in all the quintiles.

Household Assets

Assets play a multitude of roles among households, particularly in agrarian societies where incomes are closer to the subsistence level. The ways in which households use assets to smooth out consumption is a well documented process. Households purchase assets when their incomes are better and sell them during the lean periods. Therefore, assets also serve as a form of saving; however, the kind of assets that may be used by a household at any point in time depends on the severity of the income failure and the liquidity of the assets. The need to use assets to smooth out consumption arises mainly from the inability of the household to use the credit market. In many instances, credit markets are absent in developing countries or if they exist, they are highly inefficient. Microfinance is considered to be quite useful in such instances.

Analyzing the nature of asset markets along these lines is beyond the scope of this paper. However, we are in a position to evaluate the effects of microcredit and other financial services on the level of assets. We asked households whether they experienced an impact on assets due to their involvement in microfinance programs. Of the 892 households who were also members of any MFI, 118 (13 percent) households had indicated that their assets increased as a result of their participation in MFIs. The same analysis for all the quintiles shows that the percentage of households that experienced an improvement of assets rises

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[26] Household expenditure used for analysis throughout the study mainly consists of consumption expenditure.
[27] See Annex 9

along the quintiles. For example, the percentage share of households who had seen an improvement in their assets in the first quintile is 4.29 percent, while this figure is as high as 26.83 percent for the fifth quintile.

To see if there is a statistically significant association between household assets and loan amount, the Pearson's correlation coefficients were calculated. [28] The results suggest that household assets are positively correlated with the total loan amount, both for the whole sample and for the three middle quintiles (second, third and fourth quintiles). As in the case of household income, no significant association between total loans and assets could be observed for the first and the fifth quintiles.

Alternatively, one could also evaluate the relationship between the total loan amount and household assets directly by looking at the loan amount and the value of asset. Figures 4a shows the mean loan amount and mean asset value for all the quintiles. A quick observation seems to suggest that the value of assets rise with the total loans obtained for all the income quintiles. However, a further look at the mean loan amounts in relation to the mean asset value of households shows that the poor households have higher amount of loans in relation to household assets. The results were similar to those obtained in the case of household income.

Figure 4a: Mean Credit & Asset Value By Quintiles
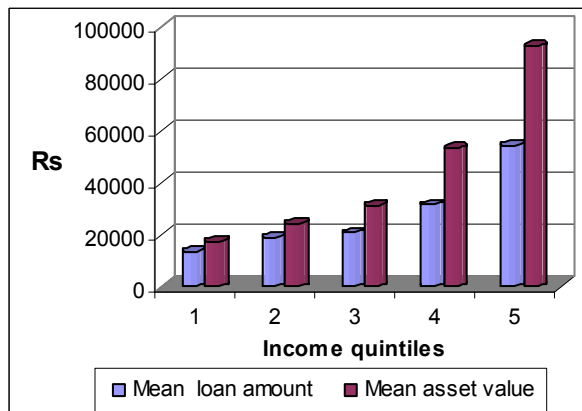
Figure 4b: Mean Credit as a % of Asset Value
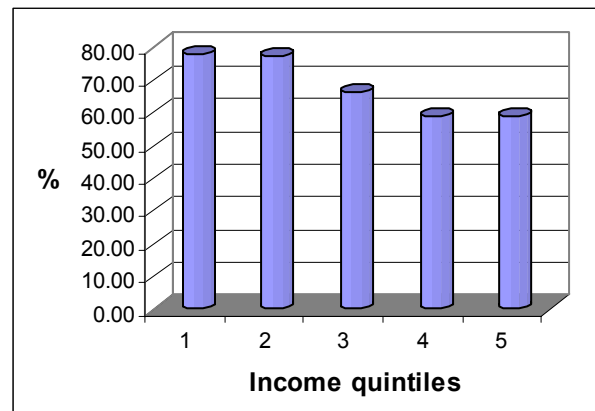
Source: Microfinance survey 2004, IPS

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[28] See Annex 10

So far we have analyzed the relationships between microcredit and household outcomes without explicitly measuring the magnitude of impact. Nor had we taken into account the possible effects of variables that are not directly related to microfinance such as household or village characteristics on key household outcomes –income, assets and expenditure. An attempt was made to model the existing relationship among the key variables using econometric techniques. It is well known that such household econometric models suffer from endogeneity bias that arises from the fact that the major variables relating to household outcomes such as income, expenditure and assets affect each other. For example, household income affects the levels of expenditure and assets. On the other hand, the level of household assets is a key variable that determine household income.

Given the endogeneity bias, assessing the impact of microfinance on household outcomes would require the estimation of a simultaneous equation system. We postulate that household income (I) to be a function of the total amount of loan obtained (C), and a few other household characteristics, namely the occupation of the household head (HO), the education level of the household head (HE) and the number of income earners in the family (IE). This yields us the income equation,

$$I = i_0 + i_1 C + i_2 HO + i_3 HE + i_4 IE .$$

The level of expenditure is thought to be determined by the total loan amount obtained (C), household income (I), assets (A), sex of the household head (HS), family size (FS) and the distance to consumer market (CM), which is given by

$$E = e_0 + e_1 C + e_2 I + e_3 A + e_4 CM + e_5 HS + e_6 FS$$

The level of assets is determined by the amount of credit (C), household income (I) and the sex of the household head (HS), which is given by

$$A = a_0 + a_1 C + a_2 I + a_3 HS$$

These three equations result in a simultaneous equation system, where household income, expenditure and assets are determined endogenously. Note that the household income is determined by several exogenous variables. Income enters both expenditure and asset equations, while assets enters into the expenditure equation.

This system of equation was estimated using two-stage least squares for the entire sample as well as for each income quintile. [29] The estimated model for the entire sample is given below.

$$I = -1189.27 + 0.022C + 545.33HO + 1170.17HE + 3201.23IE$$
$$\quad (-1.49) \quad (5.97) \quad (3.01) \quad (4.51) \quad (13.30)$$

$$E = 1840.79 \quad + 0.003C + 0.002I + 0.053A - 188.12CM + 444.53HS + 463.75FS$$
$$\quad (3.04) \quad (0.98) \quad (0.03) \quad (4.99) \quad (-1.66) \quad (1.18) \quad (4.46)$$

$$A = -9748.07 + 0.200C + 6.199I + 102.15HS$$
$$\quad (-1.15) \quad (3.83) \quad (7.63) \quad (0.01)$$

Sample size : 1480

As can be seen from the model, the loan amount has a significantly positive impact on both income and assets. Many of the statistical tests carried out earlier to test the impact of credit on income and assets were in conformity with this result. The results imply that improved access to credit could lead to positive impact on household income, probably through productive investment in income generating activities. The results also imply that households may have used credit to accumulate assets. This is a significant step in reducing poverty and improving welfare because assets enable households to reach higher living standards. If the households belong to the relatively rich categories, they may be using credit to acquire such assets. The poorest households on the other hand may be using assets to smooth out consumption.

However, a significant impact of credit on household expenditure could not be observed. The peer monitoring we observed in many of the microfinance programs may have contributed for the households to control their expenditure voluntarily and channel as much credit to productive purpose. We also observed during our survey that microfinance institutions had implemented monitoring mechanisms to control the efficient use of credit and direct the borrowers to channel the funds for optimum use.

Among the other variables that have a significantly positive impact on income include the occupation and education level of the household head and the number of income earners.

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[29] The results for the income quintiles are given in Annex 11 together with the model for the entire sample.

On assets, similar impact can be observed from the level of income and the sex of the household head.

We observed earlier that the nature of households with respect to credit, income, asset ownership and expenditure differs across different income quintiles. Therefore, it is imperative that we estimate for each income quintile the impact of credit on household outcomes measured by income, expenditure and assets by using the same kind of econometric model estimated earlier. We were particularly interested to find out if households in different income quintiles had different responses to credit. If it is indeed the case, the microfinance policy design will have to take into consideration the nature of different income groups in designing appropriate microfinance packages. The same econometric model was estimated for each income quintile, and tested for the possibility for structural shift among different income quintiles by using the Chow test, a standard method for identifying structural shifts in regression models. The Chow test on each regression model confirmed that there is in fact structural change among different income quintiles[30]. Therefore, we need to treat each quintile as having its own specific characteristics with respect to behaviour towards credit.

The poorest income group (quintile 1) in the sample seems to have a different pattern of response to credit compared to all the other income groups. The most striking feature of the results pertaining to the poorest income group is that the loan amount has a significantly positive impact on the level of expenditure. At the same time, there seems to be no significant impact of credit on both income and assets. For the middle three income quintiles loan amount makes a significant positive impact on income and assets but not on expenditure. These results confirm our earlier assertion that the poorest may be using loans for purposes of smoothing out consumption while a majority of the relatively better off households makes use of credit for income generating purposes or buying assets. The difference between the poorest and the relatively better off groups is that the latter use credit to first increase their assets base or capacity to generate income, while the poorest

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[30] The calculated F values for income, expenditure and assets equations are 159, -105 and 15 respectively. In all the models F values are greater than the table values, rejecting the null hypothesis that there is no structural change. (This is significant at $\alpha = 0.01$ level)

groups may be using them directly. This however does not suggest that credit provided to the poor is not useful. The efficacy of credit of course is related to the intended purpose. Once we define household vulnerability as one dimension of poverty, credit programs that may have increased household expenditure in the face of vulnerability resulting from income failure can also be considered to have made a positive impact.

Housing Quality and Other Amenities

Housing quality is a good indicator of household wellbeing. Microcredit and other financial services enable households to improve housing quality, obtain access to electricity and other amenities. The results show that out of 1480 households surveyed, 441 households (29.8 percent) indicated an improvement in housing conditions during the last two years. However, there was a significant difference in results for the participants and non-participant of MFIs. For example, among the participants of MFIs, 31 percent have improved housing conditions, while the figure was only 21 percent for the non-participant group.

To test if there is a significant relationship between credit amount and improvement in housing exists, the Spearman Rank correlation was calculated. The level of housing improvement was categorized into five levels: (a) much decreased, (b) decreased, (c) no change, (d) increased or (e) much increased. The results show a significantly positive correlation between the level of housing improvement and the total loan amount for the whole sample.[31] The Spearman rank correlation test was conducted for income quintiles as well. A significantly positive relationship between the improvement of housing conditions and loan amount was observed for the third, fourth and fifth quintiles,[32] while for the first two quintile, no significant correlation between these two variables could be observed. This indicates that micro credit has enabled the relatively rich group to improve their housing conditions.

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[31] The Spearman's Rho value 0.0998 significant at 0.01 level.

[32] The Spearman's Rho values for the third, fourth and fifth quintiles are 0.1366, 0.1342, 0.1340 respectively and significant at 0.05 level.

Moreover, the household responses to the question whether microfinance helped them to improve housing conditions reveal that 38 percent of the participants have experienced improvement in their housing conditions. It was also found that relatively higher percentage of households among the higher quintiles has improved housing conditions compared to the lower quintiles.

We also asked whether the households had any benefit in terms of water and sanitary conditions of their dwellings. Approximately 12 percent of households reported that they had an improvement in access to water and sanitary facilities as a result of their participation in MFIs. Further, about 11.43 percent of households indicated that they received access to electricity as a result of microfinance.

Training and Employment Opportunities

Modern growth theory suggests that improvement of human capital is one of the major sources of endogenous growth of any society. The rural poor suffer from lack of access to quality education and opportunities for human capital improvement, partly because they live in places far away where such facilities are available. Moreover, their struggle for day-to-day existence leaves them with no opportunity to engage in activities to enhance their skills. Microfinance institutions purport that one of the mechanisms through which they attempt to make a dent in poverty is through improvement of human capital and training.

We asked the households if they received training or skill improvement through MFIs. The percentage of participants who had received some training was 19 percent. Moreover, it was found that 31.25 percent of the participants who started micro-enterprises using loans have received training from MFIs. We also asked whether they in turn provided training to other people, and 9.86 percent indicated that they have done so. This shows that microfinance institutions have not only provided training to households to start up their own businesses, but also have created secondary impacts as those who received training in the first instance have provided training to others. If this process continues, one could expect to have spillover effects throughout the villages creating a positive impact on alleviating poverty.

Employment generation can be regarded as a major objective of any microfinance program. Such programs are expected to contribute to the generation of employment in a number of ways: self employment, finance for starting up new businesses, and secondary effects through financing relatively large projects. To assess the impact on employment opportunities that microfinance programs may have created, we asked the respondents what they thought the impact was. On the question of employment opportunities, 19 percent of households indicated that their employment opportunities increased.

To increase employment opportunities, people need to invest in new ventures or activities that support self-employment. Financial assistance from MFIs has been received by 36.08 percent to start up new businesses. As far as the type of businesses is concerned, 20.19 percent of households have started small shops, 17.55 percent activities related to animal husbandry, 15.63 percent cultivation, 10.1 percent hand looms or knitting businesses, 4.81 percent in food packaging and 6.49 percent in brick making.

Household Savings

One of the primary objectives of MFIs is to promote savings among the participants. In general, it is believed that higher savings help people to smooth out consumption in the face of income failures and other vulnerabilities; savings also allow households an opportunity to invest in more productive sectors once the amount of savings is large. Developing the habit of saving is as much important as the amount of savings among low income households. We asked the households if they had ever saved money in a financial institution before joining a MFI. Among those who are members of MFIs at present, 54.5 percent indicated that they had no institutional savings before. The extent to which these MFIs have inculcated the habit of savings among the participants of these programs is therefore commendable.

We also asked the households how their participation in microfinance institutions changed the savings. Of the 1286 members of MFIs, 49.14 percent had increased savings after they got involved in microfinance activities, which is a significant achievement in a situation where not many people have the habit of saving. A natural question that one may ask is whether the level of income has anything to do with savings. The responses to the above

question were reclassified according to income quintile, and we find that the higher the level of income the higher the proportion of households who had increased savings as a result of their microfinance involvement. For example, while that for quintile one was 45.66 percent, while the same for quintiles five was 57.51 percent.

However, in many situations it is the relative amount of savings that matter more than the absolute values. Figure 5b shows that the amount of total savings of households during the last 24 months as a percentage of household mean income. Accordingly, the amount of savings in relation to the mean monthly income is high for low income quintiles and while it is low for high income quintiles

Figure 5a: Mean Income and Savings by Quintiles
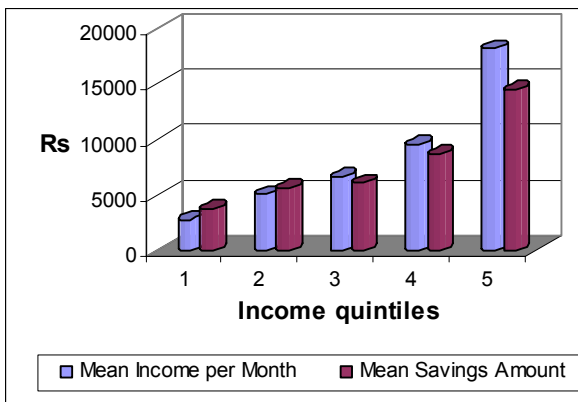
Figure 5b: Mean Savings as a % of Income
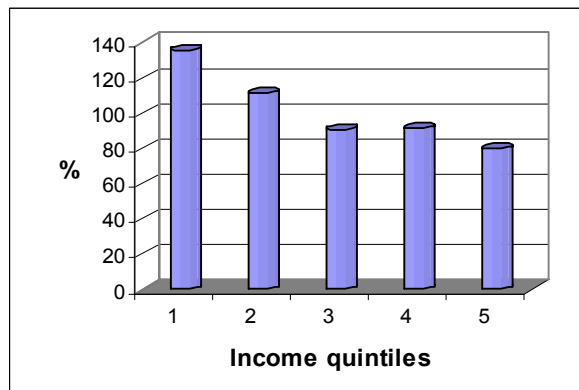
Source: Microfinance survey 2004, IPS

7. Microfinance and Household Vulnerability

As explained earlier, the poor suffers not only from low income, but also from various risks and uncertainties. The findings of the study show that households in the sample have encountered a large array of risks and vulnerabilities during the last two years. These include natural calamities (e.g. floods, droughts), crop failures and employment related uncertainties. As shown in Table 6, 22.6 percent of the households have been affected by some form of natural disasters. Moreover, 20 percent of households have experienced sickness, accidents, or death of a family member while 18 percent have experienced crop failures during the last two years.

Table 6: Nature of Risks and Vulnerabilities Faced by Households

Nature of Risk	No of HHs	%
Natural Calamities	335	22.64
Employment Related	232	15.68
Crop Failure	271	18.31
Sickness/Accident/Death	306	20.68
Social Calamities	48	3.11
Marriage / Child Birth	96	6.49
Other Personal problems	30	1.42
Indebtness	185	12.50
Others	154	10.41

Source: Microfinance survey 2004, IPS

The households were found to have used a wide range of measures to mitigate the effects of risks and uncertainties they faced. Some of these strategies include selling/pawning assets, withdrawal of savings, insurance and borrowing from MFIs and informal sources. Borrowings from MFIs have been used as an important measure of reducing risks particularly employment related risks, crop failures and indebtedness. For example, the percentage shares of household in the sample who used credit for employment related risks, crop failures and indebtedness are 17.5, 15 and 28, respectively. However, it is interesting to find that at times of sickness or death of a family member or personal uncertainties (e.g. child birth), borrowing from informal sources have played a relatively important role compared to MFIs.

Table 7: Risks faced by Households and their Responses

Risk /Response	Micro Credit	Informal Credit	Withdraw of Savings	Selling or Pawning Assets	Insurance	Family Support	Changed Income Sources	Transfers	Other
	%	%	%	%	%	%	%	%	%
Natural Calamities	8.24	9.04	4.26	1.60	0.00	27.93	22.61	14.09	12.23
Employment related	17.57	13.42	7.03	1.60	0.00	23.96	24.92	4.47	7.03
Crop Failure	14.92	9.69	7.07	3.40	0.79	28.80	24.34	4.45	6.54
Sickness/Accident/Death	11.67	19.68	11.44	6.86	1.60	35.47	3.66	5.72	3.89
Social calamities	10.42	6.25	12.50	2.08	0.00	35.42	6.25	0.00	27.08
Personal	10.26	16.03	16.03	1.92	3.21	39.10	5.13	5.13	3.21
Indebtedness	28.45	15.95	5.17	7.76	1.29	27.59	9.48	0.86	3.45
Other	20.93	12.79	3.49	5.81	1.16	37.21	11.63	3.49	3.49

Source: Microfinance survey 2004, IPS

In addition, the data show that 50.2 percent of households in the sample have experienced an income fall during the last 12 months. The extent of fall in income of these households ranged from less than 20 to 100 percent. Households have used a number of strategies to face income shortfall. [33] Reducing consumption and cutting down spending on other goods were found to be the most common measures used by a larger share of households. Moreover, 21.6 percent of households have used borrowing from MFIs as a strategy to cope with the income shortfall indicating the importance of microfinance as a tool for smoothing consumption and, hence reducing vulnerability. It is also interesting to note that the percentage of households relying on informal sources of finance as remedial measures during income shortfall is marginally higher, compared to the percentage of households borrowed from MFIs. Borrowing from informal sources is particularly significant among the households who have experienced a relatively smaller extent (0-40 percent) of income fall.

The results also show that households belong to higher income groups in the sample are more likely to use micro credit compared to those in lower income groups as a strategy to reduce their risks and vulnerability. For example, Table 8 shows that in the first income quintile, 21.5 percent of the households who faced with some form of vulnerability have used micro credit. However, in the highest income quintile, the percentage of households who used micro credit to reduce vulnerability is over 30 percent.

Table 8: Risks faced by Households and their Responses by Income quintiles

Income Quintiles	Micro Credit %	Informal Credit %	Withdraw Savings %	Selling or Pawning Assets %	Insurance %
1	21.53	24.88	8.13	7.66	0.96
2	29.82	27.98	7.80	8.26	0.92
3	27.78	17.68	14.14	10.10	3.03
4	32.68	29.27	18.54	11.22	1.95
5	30.88	22.55	25.00	4.41	1.96
Total	**28.53**	**24.56**	**14.60**	**8.32**	**1.74**

Source: Microfinance survey 2004, IPS

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[33] See annex 12 for income fall and survival strategies

8. Microfinance and Empowerment

Microfinance programs, through the provision financial services and social mobilization processes, attempt to help the poor, particularly the poor women to gain economic and social empowerment. We asked the households whether their participation in MFIs helped them to improve their social status and social connectedness. The positive response was overwhelming where 70 percent of the microfinance participants indicated that these programs helped them to better integrate with the villagers. Moreover, 54 percent of the participants felt that their social recognition has improved as a result of their involvement in MFIs.

Furthermore, we looked at whether women's participation in MFIs has helped them to improve their economic and social status. In general, it is argued that women borrowers are better in paying back their loans, as compared to the male borrowers. Thus, MFIs find it beneficial to focus on female borrowers. Many donor agencies also encourage MFIs to reach women due to the belief that lending to women would bring about a higher positive impact on household welfare, particularly children. The common belief is that, "women don't drink or gamble or otherwise fritter away their profits. They put it back in their business, and they definitely put it back in the well-being of their children, both in nutrition and schooling, and in housing" [34]

The survey data show that over 63 percent of the households in the total sample had a female member participating in MFIs. Among the women participants, over 90 percent have borrowed and 87 percent have savings with MFIs. Nevertheless, participation in MFIs/programs cannot simply be treated as an indicator for female empowerment. It is also important to look at how the loans are being used and who controls the loans obtained from MFIs. Table 9 shows the usage of credit obtained from various MFIs by women. As per the data, approximately 22.6 percent of the female members have utilized loans for self-employment activities, while 16 percent for cultivation and 15 percent for housing purposes, indicating that over 70 percent of the loans taken by female participants of MFIs are used for some kind of a productive activity like income generation or building up the asset base.

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[34] Quoted from a statement by Robin Ratcliffe of ACCION International in Countdown 2005 newsletter of Microcredit Summit Campaign. (http://www.microcreditsummit.org).

Table 9: Utilization of Loans by women

Use of Loans	No[35]	Percentage
Self Employment	185	29.84
Housing	125	20.16
Cultivation	133	21.45
Purchasing Vehicles	11	1.77
Consumptions	53	8.55
Pay for Medicine	19	3.06
Other Personal Use	94	15.16
Total	**620**	**100.00**

Source: Microfinance survey 2004, IPS

It is also important to look at whether the female participants of MFIs have control over the loans they obtained. The findings show that over two-third of the female participants had control over their credit and savings of MFIs, while approximately 27 percent had no control. The Figure 6 shows who controlled the loans /savings of female members in the sample. It is interesting to note that 25 percent of loans/savings of female participants is controlled by male members in the household- that include husband, father or son.

Figure 6: Who Control Loans of Female Members?
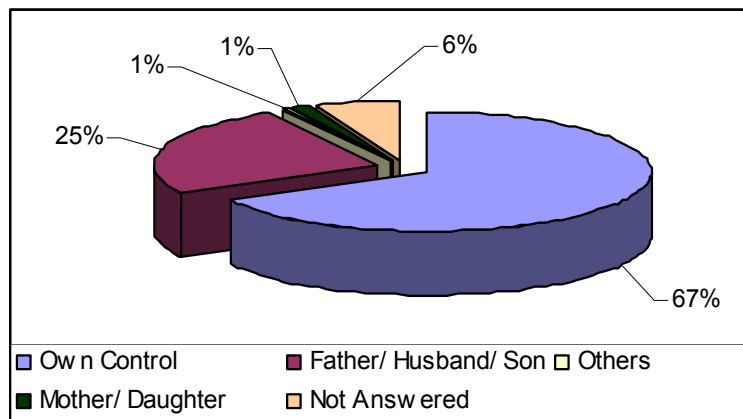
Source: Microfinance Survey 2004, IPS

A number of possible reasons may explain why males may have some control over the usage of credit obtained by female members. These include lack of experience/skills, constraint on time (due to households and children's work), and limited income generating

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[35] Some who had obtained credit had not specified how the loans were utilised.

opportunities available for women. However, in some cases where women are reported to have no control over loans, women were found to be actively involve / work as partners in micro-enterprises for which the loans have been used.

Women's participation in MFIs not only contributes to improve the economic base and living conditions of households, but also helps to improve the social status of women, in the society as well as within the household. Many MFIs, through their social mobilization process, create opportunities for women to interact with the broader society, build social assets such as social networks and mutual trust, and raise self-reliance. Moreover, it is believed that women through the involvement in MFIs develop social skills, leadership skills and managerial skills/ entrepreneurial skills. For example, in the sample, 51.6 percent of the women involved in MFIs believed that their social status within the society has improved after joining an MFI. On the other hand, 45 percent of women members experienced little or no change while less than one percent (only seven members) stated that there was an erosion of the status. Moreover, 52 percent of female participants believed that their status within the household has increased (after joining MFIs), as they are now a source of an important resource to the household.

9. Conclusions and Policy Implications

Microfinance, which began as an alternative mechanism for providing credit to the poor, is being viewed today by NGOs, national governments and the international organizations alike as an effective instrument in the fight against poverty throughout the world. The declaration by the United Nations the year 2005 as the International Year of Microcredit has given it even a bigger impetus, taking microfinance to the realm of instruments capable of reaching the target set by the millennium development goals.

Sri Lanka, with a long history of microfinance spanning for over several decades, has embraced microfinance as a key instrument in its own poverty alleviation programs. The government of Sri Lanka, a number of NGOs, corporative societies and banks provide financial services to the poor through a number of schemes and mechanisms.

Despite the long history and the large number of MFIs, the actual impact of microfinance at the household level is still unclear. The studies undertaken so far are confined to one or few MFIs or to limited geographical locations. The present study examined a number of important issues related to microfinance: outreach, informal financial services, and the impact on poverty and living conditions of household.

The household-level survey covered approximately 1500 households from 50 *Grama Niladhari* divisions across 17 districts of Sri Lanka. The study used tabular methods and a number of statistical techniques to analyze the outreach and poverty impact of microfinance at the household level.

The study finds a reasonably wide geographical outreach with households in a majority of districts having access to a number of MFIs, and almost universal coverage by the government's own microfinance scheme -*Samurdhi*- and a significant coverage by the Cooperative Societies. However, the extent of outreach of private operators including NGOs and commercial banks in rural areas is rather limited.

The loan and savings amounts have a wide variation across districts as well as among different income groups. In regard to the depth of outreach, the poor and the poorest groups have been reached by MFIs, but a significant proportion of their clients seem to be from the not-so-poor or vulnerable non-poor groups.

Despite fairly extensive geographical and depth of coverage by MFIs, the informal sources of finance persist both across districts and different income groups. Informal finance is particularly important as a source of consumption loans. It is pertinent to mention that the use of informal credit persists in almost equal proportions among different income groups. This somewhat contradicts the common belief that people replace informal with formal or semi-formal credit once the economic conditions change or with economic development. These informal credit arrangements are likely to be reduced only if the formal or semi-formal institutions can mimic the important features of informal credit.

In evaluating the extent to which microfinance has made an impact on households, the present study emphasized the multifaceted nature of poverty including its main dimensions: economic aspects, vulnerability and empowerment.

On the economic aspect, microfinance, in general, has enabled the households to improve their income, assets, expenditure, etc. However, the magnitude of impact varies across different income groups. For example, microfinance has largely helped the households in middle quintiles (second, third and fourth quintiles) to increase their income and assets, while no significant effect on income and assets of the poorest quintile has been made. For the poorest households, the impact of microfinance is mainly on their consumption/ expenditure level. This confirms the fact that the poorest groups mainly use credit for consumption purposes while relatively better off households make use of credit for income generating activities or building their asset bases.

Microfinance has also enabled the households to improve their housing conditions, which is particularly true for relatively better-off households. Furthermore, it was found that credit has supported income and employment generating activities among their clients. However, many businesses that have started under microfinance programs are either micro enterprises or small-scale self employment activities that use little or no technology and skills.

It is important to note that MFIs have played a crucial role in inculcating savings habits among their members, particularly those from the poorest categories. A significant proportion of households have had no savings in any institution before joining a MFI. Moreover, the relative importance of savings in relation to household income was found to be the highest among the poorest households. Similar results were observed for credit where the poorest income quintile has the highest percentage share of credit in relation to both its mean income and assets.

On the impact of microfinance on reducing vulnerability to risks faced by households, microfinance has been widely used as a major coping mechanism by different income groups. The type and the nature of risk also play significant roles in the choice of coping mechanisms. Households that faced indebtedness or employment related risks have, for

instance, used credit from MFIs compared to informal credit or many other available mechanisms. Borrowings from informal sources have played a relatively high role at times of sickness, death of a family member or personal uncertainties.

The study finds that participation in microfinance programs can help households to better integrate with the larger community and increase their social recognition. It also finds that women play an active role in microfinance: they borrow as well as save. The loans they have borrowed have mainly been used in self employment, cultivation and other productive activities. The findings reveal that while the provision of microcredit can enhance a woman's status within a household as she is a source of an important resource to the household, the social intermediation process of many MFIs (that create social capital through network building for mutual support, build awareness, etc) in conjunction with microcredit, is likely to have a higher significant effect than credit alone. However, it is important to recognize that the extent to which gender relations can be transformed, and women are empowered, depends also on various cultural and social factors.

Should microfinance be promoted as an instrument of poverty alleviation? MFIs in Sri Lanka seem have played a significant role in a number of areas as described above. To recapitulate, microfinance has helped households, particularly those in certain income groups to increase their income and assets; helped the very poor to increase consumption expenditure; worked as an instrument of consumption smoothing among almost all income groups; and have helped women to increase their social status and improve the economic conditions. Given all these, microfinance seems to play a positive role in combating poverty and improving living conditions of households. Nevertheless, it is important to recognize that financial services alone are not sufficient to raise the living conditions of the poor. As seen in the study, some of the critical questions that the poor as well as the not-so-poor face remain to be unsolved. To name a few, the poor (including micro- entrepreneurs) often have limited access to markets or the existing markets in rural areas are highly inadequate; poor have limited opportunities for developing necessary skills required for economic activities; and technology is often too expensive or inaccessible to the poor. As a result, even when the poor is capable of borrowing from MFIs and starting up new ventures or micro-enterprises, the sustainability of them becomes an issue. Therefore, a comprehensive framework where

many of these problems are addressed needs to be put in place. It is important that MFIs, facilitate or involve directly in providing various 'credit plus' services that include skill development/training, marketing facilities and business development services to their clients, particularly low income groups to help them to sustain their economic activities supported by microfinance.

In addition, a number of factors limit the expansion of MFIs in remote rural areas. The most critical factors seem to be the poor infrastructure such as poor roads, transportation and communication facilities and the limited opportunities available for the rural poor, particularly in non-agricultural activities. Hence, implementation of a carefully designed development program aimed at removing these bottlenecks is crucial to improve the outreach of MFIs in remote rural areas and to encourage the private and the NGO sectors to engage in the provision of microfinance services more effectively.

Another key result of this study is that the way in which microfinance affects different income groups differ substantially. We found that the microcredit impact on income and assets is largely on the households in the three middle quintiles, who are able to channel more resources (out of a given loan amount) for investment and who could afford to take risks involved in investment. The demand for credit by the poorer groups, on the other hand, goes beyond credit for investment or income generation activities; there is a demand for emergency credit to support consumption and reduce vulnerability to various risks, credit to diversify the asset base and facilities for safe and flexible savings for precautionary purposes. However, most of the existing microfinance programs have not adequately addressed the issue of servicing the demands for financial services emanating from the poorest groups; micro-enterprise promotion has rather been their overwhelming concern. Thus, it is of great importance to take into account the differences among the microfinance clients in different income groups and their needs in designing more effective microfinance instruments.

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Annex 1a: Selected Locations for the Survey

Annex 1a: Map for Selected Locations
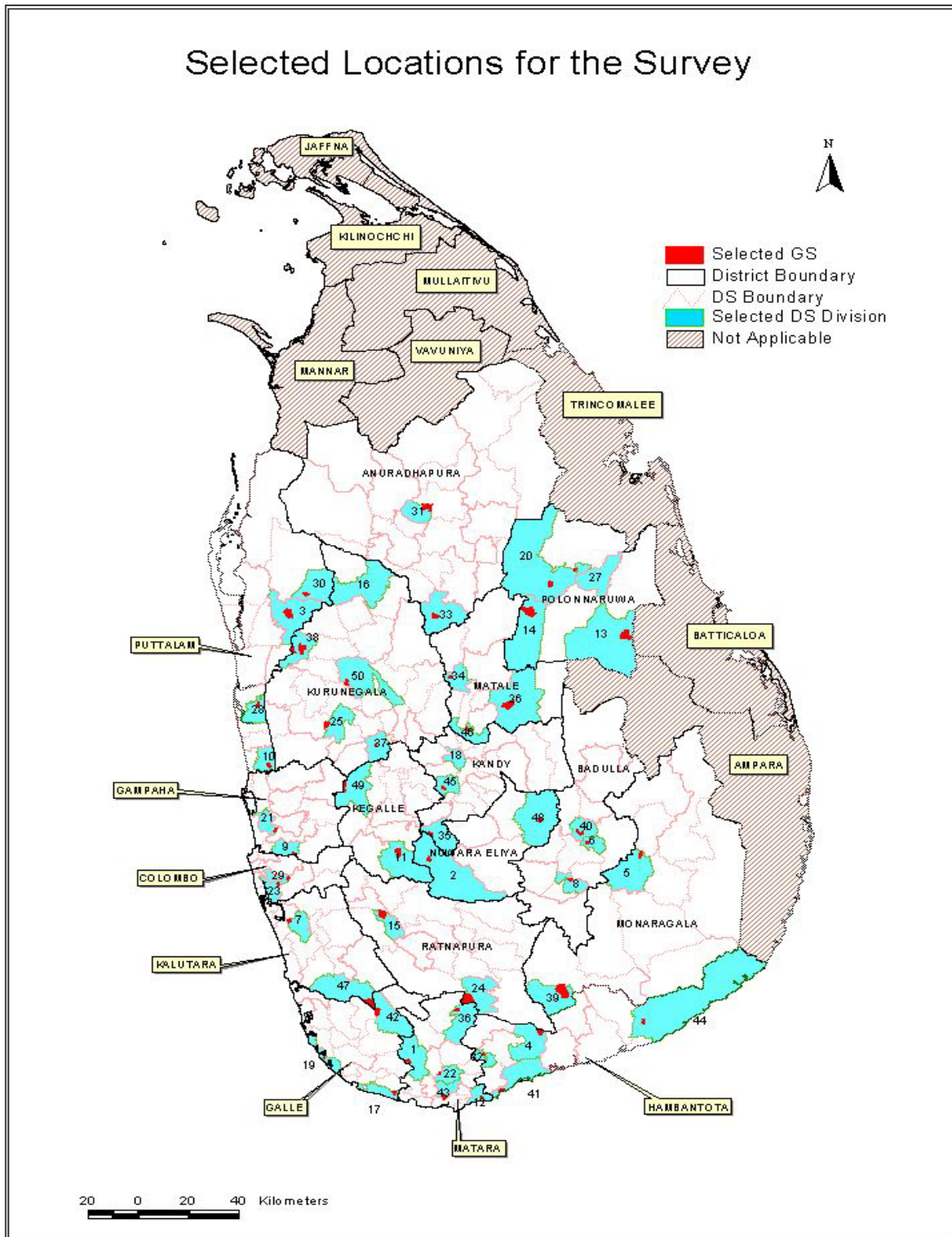
Note: See annex 1b for the names of the selected D.S and G.N divisions.

Annex 1b: List of Selected D.S and G.N Divisions

No	D.S. Divisions	G.N. Divisions
1	Akuressa	Laxapana
2	Ambagamuwa	Mitigathwela
3	Anamaduwa	Pahalamalidoowa
4	Angunakolapelessa	Thonigala
5	Badalkubura	Ella
6	Badulla	Badulupitiya
7	Bandaragama	Diganatuduwa
8	Bandarawela	Bindunuwewa
9	Biyagama	Yabaraluwa South
10	Dankotuwa	Motemulla
11	Deraniyagala	Keerihena
12	Dickwella	Aralaganvila
13	Dimbulagala	Wehella South
14	Elahera	Konduruwawa
15	Elapatha	Dambuluwana
16	Galgamuwa	Kallanchiya
17	Habaraduwa	Korahedigoda
18	Harispattuwa	Kuruduwatta
19	Hikkaduwa	Wewala
20	Hingurakgoda	Rajaelagama
21	Ja Ela	Narangodapaluwa
22	Kaburupitiya	Bubulewela
23	Kesbewa	Pelenwatta North
24	Kolonna	Ulinduwawa
25	Kuliyapitiya East	Barigoda
26	Laggala Pallegama	Mahalakotuwa
27	Lankapura	Pansal Godella
28	Madampe	Medagama
29	Maharagama	Malapalla
30	Nawagathtegama	Kuruluwewa
31	Nuwaragampalatha East	Thariyankulama
32	Okewela	Yatigala Pahala
33	Palagala	Gambirigaswewa
34	Pallepola	Millawana
35	Pasbage Koralaya	Balantota South
36	Pasgoda	Batadura North
37	Polgahawela	Kaluhendiwela
38	Rasnayakepura	Kanagullewa
39	Sewanagala	Samagipura
40	Soranatota	Soranatota
41	Tangalla	Seenimodara
42	Thawalama	Hiniduma West
43	Thihagoda	Nadugala
44	Tissamaharamaya	Konvilana
45	Udunuwara	Kooradeniya
46	Ukuwela	Elwela
47	Walallavita	Ihalahewessa
48	Walapane	Nildandahinna
49	Warakapola	Dummaladeniya
50	Wariyapola	Ambakadawara

Annex 2: Density of MFIs in Selected Locations

Density of MFIs in Selected Locations

No of Institution
- 1
- 2
- 3
- 4
- 5
- 6 - 8
- Not Applicable

JAFFNA
KILINOCHCHI
MULLAITIVU
VAVUNIYA
MANNAR
TRINCOMALEE
ANURADHAPURA
PUTTALAM
POLONNARUWA
KURUNEGALA
MATALE
BATTICALOA
KANDY
BADULLA
AMPARA
GAMPAHA
KEGALLE
NUWARA ELIYA
COLOMBO
MONARAGALA
KALUTARA
RATNAPURA
GALLE
HAMBANTOTA

30   0   30   60   Kilometers
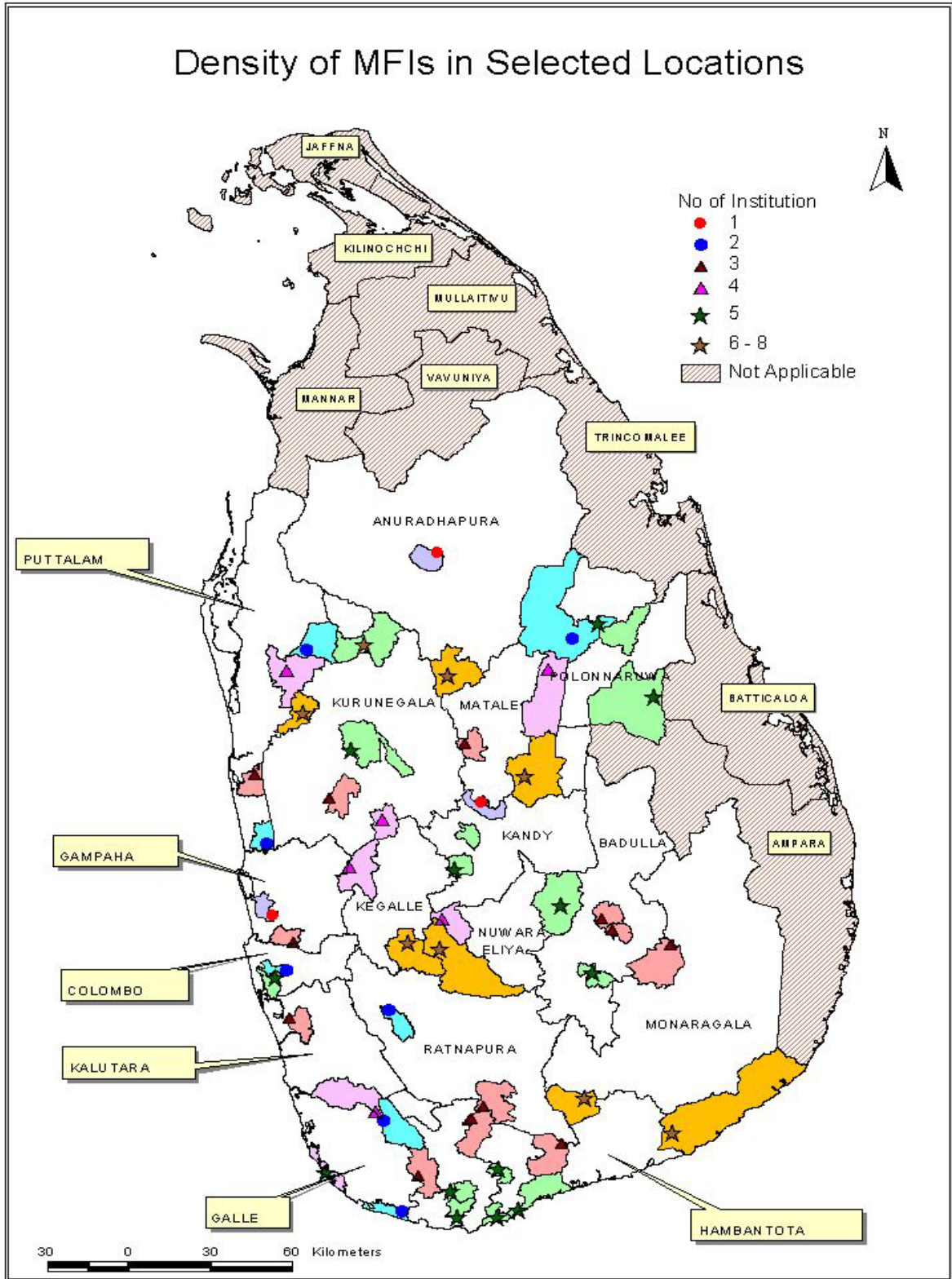
Annex 3: Distribution of Credit by Size and District

District	No Loans	<3000	3001-5000	5001-10000	10001-30000	30001-50000	50001-100000	10000 <
	%	%	%	%	%	%	%	%
Anuradapura	12.73	3.64	29.09	10.91	23.64	9.09	7.27	3.64
Badulla	2.94	13.24	32.35	16.18	26.47	5.88	2.94	0.00
Colombo	10.20	6.12	14.29	18.37	32.65	8.16	8.16	2.04
Galle	14.29	3.57	23.81	9.52	30.95	13.10	4.76	0.00
Gampaha	11.32	0.00	26.42	18.87	35.85	3.77	1.89	1.89
Hambantota	7.77	5.83	14.56	16.50	34.95	12.62	4.85	2.91
Kalutara	5.13	23.08	0.00	10.26	17.95	5.13	15.38	23.08
Kandy	15.15	0.00	15.15	13.64	42.42	9.09	3.03	1.52
Kegalle	8.33	8.33	16.67	14.58	37.50	2.08	10.42	2.08
Kurunegala	10.45	2.99	17.91	14.93	26.87	16.42	5.97	4.48
Matale	6.41	1.28	19.23	12.82	39.74	10.26	7.69	2.56
Matara	7.63	1.53	17.56	9.16	32.82	12.98	12.98	5.34
Monaragala	4.08	0.00	16.33	8.16	38.78	16.33	10.20	6.12
Nuwaraeliya	13.46	1.92	19.23	23.08	25.00	9.62	3.85	3.85
Polonnaruwa	14.16	1.77	13.27	8.85	30.97	13.27	11.50	6.19
Puttalam	10.58	2.88	12.50	18.27	33.65	13.46	6.73	1.92
Ratnapura	20.00	1.67	35.00	15.00	13.33	8.33	0.00	6.67
Total	**10.34**	**3.89**	**18.74**	**13.76**	**31.18**	**11.04**	**7.08**	**3.97**

Source: Microfinance survey 2004, IPS

Annex 4: Distribution of Savings by Size and District

District	No Data	No Savings	<1000	1001-2500	2501-5000	5001-10000	10001-25000	25001-50000	50001-100000	100000<
	%	%	%	%	%	%	%	%	%	%
Anuradapura	0.00	14.55	7.27	21.82	25.45	25.45	5.45	0.00	0.00	0.00
Badulla	20.59	25.00	35.29	14.71	1.47	1.47	1.47	0.00	0.00	0.00
Colombo	6.12	30.61	6.12	6.12	10.20	20.41	20.41	0.00	0.00	0.00
Galle	1.19	7.14	21.43	23.81	19.05	11.90	13.10	0.00	2.38	0.00
Gampaha	3.77	13.21	18.87	9.43	28.30	18.87	3.77	1.89	0.00	1.89
Hambantota	12.62	9.71	19.42	24.27	14.56	10.68	6.80	0.97	0.97	0.00
Kalutara	12.82	25.64	2.56	15.38	7.69	5.13	5.13	12.82	7.69	5.13
Kandy	4.55	24.24	16.67	16.67	18.18	9.09	9.09	0.00	1.52	0.00
Kegalle	2.08	2.08	16.67	18.75	16.67	14.58	20.83	4.17	2.08	2.08
Kurunegala	5.97	11.94	10.45	20.15	12.69	13.43	20.90	2.99	0.75	0.75
Matale	2.56	12.82	8.97	20.51	17.95	20.51	14.10	2.56	0.00	0.00
Matara	16.03	21.37	12.98	11.45	14.50	12.98	7.63	1.53	1.53	0.00
Monaragala	2.04	34.69	6.12	10.20	20.41	12.24	4.08	2.04	6.12	2.04
Nuwaraeliya	1.92	7.69	13.46	23.08	21.15	9.62	13.46	3.85	3.85	1.92
Polonnaruwa	0.88	1.77	15.04	13.27	10.62	25.66	20.35	6.19	3.54	2.65
Puttalam	0.96	5.77	19.23	20.19	30.77	5.77	13.46	0.96	2.88	0.00
Ratnapura	0.00	8.33	23.33	25.00	18.33	11.67	13.33	0.00	0.00	0.00
Total	**5.99**	**13.84**	**15.40**	**17.65**	**16.72**	**13.61**	**12.05**	**2.18**	**1.79**	**0.78**

Source: Microfinance survey 2004, IPS

Annex 5: Scale of Informal Credit by District

District	<1000	1001-5000	5001-10000	10001-25000	25001-50000	50001-100000	100000 <
	%	%	%	%	%	%	%
Anuradapura	26.09	52.17	4.35	17.39	0.00	0.00	0.00
Badulla	16.67	0.00	66.67	16.67	0.00	0.00	0.00
Colombo	16.00	44.00	16.00	4.00	12.00	8.00	0.00
Galle	10.00	20.00	50.00	10.00	10.00	0.00	0.00
Gampaha	0.00	66.67	0.00	33.33	0.00	0.00	0.00
Hambantota	21.74	36.96	13.04	8.70	15.22	2.17	2.17
Kalutara	10.53	73.68	0.00	0.00	10.53	5.26	0.00
Kandy	16.67	40.00	20.00	23.33	0.00	0.00	0.00
Kegalle	18.18	50.00	9.09	18.18	4.55	0.00	0.00
Kurunegala	22.54	40.85	18.31	12.68	4.23	1.41	0.00
Matale	39.39	51.52	0.00	3.03	0.00	6.06	0.00
Matara	15.22	41.30	10.87	19.57	4.35	6.52	2.17
Monaragala	7.69	46.15	7.69	23.08	7.69	0.00	7.69
Nuwaraeliya	24.24	33.33	18.18	15.15	3.03	6.06	0.00
Polonnaruwa	18.52	44.44	22.22	7.41	7.41	0.00	0.00
Puttalam	19.35	30.65	17.74	25.81	3.23	3.23	0.00
Ratnapura	0.00	0.00	75.00	0.00	25.00	0.00	0.00
Total	**20.08**	**41.01**	**15.43**	**14.38**	**5.50**	**2.96**	**0.63**

Source: Microfinance Survey 2004, IPS

Annex 6: Impact of Microfinance: Perceptions of Members of MFIs
Annex 6a: Total Sample

Area	What Extent (%)				
	Much Decreased	Decreased	No change	Increased	Much Increased
Income	0.18	2.03	53.57	43.52	0.70
Employment	0.00	1.06	79.92	18.71	0.32
Housing condition	0.10	0.41	61.16	37.72	0.61
Asset base	0.11	0.34	86.32	12.89	0.34
Water, sanitary	0.00	0.11	87.31	12.36	0.22
Savings	0.23	1.94	48.68	48.13	1.01
Electricity	0.00	0.00	88.34	11.32	0.34
Skill development	0.00	0.00	81.01	18.55	0.44
Business knowledge	0.00	0.00	78.66	20.91	0.43
Coping with risk	0.11	0.42	59.58	38.32	1.58
Standard of living	0.21	1.26	56.20	40.97	1.37
Integration with villagers	0.19	0.19	28.37	69.95	1.30
Social recognition	0.10	0.20	45.00	53.24	1.47
Children's education	0.00	0.22	79.01	20.44	0.33
Awareness of health	0.00	0.00	85.29	14.71	0.00

Annex 6b: Quintiles

Impact on	Extent	First quintile %	Second quintile %	Third quintile %	Fourth quintile %	Fifth quintile %
Income	Decreased much	0.44	0.00	0.00	0.44	0.00
	Decreased	0.88	2.98	2.90	1.32	1.96
	No impact	59.91	58.30	50.62	57.46	40.20
	Increased	38.77	36.60	45.64	40.35	57.84
	Increased much	0.00	2.13	0.83	0.44	0.00
Asset	Decreased much	0.00	0.00	0.00	0.00	0.00
	Decreased	0.00	0.51	0.53	0.55	0.00
	No impact	95.71	90.26	90.48	81.77	72.56
	Increased	4.29	8.21	8.99	17.13	26.83
	Increased much	0.00	0.51	0.00	0.55	0.61
Housing	Decreased much	0.00	0.49	0.00	0.00	0.00
	Decreased	0.00	0.00	0.45	0.50	1.14
	No impact	70.88	61.95	62.27	59.30	50.86
	Increased	28.57	36.59	36.82	39.70	47.43
	Increased much	0.55	0.98	0.45	0.50	0.57
Employment	Decreased much	0.00	0.00	0.00	0.00	0.00
	Decreased	0.61	1.47	1.46	1.05	0.56
	No impact	87.88	87.25	76.70	79.58	68.33
	Increased	11.52	11.27	21.84	18.32	30.56
	Increased much	0.00	0.00	0.00	1.05	0.56
Savings	Decreased much	0.38	0.37	0.37	0.00	0.00
	Decreased	1.51	1.49	1.86	1.99	3.00
	No impact	52.45	52.61	52.04	45.42	39.48
	Increased	44.15	44.03	45.35	52.19	56.22
	Increased much	1.51	1.49	0.37	0.40	1.29

Annex 7: Distribution of formal loans by income quintiles **

Income Quintile	No Loan	< 3000	3001-5000	5001-10000	10001-30000	30001-50000	50001-100000	100001-400000	400000 <
1	74	18	57	45	75	22	5	1	0
2	51	10	65	34	87	27	18	3	0
3	61	8	54	44	81	30	13	6	0
4	67	7	32	32	88	29	29	11	1
5	74	7	33	22	70	34	26	26	3
Total	**327**	**50**	**241**	**177**	**401**	**142**	**91**	**47**	**4**

Note: ** Difference is statistically significant at α = 0.01 level (Pearson's Chi-square).
Source: Microfinance Survey 2004, IPS

Annex 8: Pearson's Correlations: Income with other variables

Variable		Total Sample	Lowest 20 %	Second 20 %	Third 20 %	Fourth 20 %	Highest 20 %
Loan Amount	Pearson Correlation	.202**	.031	.185**	.166**	.190**	.082
	Sig. (2-tailed)	.000	.596	.001	.004	.001	.158
Asset Value	Pearson Correlation	.389**	-.014	.081	.245**	.312**	.270**
	Sig. (2-tailed)	.000	.814	.164	.000	.000	.000
Income Earners	Pearson Correlation	.341**	.274**	.294**	.312**	.457**	.224**
	Sig. (2-tailed)	.000	.000	0.00	.000	.000	.000
HH Heads' Occupation	Pearson Correlation	.148**	.174**	.051	.082	.043	.023
	Sig. (2-tailed)	.000	.003	.382	.159	.460	.693
HH Heads' Education	Pearson Correlation	.132**	-.009	0.006	-.005	.099	-.008
	Sig. (2-tailed)	.000	.871	.913	.928	.089	.886

Note: The number of observations in the total sample was 1480 and it was 297, 295, 297, 296,
     and 295 for quintiles respectively
    ** Correlation is significant at the 0.01 level.
    * Correlation is significant at the 0.05 level.
Source: Authors calculations

Annex 9: Pearson's Correlations: Expenditure with Other variables

Variable		Total Sample	Lowest 20 %	Second 20 %	Third 20 %	Fourth 20 %	Highest 20 %
Loan Amount	Pearson Correlation	.358**	.189**	.320**	.352**	.352**	.303**
	Sig. (2-tailed)	.000	.001	.000	.000	.000	.000
Income	Pearson Correlation	.527**	.079	.457**	.563**	.493**	.399**
	Sig. (2-tailed)	.000	.173	.000	.000	.000	.000
Family Members	Pearson Correlation	.258**	.344**	.443**	.548**	.461**	.418**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000
Asset Value	Pearson Correlation	.422**	.174**	.195**	.362**	.348**	.374**
	Sig. (2-tailed)	.000	.003	.001	.000	.000	.000
Sex of the Household Head	Pearson Correlation	-.104**	-.077	-.109	-.144*	-.148*	-.166**
	Sig. (2-tailed)	.000	.185	.061	.013	.011	.004
Distance from Consumer Market	Pearson Correlation	-.142**	-.215**	-.160**	-.125*	-.133*	-.122*
	Sig. (2-tailed)	.000	.000	.006	.032	.022	.036

Note: The number of observations in the total sample was 1480 and it was 297, 295, 297, 296,
   and 295 for quintiles respectively
   ** Correlation is significant at the 0.01 level.
   * Correlation is significant at the 0.05 level.
Source: Authors calculations

Annex 10: Pearson's Correlations: Assets with other variables

Variable		Total Sample	Lowest 20 %	Second 20 %	Third 20 %	Fourth 20 %	Highest 20 %
Loan Amount	Pearson Correlation	.211**	.023	.293**	.300**	.313**	.100
	Sig. (2-tailed)	.000	.697	.000	.000	.000	.086
Income	Pearson Correlation	.389**	-.014	.081	.245**	.312**	.270**
	Sig. (2-tailed)	.000	.814	.164	.000	.000	.000
Sex of the HH Head	Pearson Correlation	.028	-.075	-.091	-.035	.004	-.053
	Sig. (2-tailed)	.284	.200	.121	.546	.941	.367

Note: The number of observations in the total sample was 1480 and it was 297, 295, 297, 296,
   and 295 for quintiles respectively
   ** Correlation is significant at the 0.01 level.
   * Correlation is significant at the 0.05 level.
Source: Authors calculations

Annex 11: Coefficients of the Simultaneous Equations Model

	Regression	Intercept	C	I	HO	HE	IE	A	CM	HS	FS	R^2	Adj. R^2
Total Sample	Income	-1189.27	0.023**	--	545.33	1170.17**	3201.23**	--	--	--	--	0.164	0.162
	Expenditure	1840.79	0.003	0.002	--	--	--	0.053**	-188.12	444.53	463.75**	-0.732	-0.739
	Asset	-9748.07	0.020**	6.199**	--	--	--	--	--	102.15	--	0.146	0.144
First Quintile	Income	1809.18**	9.56E-4	--	145.06	-42.69	539.985**	--	--	--	--	0.082	0.070
	Expenditure	1993.39*	0.023*	-0.25**	--	--	--	0.036	-268.79	-91.37	658.03	-0.079	-0.102
	Asset	9201.73	0.051	0.822	--	--	--	--	--	9895.25	--	-0.004	-0.005
Second Quintile	Income	3984.48**	0.013**	--	31.23	-108.49	709.506**	--	--	--	--	0.121	0.108
	Expenditure	1727.69	0.069	-7.333	--	--	--	-0.033	-400.57	2320.36	8302.40	-3.384	-3.476
	Asset	4853.23	0.567**	0.601	--	--	--	--	--	8030.94	--	0.090	0.080
Third Quintile	Income	4455.46**	0.010**	--	143.83	136.05	890.14**	--	--	--	--	0.129	0.117
	Expenditure	2443.72*	-0.001	-2.629	--	--	--	0.042*	-172.29	852.73	4498.80	-0.901	-0.940
	Asset	-13355.88	0.476**	5.501**	--	--	--	--	--	19.015	--	0.128	0.119
Fourth Quintile	Income	5159.24**	0.009**	--	33.70	501.25	1621.32**	--	--	--	--	0.263	0.252
	Expenditure	2892.13	-0.032	2.323	--	--	--	0.106	-200.21	2058.92	-5650.31	-4.251	-4.360
	Asset	-9301.73	0.360**	6.806**	--	--	--	--	--	-16221.3	--	0.169	0.160
Fifth Quintile	Income	11654.25**	0.008	--	27.68	273.69	2945.47**	--	--	--	--	0.054	0.041
	Expenditure	-1734.05	0.006	0.874	--	--	--	0.031	-179.11	-83.55	-2215.32	-4.128	-4.235
	Asset	13497.21	0.138	4.583*	--	--	--	--	--	5896.67	-	0.071	0.062

Note: ** Significant at α = 0.01 level.
          * Significant at α = 0.05 level.
Source: Authors calculations

Annex 12: Income Fall and Survival Strategies

Strategies	Total No. of HHs faced with income fall	As a % of total HHs faced income fall	00 - 20%	21 - 40%	41 - 60%	61 - 80%	81 - 100%	Total %
			%	%	%	%	%	%
Reduced food consumption	503	67.61	20.68	43.94	20.68	11.93	2.78	100.00
Stopped buying clothes and other non-food items	368	49.46	21.20	45.11	19.02	11.41	3.26	100.00
Pawned / sold household goods	47	6.32	23.40	36.17	19.15	17.02	4.26	100.00
Pawned / sold gold	184	24.73	22.28	42.93	23.37	10.33	1.09	100.00
Sold or mortgaged the house or land	16	2.15	31.25	31.25	25.00	12.50	0.00	100.00
Sold capital goods or other assets	6	0.81	33.33	50.00	16.67	0.00	0.00	100.00
Stopped cultivation or business	33	4.44	36.36	27.27	27.27	9.09	0.00	100.00
Borrowed money from informal sector	165	22.18	21.82	50.91	18.79	7.88	0.61	100.00
Borrowed money from formal sector	161	21.64	17.39	43.48	22.98	12.42	3.73	100.00
Withdrew savings	66	8.87	19.70	46.97	19.70	12.12	1.52	100.00
Income transfers, Subsidies, Remittances	103	13.84	21.36	43.69	25.24	7.77	1.94	100.00
Removed children from school	4	0.54	25.00	25.00	50.00	0.00	0.00	100.00
Sent children on work	8	1.08	25.00	62.50	0.00	12.50	0.00	100.00
Found a new job or diversified income sources	60	8.06	35.00	38.33	20.00	5.00	1.67	100.00
Other	55	7.39	27.27	40.00	16.36	14.55	1.82	100.00

Source: Microfinance Survey 2004, IPS