The Role of Micro Finance Institutions in Reducing Poverty: A Case Study of CreditAccess Grameen Limited in Ramanagara District, Karnataka.

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Introduction

Poverty or the state of being poor is broadly defined as not having access to enough income or resources to meet basic needs. Its causes could be social, economic, or political.

The continued focus of policy interventions on poverty alleviation emanates from the centrality it has been accorded by international bodies such as the World Bank, the International Monetary Fund, and the United Nations. The 2030 Agenda for Sustainable Development as captured in the Sustainable Development Goals and Targets set by the United Nations balance three dimensions of sustainable development: the economic, social, and environmental. The 17 SDGs and 169 targets cut across identified critical areas of People, Planet, Prosperity, Peace, and Partnership. Goal 1 of the Sustainable Development Goals talks about ending poverty, in all its forms, everywhere. And within Goal 1, 1.4 talks about 'by 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance.'

Other development agendas which appreciate the role that MFIs can play in alleviation of poverty include the G8 Declaration of 2005 and 2004, the Commission on Private Sector Development, the Microcredit Summit of 1997, the declaration of the International Year for the Eradication of Poverty (1996) and the International Decade for Eradication of Poverty (1996).

It is increasingly becoming evident that poverty is closely linked to financial exclusion and that the current distinction between the financially excluded and the poor is a largely artificial one. Several studies show that the poorer you are the more likely are you to be financially excluded. Thus the premise is, if microfinance can improve its outreach to the poor then it is directly contributing to financial inclusion and therefore, poverty alleviation.

Poverty & Economic Development

The 1970s saw countries focus on growth, the assumption being economic growth will bring gains to the poor, directly as well as indirectly. Therefore, economic growth should lead to alleviation of poverty. Countries were counselled to follow robust fiscal and monetary policies, work towards opening up their economies, ensure privatisation and progress would follow. But subsequent years have shown that distribution of existing resources impacts distribution of the gains from economic development. The greater the current inequity in ownership of resources, the more unequal the distribution of the gains from economic development. If this increase in inequality could be reversed or mitigated, then economic growth would have an even larger impact on poverty across the world.

The traditional concept of viewing economic development as synonymous with economic growth was founded on what was the 'trickle-down effect'. Implying that effects of rising output and incomes at an aggregate level would eventually flow down to the poor who would benefit as well as the rich. The modern view rejects this assumption and seeks to redefine economic development in terms of reducing or eliminating poverty, inequality, and unemployment within the context of a growing economy.

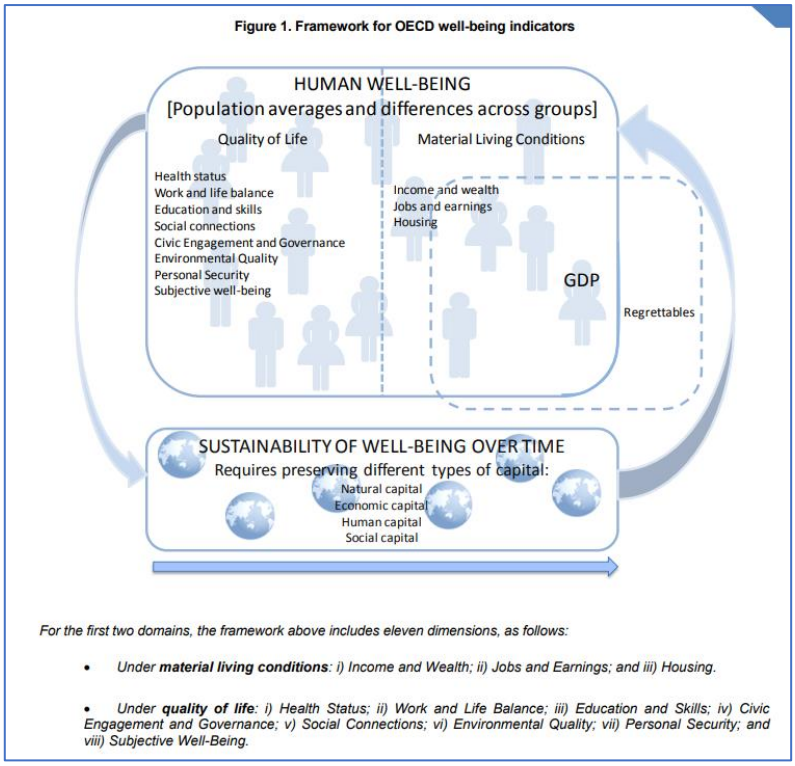
The key questions around economic development therefore revolve around:

- The country's experience with poverty and how that is changing
- Unemployment levels
- Inequality in distribution of income and resources

Reflecting this move towards a more holistic measurement of development; organisations and countries have tried to develop indices which are a more meaningful representation of quality of life and how that has improved, if at all.

The US Environmental Protection Agency (EPA) for example uses a **human well-being index** (HWBI) that assesses the overall well-being of its population at the county level. It comprises eight domains and represents social, economic, and environmental well-being. These domains include 25 indicators comprising 88 metrics and 25 social, economic, and environmental services.

The OECD countries once in ten years publish what they call a How's Life? Wellbeing database for member countries. Constructed around 15 dimensions of the OECD Better Life Initiative, it includes health, subjective well-being, social connections, natural capital, and more, and looks at each country's performance in dedicated country profiles.

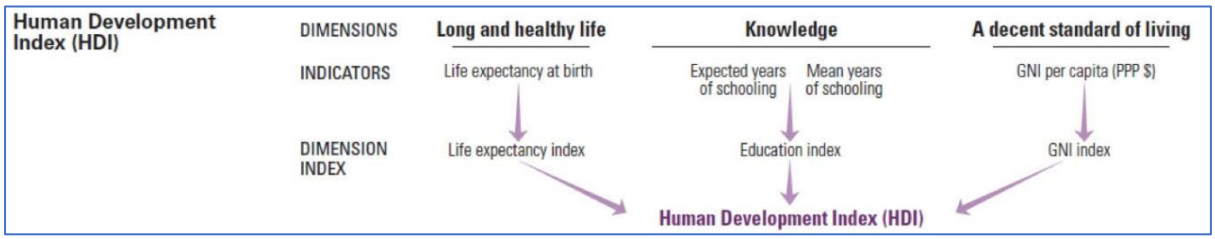


Source: https://www.oecd.org/sdd/47917288.pdf ; Compendium of OECD Well Being Indicators

Another measure in this space is the **Human Development Index** (HDI) published by the United Nations Development Program (UNDP). The HDI reflects people and their capabilities as the ultimate criteria for assessing the development of a country, not economic growth alone. It can serve as a reference point to assess effectiveness of national policy choices – analysing how two countries with the same level of GNI per capita can end up with different human development outcomes.

The HDI is a summary measure of average achievement in key dimensions of human development: a long and healthy life, being knowledgeable and having a decent standard of living. It is the geometric mean of normalized indices for each of the three dimensions.

The health dimension is assessed by life expectancy at birth, the education dimension is measured by mean of years of schooling for adults aged 25 years and more and expected years of schooling for children of school entering age. The standard of living dimension is measured by gross national income per capita.



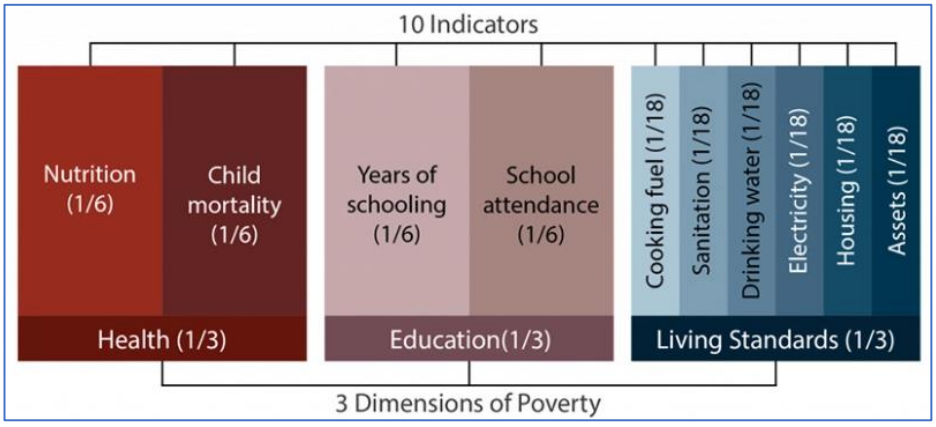
However, the HDI simplifies and captures only part of what human development entails. It does not reflect on inequalities, poverty, human security, empowerment, etc.

The **Human Poverty Index** (HPI) was developed by the United Nations to complement the HDI and was first reported in 1997. It reflects deprivation in the three parameters already reflected in the HDI: longevity, knowledge, and a decent standard of living. For developing countries HPI defines:

- Longevity as the probability at birth of not surviving to age 40 (times 100)
- Knowledge as the Adult illiteracy rate
- Decent standard of living: Arithmetic average of 3 characteristics:
    - The percentage of the population without access to safe water.
    - The percentage of population without access to health services.
    - The percentage of malnourished children under five.

The HPI was supplanted by the **Multidimensional Poverty Index** (MPI) (developed by Sabina Alkire and James Foster), as a more holistic measure of the many faceted nature of poverty by the UNDP in 2010. It is one of the most widely used non-monetary poverty index in the world. It complements traditional monetary measures by including deprivations across health, education, and living standards. The MPI uses three dimensions and ten indicators:

- Education: years of schooling and child enrolment (with a weightage of 1/6th to each)
- Health: child mortality and nutrition, each carrying 1/6th weightage
- Standard of Living: electricity, flooring, drinking water, sanitation, cooking fuel, and assets. Each carrying a weightage of 1/18.



Source: OPHI (2018). Global Multidimensional Poverty Index 2018: The Most Detailed Picture to Date of the World's Poorest People. Report. Oxford Poverty and Human Development Initiative, University of Oxford.

If a person is deprived in 1/3rd or more of the weighted indicators (out of 10indicators), the person is considered multidimensionally poor.

MPI also uses an adjusted headcount ratio instead of simple headcount related measures. The rationale being that while a simple headcount measure like a headcount ratio may indicate a change in the extent of poverty, it would not throw up aspects like the poorest having fallen even further behind. It, therefore, uses an adjusted headcount ratio which is arrived at by multiplying the headcount ratio by the average deprivation within the MPI poor.

The theoretical foundation of the multidimensional approach to poverty comes from Amartya Sen's 'capability approach' in which he brings together the two parts of capability: freedom and functionings. Functionings alludes to the various things a person may value or have reason to value doing or being. And freedom alludes to having the freedom to be or do those things; the *real* opportunity that we have to accomplish what we value.

Incidence of poverty therefore emerges as a key component of the extent of economic development or otherwise. Hence having a way to measure its incidence becomes critical in evaluating the effectiveness of institutional interventions: public or private.

Measuring Poverty

Poverty is defined as a condition in which an individual or household lacks the financial resources to afford a basic minimum standard of living. The limitation in this definition is that the perception regarding what constitutes poverty may vary over time and across countries.

The most common approach to measuring poverty revolves around specifying a minimum expenditure (or income) required to purchase a basket of goods and services necessary to satisfy basic human needs. This expenditure is called the poverty line. The basket of goods and services necessary to satisfy basic human needs is the Poverty Line Basket (PLB). Poverty can then be measured in terms of the number of people living below this line (with the incidence of poverty expressed as the head count ratio (HCR) or the poverty ratio - number of poor to the total population expressed as percentage).

Though countries could use different measures for measuring poverty, but the underlying principle remains the same - a poverty line is calculated based on consumption required for maintaining some minimum standard of living in the country.

Estimation of poverty in India has been based on two critical components:

- Information on the consumption expenditures and its distribution across households – provided by the National Sample Survey consumption expenditure surveys.
- These expenditures by households are then evaluated with reference to a given poverty line.

Seminal work on arriving at a poverty line for India was done by Dandekar and Rath (1971). They were the first to look beyond subsistence living or basic minimum needs criteria as the measure of poverty line and derived the poverty line from the expenditure adequate to provide 2250 calories per day in both rural and urban areas. They found poverty lines to be Rs. 15 per capita per month for rural households and Rs. 22.5 per capita per month for urban households at 1960-61 prices.

In 1979 a task force headed by Dr Y K Alagh defined poverty line as the per capita consumption expenditure level required to meet average per capita daily calorie requirement of 2400 kcal per capita per day in rural areas and 2100 kcal per capita per day in urban areas. The average calorie requirements were estimated as a population–weighted average of the age-gender-activity specific calorie allowances recommended by the Nutrition Expert Group (1968) by reference to the 1971 population Census. Based on 1973-74 prices, the Task Force set the rural and urban poverty lines at Rs. 49.09 and Rs. 56.64 per capita per month at 1973-74 prices.

Till the 1990s, there was no effort made to reflect differences in prices or consumption patterns across states or over time. The Lakdawala expert group was appointed in 1989 and submitted its report in 1993. It stayed with the separate rural and urban poverty lines recommended by the Alagh Committee at the national level based on minimum nutritional requirements. But it disaggregated them into state-specific poverty lines to reflect the inter-state price differentials. It also recommended their updating using the Consumer Price Index of Industrial Workers (CPI-IW) in urban areas and Consumer Price Index of Agricultural Labour (CPI-AL) in rural areas rather than using National Accounts Statistics. This assumed that the basket of goods and services used to calculate CPI-IW and CPI-AL reflect the consumption patterns of the poor.

In 2009 the Tendulkar Expert Group was appointed primarily to look into three disadvantages of previous methods: (i) Poverty estimates being linked to the 1973-74 poverty line baskets (PLBs) of goods and services did not reflect significant changes in consumption patterns of poor over time; (ii) Issues with the adjustment of prices for inflation, both spatially (across regions) and temporally (across 6 time); and (iii) Presumption of provision of health and education by the State only.

Some of its key recommendations included moving away from basing the poverty lines from calorie norms used in all poverty estimations since 1979 and towards target nutritional outcomes instead (it

found a poor correlation between food consumed and nutrition outcomes). Secondly, instead of two separate PLBs for rural and urban poverty lines, it recommended a uniform all-India PLB across rural and urban India. It recommended incorporation of private expenditure on health and education while estimating poverty. It validated the poverty lines by checking the adequacy of actual private consumption expenditure per capita near the poverty line on food, education, and health by comparing them with normative expenditures consistent with nutritional, educational and health outcomes respectively. The national poverty line for 2011-12 was estimated at Rs. 816 per capita per month for rural areas and Rs. 1,000 per capita per month for urban areas.

In 2014 the Rangarajan Committee report reverted to the practice of having separate all-India rural and urban poverty line baskets and deriving state-level rural and urban estimates from these. It recommended separate consumption baskets for rural and urban areas which include food items that ensure recommended calorie, protein & fat intake and non-food items like clothing, education, health, housing and transport. This committee raised the daily per capita expenditure to Rs 47 for urban and Rs 32 for rural from Rs 32 and Rs 26 respectively3 at 2011-12 prices. Monthly per capita consumption expenditure of Rs. 972 in rural areas and Rs. 1407 in urban areas is recommended as the poverty line at the all-India level. *The government did not take a call on the report of the Rangarajan Committee.*

Poverty line estimation in India has not been based on income levels due to challenges in accurate estimation of the same. The size of the informal economy, fluctuations in seasonal income levels, challenges in assessing incomes of the self-employed pose difficulties around data collection.

Defining the poverty line is just the first part of the challenge though. The next hurdle is in identifying BPL (below poverty line) households in rural and urban areas). India used a series of BPL censuses in 1992 for 8th Five Year Plan, in 1997 for 9th Five Year Plan and in 2002 for 10th Five Year Plan. However, there was criticism of the approach on grounds of methodological drawbacks in identification, data quality and corruption, and data content.

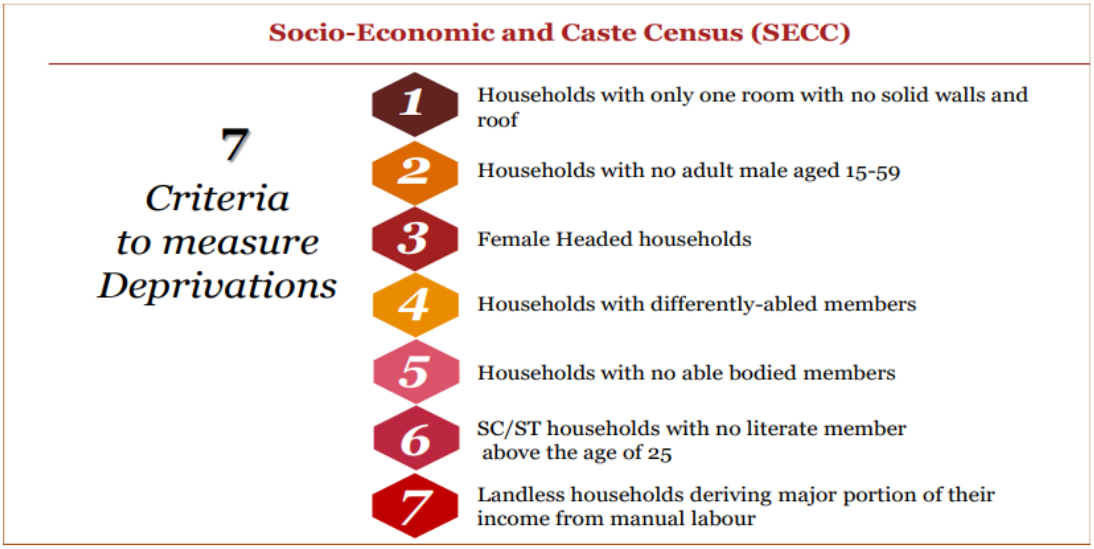
The Socio Economic and Caste Census Survey was introduced in 2011 basis the Saxena Committee's recommendation. It involved a door-to-door enumeration across both rural and urban India collecting household-level socio-economic data. Its objective was not to replace the poverty line, but to provide 'information regarding the socio-economic condition, and education status of various castes and sections of the population' and 'enable households to be ranked on their socio-economic status' to identify households that live below the poverty line.

The SECC 2011 ranked households in three categories:

a) Automatically Excluded: Households meeting exclusion criteria - any of the 13 assets and income-based parameters are automatically excluded from welfare benefits.

b) Automatically Included: Households satisfying inclusion criteria – any one of the 5 acute social destitution parameters are automatically included for welfare benefits.

c) Others: "Others" are ranked based on 7 indicators of deprivation and would, resources permitting, be eligible for welfare benefits.



Source: https://rural.nic.in/sites/default/files/WorkingPaper_Poverty_DoRD_Sept_2020.pdf

The Government has used SECC data for identification of beneficiary households while implementing its social welfare programmes including Pradhan Mantri Aawas Yojana-Gramin, Deendayal Antyodaya Yojana-National Rural Livelihood Mission, Pradhan Mantri Jan Arogya Yojana-Ayushman Bharat, Pradhan Mantri Sahaj Bijli Har Ghar Yojana, and Pradhan Mantri Ujjwala Yojana.

Micro Finance & Financial Inclusion: Concept and Role

Micro finance typically refers to making available financial services to the economically marginalised who have limited or no access to conventional banks. The suite of financial services includes not just micro – small loans – credit, but also services around savings, insurance, and money transfers.

Micro finance as we know it today can probably be traced back to the setting up of the Grameen Bank in Bangladesh in 1983 by Muhammad Yunus.

In post-independent India the only institutional source of credit was banks. With the nationalisation of banks (it was in July 1969 that the Indian Prime Minister declared 14 major commercial banks which were to be nationalised) the spread and reach of institutionalised credit did improve. However, there remained challenges around the need for physical collaterals, high administrative and transaction costs for small loan amounts, and the fear of bad debts which limited the appetite of the banks to lend to small borrowers.

The All-India Rural Credit Survey (Gorawara Committee) report in 1954 showed that only 7% of rural credit came from institutional sources. Despite the nationalisation of banks in 1969, this percentage was at 5% in 2004.

What was available was non-institutional sources of credit – village money lenders, large farmers, traders, and middlemen. But non-institutional credit, as expected was wracked with issues or inordinately high interest rates, huge instalments, demand to return all the money all at once at their convenience etc. what this often led to was borrowing from another non-institutional source to meet the demands of the prior one, creating a vicious cycle of indebtedness which often cascaded through generations and led to phenomena such as bonded labour. Low incomes and high debt meant low savings which in turn meant low investment in land/labour leading to no/negligible growth in income. MFIs help break this cycle. By providing micro credit they facilitate investment in small scale income generating ventures.

The construct of MFIs and the role they play can also be an important lever in mitigating the risks of increasing inequality with economic growth. By providing financial services to the economically (and sometimes, socially) marginalised, MFIs provide opportunity for savings, self- employment, and income generation. The increase in income leads to better propensities to save and consume, generating consumption externalities which go beyond the direct beneficiary of the micro credit.

Micro finance, therefore, as a tool can be used to lead economic development. Three characteristics of MFIs have implications for economic development: the relationship with poor, the reliance on permanent institutions, and the integration with the financial system of the country.

The first relates to poverty alleviation by providing easy access to cheap credit facilitating income generation through self-employment, skill building, reduced dependence on ownership of land. Human and social capital formation through community-based lending are made possible through MFIs. Improved income levels lead to better health, nutrition, and education outcomes for the poor. MFIs lead to empowerment of the marginalised sections of society (like women - strengthening their

socio-economic status), community-based sharing of risks, promoting democratic systems, and strengthening human rights.

MFIs create private institutions that deliver financial services to the poor which go on to becoming a part of the economic infrastructure of the country.

The final link between MFIs and development occurs when MFIs become a part of the financial system and can access capital markets to raise funds and finance their lending to an ever- growing number of poor clients.

For MFIs to be able to successfully leverage these linkages with economic development, they need to be sustainable and operate in a friendly regulatory environment.

As we look at some of the types of MFIs, we will realise that in almost all cases, MFIs replace the need for a physical collateral with 'social collateral'. This becomes critical because by doing so MFIs open investment opportunities to the poor that would otherwise have not been available to them in traditional constructs. As opportunities open up there is more equal 'consumption' of credit facilities in the country, with more potential borrowers coming forward to take risks. It is not surprising therefore, that the biggest success of microfinance has been in facilitating financial inclusion allowing for the economic integration of the financially weak and creating a more level playing field for the sharing of the gains from economic growth.

Equally important is that MFIs by financing economic activity also contribute to skill development through learning on the job, in collective groups. They help build financial acumen and planning as responsible credit behaviour is learnt by the cohort. In many instances, MFIs support through provision of training as well.

The primary goals of microfinance institutions therefore would be:

- Transform into a financial institution that assists in the development of communities that are sustainable.
- Help in the provision of resources that offer support to the lower sections of the society. There is special focus on women in this regard, as they have emerged successful in setting up income generation enterprises.
- Evaluate the options available to help eradicate poverty at a faster rate.
- Mobilise self-employment opportunities for the underprivileged.
- Empowering rural people by training them in simple skills so that they are capable of setting up income generation businesses.

As per World Bank data, close to 1.7 billion people across multiple countries do not have access to basic financial services. This is where microfinance institutions come in.

Some of the key benefits of MFIs include the following:

It enables people to expand their present opportunities. The income accumulation of poor households has improved due to the presence of microfinance institutions that offer funds for their businesses.

It provides easy access to credit resulting in financial inclusion. Banks do not usually offer small loans to customers; MFIs providing microloans bridge this gap.

It makes future investments possible. Microfinance makes more money available to the poor sections of the economy. So, apart from financing the basic needs of these families, MFIs also provide them with credit for constructing better houses, improving their healthcare facilities, and exploring better business opportunities.

It serves the under-financed section of the society – Majority of the microfinance loans provided by MFIs are offered to women. Unemployed people and those with disabilities are also beneficiaries of microfinance. These financing options help people take control of their lives through the betterment of their living conditions.

It helps in the generation of employment opportunities. Microfinance institutions help create jobs in the impoverished communities.

It inculcates the discipline of saving – When the basic needs of people are met, they are more inclined to start saving for the future. It is good for people living in backward areas to inculcate the habit of saving.

It brings about significant economic gains – When people participate in microfinance activities, they are more likely to receive better levels of consumption and improved nutrition. This eventually leads to the growth of the community in terms of economic value.

It results in better credit management practices – Microloans are mostly taken by women borrowers. Statistics prove that female borrowers are less likely to default on loans. Apart from providing empowerment, microloans also have better repayment rates as women pose lesser risk to borrowers. This improves the credit management practices of the community.

It results in better education – It has been noted that families benefiting from microloans are more likely to provide better and continued education for their children. Improvement in the family finances imply that children may not be pulled out of school for monetary reasons.

The most astounding dimension of MFI performance is their extremely low proportion of non-performing loans. According to the most systematic source of aggregate data on MFIs, the MicroBanking Bulletin (http://www.mixmbb.org/en), which has collated data from 200 MFIs throughout the world, the average loan loss for MFIs was 1% in 2005.

Groups Organised by Microfinance Institutions in India

There are several types of groups organised by microfinance institutions for offering credit, insurance, and financial training to the rural population in India:

1. Joint Liability Group (JLG)

This is usually an informal group that consists of 4-10 individuals who seek loans against mutual guarantee. The loans are usually taken for agricultural purposes or associated activities. Farmers, rural workers, and tenants fall into this category of borrowers. Each individual in a JLG is equally responsible for the loan repayment in a timely manner. This institution does not need any financial administration, as it is simple in nature.

2. Self Help Group (SHG)

A Self-Help Group is a group of individuals with similar socio-economic backgrounds. These small entrepreneurs come together for a short duration and create a common fund for their business needs. These groups are classified as non-profit organisations. The group takes care of the debt recovery. There is no requirement of a collateral in this kind of group lending. The interest rates are generally low as well. Several banks have had tie-ups with SHGs with a vision to improve financial inclusion in the rural parts of the country.

3. Grameen Model Bank

The Grameen Model was the brainchild of Nobel Laureate Prof. Muhammad Yunus in Bangladesh in the 1970s. It has inspired the creation of Regional Rural Banks (RRBs) in India. The primary motive of this system is the end-to-end development of the rural economy. However, in India, SHGs have been more successful as MFIs when compared to Grameen Banks.

4. Rural Cooperatives

Rural Cooperatives were established in India at the time of Indian independence. The resources of poor people were pooled in and financial services were provided from this fund. However, this system had complex monitoring structures and were beneficial only to the creditworthy borrowers in rural India. Hence, this system did not find the success that it sought initially.

Difference between JLGs and SHGs

SHGs are units oriented to the communities when compared to JLGs. Members own and control SHGs and they decide all terms and conditions associated with the group's functioning. Banks and NGOs provide support to these units so that they can prosper.

SHGs have internal control, but this can lead to conflict among members. JGs are controlled externally by the institutions that promote them. The terms and conditions of the JLG are also determined by the promoting institution. The operations of JLGs are more standardised and easier to replicate, when compared to SHGs.

Under an SHG, the group members will be required to save before they are eligible for a loan. In a JLG model saving is not compulsory; groups need not build internal capital for inter-loaning. Most of the times, MFIs initiate the formation of JLGs by asking members to form such groups with the motive of getting a loan.

Donor agencies support SHGs in skill development and capacity building through NGOs. This process of internal capacity building makes the process of getting a bank loan more time-consuming for an SHG. Since JLGs are managed externally, there is very little focus on capacity building. Hence, these units may find it easier to procure loans. JLGs are hence, referred to as "fast growth models". SHGs are more decentralised and democratic than JLGs.

SHGs are self-managed and self-reliant. Hence, an MFI representative has to spend very little time over the management of the group. This implies that several groups can be managed by a single representative, resulting in low-cost management. In the JLG model, the MFI's employees are responsible for monitoring the routine operations of the group. This makes it an expensive model.

JLGs are more immune to internal and external threats as they have better protection from the supporting MFIs. However, they are less empowered in comparison to SHGs.

To summarise, the difference between SHGs and JLGs are as follows:

Parameters	SHG Model	JLG Model
Financial focus	Based on savings	Based on credit
Control and ownership	With members	With the promoting microfinance institution
Capacity targets	Builds internal capacity	Depends on external capacity
Functional focus	Poverty	Finance
Decentralisation	High	Low
Cost	Low	High
Flexibility	High	Low

Where has Microfinance failed to make an impact:

One of the most comprehensive scientific investigations was conducted by Khandker (2003) using the World Bank's panel data on three major microfinance programmes in Bangladesh using household surveys carried out in 1991/92 and 1998/99. The three microfinance programmes studied were Grameen Bank, Bangladesh Rural Advancement Committee (BRAC), and Bangladesh Rural Development Board's (BRDB) Rural Development RD-12 programme.

Khandker found that at the micro-level, microfinance raised per capita consumption, mainly with respect to non-food and household non-land assets and thereby increased the probability that the participants might lift themselves above the poverty line. He further found that the welfare impact of micro-finance was positive for all households, including non-participants, indicating that the programmes studied were helping the poor beyond income redistribution with contributions to local income growth. Programmes also had spill over effects in the local economies, which lead to an increase in local village welfare.

Furthermore, he found that microfinance accounted for about 40% of the overall reduction in moderate poverty in rural Bangladesh (1 percentage point out of 2.5 percentage point reduction each year) at the village level.

Khandker and Pitt (2003), using the same panel data as above, investigated whether the effects of microfinance were saturated or crowded out over time, whether programmes generated externalities. Their results showed a declining long-term effect of microfinance as well as the possibility of village saturation from microfinance loans in Bangladesh.

Investigating the effects of microfinance using the same data at the national level, Khandker (1998) estimated that about 5% of borrowers might lift themselves out of poverty each year by borrowing from these microfinance programmes in Bangladesh, if the estimated impact on consumption continued over time. But even if this did happen, microfinance could lift less than 1% of the population out of poverty because it reached only a quarter of the population.

To understand this almost lack-lustre performance of microfinance at the macro-level one needs to examine how microfinance works within the local economy and addresses issues related to outreach and sustainability. Microfinance mostly supports informal activities that often have a low market demand and low return. It generally involves small-scale credit and savings designed to meet the needs of small- and medium-scale producers and businesses. However, a micro or small enterprise or small business requires both entrepreneurship and a favourable local market. Without these, the returns to the investments financed by microfinance are small and lead to an insignificant impact on

poverty. Does that mean that the aggregate poverty impact of microfinance is limited or leads only to short-run income generation from the microfinance intervention?

In an economy with low economic growth, borrowing may only redistribute income rather than boost growth. In the case of economies like Bangladesh that do not show much growth, it is especially important to assess the long-term poverty impacts of microfinance to know whether the accrued benefits at borrower level are due to sustained income impact or simple income redistribution.

Literature Review

As has been stated, the role of microfinance is to expand outreach to marginalised sections of society via financial inclusion. Financial emancipation, access to financial services including loans in a proximate and simple format is linked to the empowerment of the poor, enhancing their capacity on earn and engage in income generating activities.

Microfinance, therefore, is a form of financial services which addresses individuals and small businesses who are unable to reach traditional banking services. Increased capacity to earn triggered by access to micro credit allows households to save and invest more. In that sense, micro finance allows people with low incomes to participate meaningfully in the local economy.

Microfinance includes a wide range of financial services such as deposits, loans, payment services, money transfers, and insurance to poor and low-income households and their micro-enterprises.

The idea of microfinance goes back to the mid-1800s when Lysander Spooner, an individualist anarchist/American essayist and entrepreneur, observed the benefits of micro-credits to farmers and entrepreneurs as a way out of poverty for people. The first cooperative bank/credit union for farmers was founded by Raiffeisen in 1862. His village bank movement in Germany reached two million rural farmers between 1864 and 1901. He inspired many to set up banks or credit unions at the beginning of the 20th century in Europe and other parts of the world.

In the Indian context, the 19th century saw zamindars, local moneylenders, landowners as the only sources of credit for rural poor often at exorbitant and exploitative terms.

It was Professor Yunus who popularised the concept of micro credit in Bangladesh in 1972 by providing loans to people who were unable to access financial services through formal channels. This later led to the formation of the Grameen Bank in 1983.

Research by Okpara (2010) explored critical reasons responsible for poverty in Nigeria while examining the extent to which MFIs have helped poverty alleviation. The research identified five

factors: low profit, prices of commodities are too high, hard economic times, lack of finance to start or expand their business, and business not doing well. It also found that the MFI impact in Nigeria could be split into 2 phases: the take-off phase which saw poverty increasing though at a decreasing rate and the second phase in 2001 which showed a continuous increase in micro credit reducing significantly the poverty index in Nigeria.

Work by Desai (2011) studied the potential of microfinance in post-conflict economies, especially in the case of Iraq. Three fundamental conditions for MFI success in such economies are found to be political stability, economic demand, and population stability are evaluated in the case of Iraq.

According to Khandker and Samad (2014) if the outreach in terms of numbers of clients is increasing and the loan repayment behaviour is healthy, then the sector can perform successfully.

The challenge, however, has been around both sustainability and the ability to reach the poorest of the poor. A work of research by Sander (2003) looked at migrant remittances to Africa. It looked at what money transfer services were being and could be provided by the sector. It found that while there existed a high potential in the poorly serviced market for money remittances; MFIs in Africa were not able to exploit the opportunity because of their legal limitations as financial service providers, limited institutional and system capacities, small capital reserves, and infrastructure limitations like the number of outlets and linkages with international networks.

Today it is believed that there are more than 7000 microfinance institutions operating across the world touching about 54 million people impacting issues cutting across agriculture, skill development, rural finance, rural development activities, self-employment etc. Women are seen as particularly benefitting from micro credit. Many MFIs target female clients enhancing their decision-making powers, contributing to their improved socio-economic status.

The Research Imperative

The global pandemic has impacted the microfinance segment like it has all other walks of life. Not only has the economic activity across all major economies of the world been hit severely, inter-state and international trade has been disrupted and continues to be disrupted. While economies have emerged from the shadow of extended lock downs, ripple effects continue to be felt with disruptions in supply chain and run-away energy and food inflation.

Small businesses and micro entities that would survive largely on daily business have not been able to generate sufficient revenues. In most cases, these enterprises are the only source of income for the proprietors. Governments have responded with large financial stimulus packages to help small businesses see through the long lean period.

This brings to the fore an increased urgency and acuity in investigating the role of the microfinance segment. MFIs operate with a dual objective: financial solvency or sustainability and the need for social impact. The current run up the pandemic related crisis, and our gradual emergence from it; begs the question around how have MFIs navigated the tricky trade-off between solvency as the quantum of loan defaults would have risen and the need to stay focused on its mission – the ideal of serving the poor.

The Research Question

Have micro finance institutions been able to reduce poverty?

The answer has been sought through a case study of CreditAccess Grameen Ltd. and an analysis of its client portfolio in Ramanagara District of Karnataka by using the Progress out of Poverty Index approach for measuring impact on poverty levels.

Research Methodology

At the outset it is important to reinforce that the distinction between the poor and financially excluded is artificial. The poorer you are the greater are the chances that you will be financially excluded. Hence, if micro finance can address financial inclusion, it will also result in poverty alleviation.

Three possible options were considered to measure the impact of the identified MFI on poverty levels: Progress out of Poverty Index, use SECC household classification or use Multidimensional Poverty Index.

Option 1

Use the **Progress out of Poverty Index (PPI)** as a measure to demonstrate the MFI outreach to economically marginalised households resulting in improvement in poverty levels of the client population.

In measuring the impact of the identified MFI on poverty, the PPI Index is calculated for a sample of the client portfolio which has been a beneficiary of the MFI for at least the last 3 years (mature clients).

If the identified MFI has never used the PPI index to do an analysis of its client portfolio, this option will require primary data collection.

The PPI Index for the sample population and how it has moved over the last four years enables us to measure the following:

(i) Poverty Outreach – Once individual household poverty likelihoods have been calculated, MFI can average these poverty likelihoods for the group of clients surveyed to determine the poverty rate of their portfolio, or the percentage of their clients who live below a specific poverty line. This is the organisation's 'poverty outreach'

(ii) Track how the poverty rate of the MFI's sample portfolio has changed over two time periods.

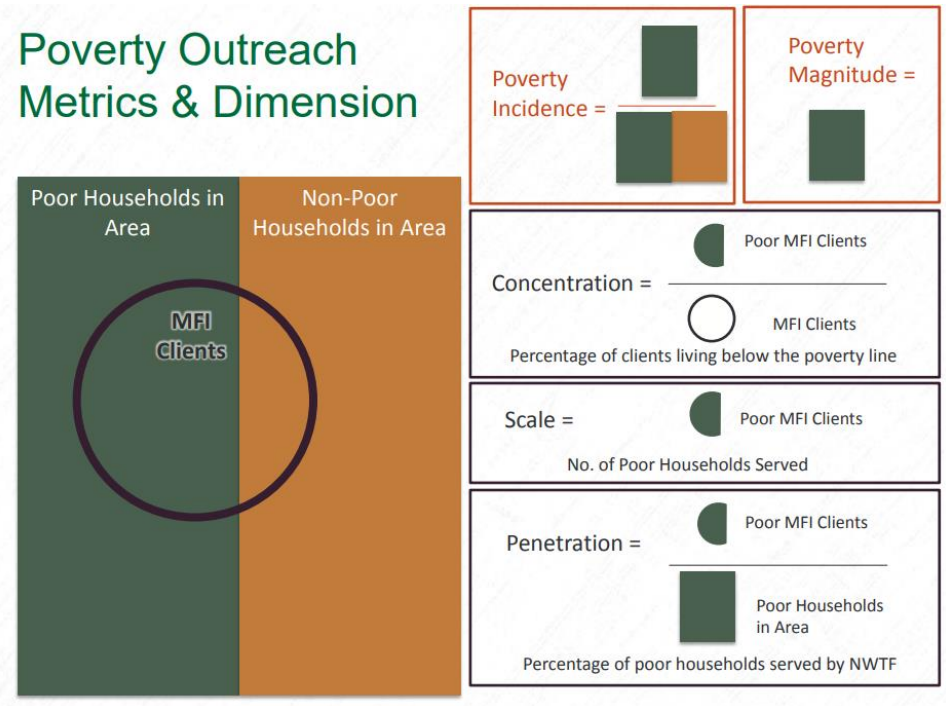
(iii) Track number of poor clients crossing the poverty line

Option 2

Use the **classification of households as per the SECC 2011** to study the client portfolio of the MFI in the taluk/district of interest.

Does not require any primary data collection but uses dated information since the SECC classification was last done in 2011. Census data for 2021 is not available on account of census operations being suspended due to the pandemic.

Client portfolio data of the MFI can be analysed to measure coverage/outreach metrics for the MFI as per the below framework:



(for the purposes of this approach, poor households have been defined as households which are 'automatically included' or meet any of the 7 deprivations, as defined in the SECC 2011 census)

As mentioned earlier, the SECC household classification forms a basis for identifying beneficiaries of several government interventions and therefore seems a consistent framework to use to evaluate the effectiveness of the MFI concerned in alleviating poverty.

- Automatically Included Households – based on fulfilling any of the 5 parameters of inclusion:
    - Household without shelter
    - Destitute – living on alms
    - Manual scavenger families
    - Primitive tribal groups
    - Legally released bonded labour
- Households with any of the 7 deprivations:
    - Households with only one room, kucha walls and kucha roof
    - No adult member between the ages of 16 and 59
    - Female headed households with no adult male member between 16 and 59
    - Households with disabled member and no able-bodied adult member
    - SC/ST household
    - Households with no literate adult above 25 years
    - Landless households deriving a major part of their income from manual casual labour

However, the biggest drawback of this approach is that it uses household classification based on SECC data which is now more than 11 years old. Co-relating households in the SECC survey with households present in the district today might prove to be a challenge. While the assessment would be for the current portfolio of clients it would be based on their socio-economic status in 2011, which may not provide an accurate measure of the MFIs concentration, scale and penetration.

Option 3

Use movement in **Multidimensional Poverty Index (MPI)** to measure impact of the identified MFI on poverty levels within its client portfolio.

The MPI is available for each district of India using NFHS cycle 4 data (2015-2016). This MPI data has been made available in 2021.

To demonstrate that a specific MFI in a particular district has had a positive influence on poverty, one needs to be able to track change in poverty levels of the client population over a time-period.

However, household level classification of poverty data is not available in the MPI data. And since only one set of MPI data has been published, comparing movement in MPI over two different time periods will not be possible.

Further, NFHS cycle 5 data (2019-20) is now available, but new measures of MPI using this recent NFHS data set are yet to be made available.

Having explored the pros and cons of the three approaches as briefly outlined above, **this paper proposes to use the Progress out of Poverty Index** as a measure of the impact that the relevant MFI has had on the poverty levels of its client population.

District identified for study: Ramanagara District, given its proximity to Bangalore

MFI identified: Credit Access Grameen, Ltd, Ramanagara District operations.

(Refer Appendix 1 for an overview of Ramanagara District; Appendix 2 provides a brief background on the microfinance institution)

Data Collection

A random sample set of 50 women beneficiaries of CreditAccess Grameen Ltd, who have been mature clients of the MFI (mature defined as being a client for at least 3 years) were identified.

The PPI scorecard questionnaire (attached as Appendix 3) was then administered to each identified client and two sets of responses were collected:

- Responses based on their current reality in September 2022
- Responses based on their reality 4 years ago (2018)

The responses collected were tabulated for analysis.

Analysis and Findings

Basis the tabulated primary responses received (Appendix 3), the following trend can be observed:

Question	No change	Improved	Deteriorated
Points on Number of household members	47	1	2
Points on what is the general level of education of the female head/spouse	48	2	0
Points on does the household possess a refrigerator (1)	4	46	0
Points on does the household possess a stove/gas burner (2)	29	21	0
Points on does the household possess a pressure cooker/pan (3)	26	14	0
Points on does the household possess a television (4)	20	30	0
Points on does the household possess an electric fan (5)	11	39	0
Points on does the household possess an almirah/dressing table (6)	6	44	0
Points on does the household possess a chair, stool, bench or table (7)	9	41	0
Points on does the household possess a motor cycle, scooter, motor car or jeep (8)	23	27	0
Overall Score	0	100	0

(1) all cases of no change were cases where the HH already had a refrigerator

(2) all cases of no change were cases where the HH already had a stove/gas burner

(3) all cases of no change were cases where the HH already had a pressure cooker/pan

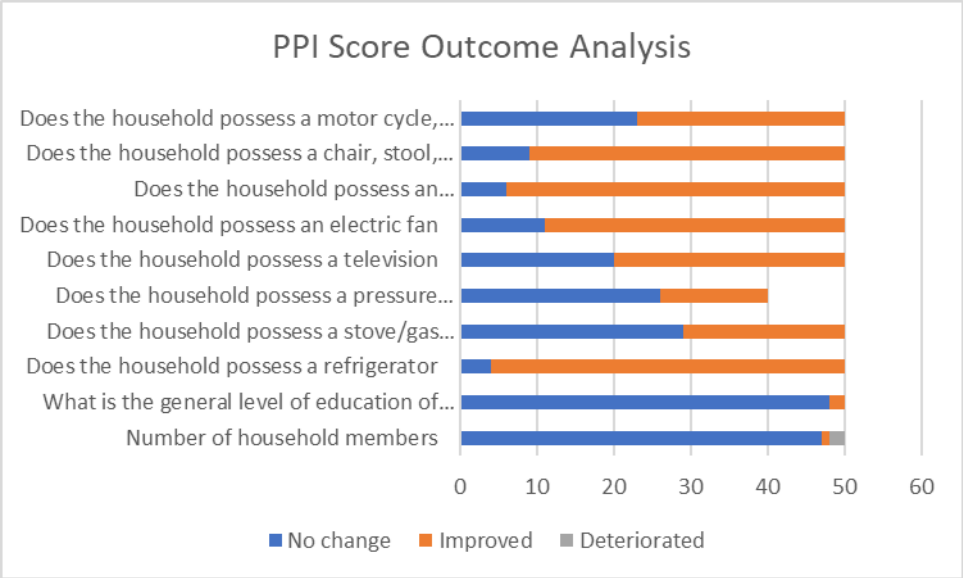
(4) all cases of no change were cases where the HH already had a television

(5) all cases of no change were cases where the HH already had an electric fan

(6) all cases of no change were cases where the HH already had an almirah/dressing table

(7) all cases of no change were cases where the HH already had a chair/stool, bench or table

(8) of the 23 cases of no change, there are 2 instances where the HH did not possess a motor cycle, scooter, motor car or jeep and that has remained unchanged



- None of the households showed a decline in total score over the 4 year period
- Aspects which showed the least change were
    - General level of education of the female head/spouse
    - Number of household members
- Among aspects which showed the most improvement were:
    - Possession of a refrigerator – 92% of the respondents moved from not having one to possessing one
    - Possession of an almirah/dressing table – 88% of the respondents moved from not having one to possessing one
    - Possession of a chair/stool/bench/table – 82% of the respondents moved from not having one to possessing one
- Finally, there only 2 instances of deterioration where 2 households saw an increase in the number of household members

However, the score on the PPI is not the final measure.

Each PPI survey results in a score between 0 and 100. That PPI score is not the poverty likelihood. The score is related to the poverty likelihood based on the chart/look up table. The poverty likelihood reflects the probability that the household falls into certain poverty bands.

A poverty likelihood is the probability that an individual household's expenditure level falls below a poverty line. For example. a poverty likelihood of 30% reflects a three-in-ten chance that a

household is poor. Since this is a probability, one cannot say with certainty that an individual household is below a poverty line, though confidence increases the nearer the poverty likelihood is to 100 since this means the odds of a household being below a poverty line are much higher.

The poverty likelihoods listed in the PPI Look-up Table are derived from the underlying dataset used to create the PPI; they represent the actual percentages of households whose expenditure levels fell below a poverty line for the varying score ranges. Since the underlying dataset is representative of the entire country, the likelihood can be interpreted as the probability that a household picked at random within the score range will fall below a particular poverty line in that country.

The latest version of the PPI for India was created in May 2016 by Mark Schreiner of Microfinance Risk Management, L.L.C. Indicators in the PPI for India are based on data from the Household Consumer Expenditure Survey - Round 68 (July 2011 to June 2012) conducted by the National Sample Survey Office (NSSO).

This look up table has been provided as Appendix 5. The detailed document and related tools can be found at: www.povertyindex.org/country/india

On applying the Look Up Table in Appendix 5, the PPI Likelihood for the population using R68 data at 100%National Rangarajan, the following findings emerge:

1. The **average poverty likelihood** of the mature client sample of 50 went **down from 34.47% in 2018 to 3.7% in 2022** – a decline by about 10 times
2. The **standard deviation** within the population (indicating the extent of inequality) also went **down from 0.10 to 0.04**. Indicating that not only within the sample as a whole did the likelihood of falling below the poverty line go down, but the extent of inequality also diminished.
3. The **average decline in poverty likelihood** experienced by the sample set of 50 respondents was **30.78%**

(Calculations are in Appendix 4 a)

Therefore, in this sample set it seems quite evident that CreditAccess Grameen as been able to impact favourably 100% of the sample client portfolio surveyed in terms of bringing about a reduction in the likelihood of poverty by virtue of the financial loans it has extended.

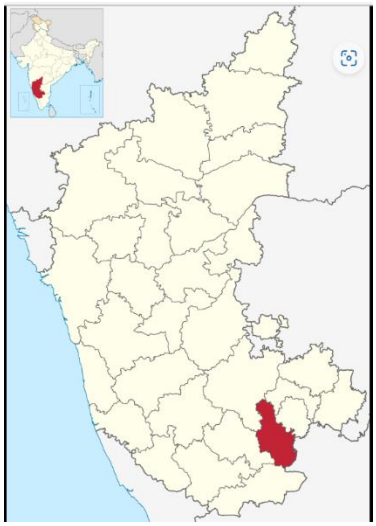
Concluding Remarks

MFIs aim for a dual objective: financial sustainability and social impact. However, for many the focus on financial performance overshadows the social mission of microfinance. The provision of financial services and continued demand for these services do not necessarily equate to an improvement in clients' overall wellbeing. While super ordinate goals often have to be balanced with what is practical and possible over time, it is a delicate balancing act for MFIs. It, therefore, becomes critical to have a framework and intervention design which allows for a measurement of the MFI's social impact. The framework allows the MFI to adopt a pro-poor lens in making decisions, evaluating interventions which keep the mission of serving the poor intact.

Another important question is whether MFIs are able to reduce poverty at a micro level alone or do their benefits spill over to alleviate poverty at a macro level also. There seem to be some mixed feelings in this space as shown by a study done in Bangladesh (by Khandker in 2003) and referred to earlier in this paper.

After the Grameen Bank experience in Bangladesh, MFI is often seen as a one stop solution to all problems arising from economic growth which has not benefitted people uniformly. The truth is that it has to be supplemented by investment in infrastructure which opens up access to larger markets for those who are isolated, it needs to be supplements with schemes around income transfers, subsidized provision of services like health and education. The open question therefore is whether MFIs can have spill over benefit effects to beyond the direct beneficiaries. Khandker and Pitt (2003), were of the opinion that the effects of microfinance tend to get crowded out over time. Therefore, while MFIs can be a lever to ensure households benefit from economic growth more equitably; it cannot by itself drive the very forces of growth and development at a macro level.

Appendix 1 Overview of Ramanagara District



Ramanagara district, is one of the 31 districts of Karnataka state in southern India. Its administrative headquarter is the city of Ramanagara.

The district is known for its large rocky outcroppings making it a tourist/adventure sports hotspot for the many short rock climbs.

These hills, however, have been threatened by extensive quarrying. Given that the region is covered in scrub forest, it is home to threatened bird species like the long-billed vulture and the yellow - throated bulbul, as well as sloth bears.

Demographics:

- District population: 1,082,636 (2011 census)
- Population density of 303 inhabitants per square kilometre (780/sq mi).
- Population growth rate over the decade 2001-2011 was 5.06%.
- Sex ratio of 976 females for every 1000 males and
- Literacy rate of 69.2%.
- Scheduled Castes and Scheduled Tribes make up 18.83% and 2.12% of the population respectively.

The district is famous for its silk market, one of the biggest in Asia, giving it the other name of Silk City. It is also called as Cosmopolitan Cocoon Market. On an average, 35 Metric tons of cocoons are transacted daily in this market.

Ramanagara district includes the Bidadi Industrial Area and Harohalli Industrial Area the first Industrial Areas in the state, which houses the manufacturing units of Toyota, Coca-Cola, and a 1400 MW combined cycle gas-based power plant.

Appendix 2 Overview of CreditAccess Grameen Limited

CreditAccess Grameen Limited (CA Grameen) is India's largest microfinance institution, headquartered in Bengaluru, Karnataka. It is publicly listed on the NSE and BSE and recognized by the Reserve Bank of India. The company is popularly known as "Grameen Koota" amongst its customers, translating to "rural group" in Kannada. CreditAccess Grameen was visualized by Vinatha M. Reddy in December 1996, inspired by the book 'Give Us Credit' by Alex Counts, President and CEO, Grameen Foundation USA. The book detailed remarkable stories of Bangladesh's poor who raised themselves out of poverty using micro-credit during the microfinance movement, spearheaded by Nobel Laureate Professor Muhammad Yunus.

The institution was founded in May 1999 as a project under the T. Muniswamappa Trust (TMT), an NGO based in South Bengaluru. The Grameen Trust, Bangladesh provided seed capital funding of $35,000 to TMT for replicating the Grameen Bank Bangladesh microfinance model. The institution adapted the Grameen Bank's group lending methodology of microfinance to the Indian environment and launched operations in Avalahalli on the outskirts of South Bengaluru. It offered collateral-free loans as well as other services to women from the bottom of the economic pyramid with the aim of creating equal opportunities and inclusive development for both rural and urban poor. The loans intended to help customers raise their standard of living and break the vicious poverty cycle. The institution steadily groomed a class of mature and financially literate women entrepreneurs who began to outgrow the group lending model.

The target set of customers are women because they are ambitious and can contribute to community and country's socio-economic environment. It has been observed that women tend to use resources more productively, thereby improving financial access for them may increase their participation in the family's and the community's development. In 2007, the microfinance activities of CreditAccess Grameen were transferred from NGO to a well-regulated and registered Non-Banking Financial Company (NBFC), which subsequently got reclassified into a regulated and governed Non-Banking Financial Company – Micro Finance Institutions (NBFC-MFI) entity by the Reserve Bank of India (RBI) in 2013. Grameen Koota continues to be the operating brand name of CreditAccess Grameen Limited (formerly known as Grameen Koota Financial Service Private Limited).

A multitude of both financial plus non-financial products and services are offered to customers to cater to their life cycle needs at one of the lowest interest rates in the microfinance industry. The products are subject to periodic modifications based on feedback from customers and input from staff members.

Major Lending

- Microfinance- Group Lending
    - Income Generation Loan, Home Improvement Loan, Family Welfare Loan, Emergency Loan
- Microfinance- Individual Lending
    - Unnati Loan
- Retail Finance
    - Grameen Vikas Loan, Grameen Savaari Loan, Grameen Suvidha Loan, Gruha Vikas Loan

- **Distributor Products**
    - Grameen Suraksha, Life Insurance, NPS – Swavalamban

Appendix 3: PPI Scorecard Questionnaire

Poverty Probability Index (PPI®) for India

			Name	Identifier
Interview ID:				
Interview date:		Participant:		
Country:	IND	Field agent:		
Scorecard:	004	Service point:		
Sampling wgt.:		Number of household members:		

Indicator	Response		Points	Score
1. How many household members are there?	A. Eight or more		0	
	B. Seven		4	
	C. Six		7	
	D. Five		11	
	E. Four		19	
	F. Three		26	
	G. Two		34	
	H. One		41	
2. What is the general education level of the female head/spouse?	A. Primary or below, or not literate		0	
	B. Middle		3	
	C. Secondary or higher		5	
	D. No female head/spouse		5	
3. Does the household possess a refrigerator?		A. No	0	
		B. Yes	11	
4. Does the household possess a stove/gas burner?		A. No	0	
		B. Yes	2	
5. Does the household possess a pressure cooker/pressure pan?		A. No	0	
		B. Yes	4	
6. Does the household possess a television?		A. No	0	
		B. Yes	5	
7. Does the household possess an electric fan?		A. No	0	
		B. Yes	3	
8. Does the household possess an almirah/dressing table?		A. No	0	
		B. Yes	4	
9. Does the household possess a chair, stool, bench, or table?		A. No	0	
		B. Yes	6	
10. Does the household possess a motorcycle, scooter, motor car, or jeep?		A. No	0	
		B. Yes	19	
SimplePovertyScorecard.com			Score:	

Appendix 4: Tabulation of Primary Data collected

PPI Scores Tabulated for 50 respondents at 2 time points (2018 and 2022)										
Respondent Number →	1		2		3		4		5	
Interview ID →	1307851		13438		13438		13438		13438	
Participant →	**Fouziya Bano**		**Bhavya N**		**Kavitha**		**Lakshmi**		**Abhilasha**	
Interview date →	22-Sep	07-Oct	23-Sep	07-Oct	22-Sep	07-Oct	22-Sep	07-Oct	22-Sep	07-Oct
	Sep '22 status	2018 status	Sep '22 status	2018 status	Sep '22 status	2018 status	Sep '22 status	2018 status	Sep '22 status	2018 status
Number of household members	11	11	7	7	11	11	19	19	7	7
What is the general level of education of the female head/spouse	3	3	3	3	3	3	3	3	3	3
Does the household possess a refrigerator	11	11	11	0	11	0	11	0	11	0
Does the household possess a stove/gas burner	2	2	2	0	2	0	2	2	2	2
Does the household possess a pressure cooker/pan	4	4	4	4	4	4	4	4	4	4
Does the household possess a television	5	0	5	0	5	5	5	0	5	5
Does the household possess an electric fan	3	0	3	3	3	0	3	0	3	0
Does the household possess an almirah/dressing table	4	0	4	0	4	0	4	0	4	0
Does the household possess a chair, stool, bench or table	6	6	6	0	6	6	6	6	6	0
Does the household possess a motor cycle, scooter, motor car or jeep	0	0	0	0	0	0	0	0	0	0
Total Score	49	37	45	17	49	29	57	34	45	21

PPI Scores Tabulated for 50 respondents at 2 time points (2018 and 2022)										
Respondent Number →	6		7		8		9		10	
Interview ID →	1930930		2303647		13438		21248898		768193	
Participant →	**Pavithra**		**Rajamma - Melehalli**		**Sridevi**		**Yasmeen**		**Haseena**	
Interview date →	22-Sep	07-Oct	22-Sep	07-Oct	22-Sep	07-Oct	22-Sep	07-Oct	22-Sep	07-Oct
	Sep '22 status	2018 status	Sep '22 status	2018 status	Sep '22 status	2018 status	Sep '22 status	2018 status	Sep '22 status	2018 status
Number of household members	7	7	11	11	4	4	19	19	11	11
What is the general level of education of the female head/spouse	3	3	3	3	3	3	3	3	3	3
Does the household possess a refrigerator	11	0	11	0	11	0	11	0	11	0
Does the household possess a stove/gas burner	2	0	2	2	2	2	2	2	2	0
Does the household possess a pressure cooker/pan	4	4	4	4	4	4	4	4	4	4
Does the household possess a television	5	5	5	0	5	5	5	0	5	0
Does the household possess an electric fan	3	0	3	3	3	0	3	0	3	0
Does the household possess an almirah/dressing table	4	0	4	0	4	4	4	0	4	4
Does the household possess a chair, stool, bench or table	6	0	6	0	6	0	6	0	6	0
Does the household possess a motor cycle, scooter, motor car or jeep	0	0	0	0	19	0	0	0	0	0
Total Score	45	19	49	23	61	22	57	28	49	22

PPI Scores Tabulated for 50 respondents at 2 time points (2018 and 2022)										
Respondent Number →	11		12		13		14		15	
Interview ID →	21317980		20674166		767758		1324701		32358	
Participant →	**Parveen**		**Palavi M R**		**Rihana**		**Shanthamma**		**Sadhika Khan**	
Interview date →	22-Sep	07-Oct	22-Sep	07-Oct	22-Sep	07-Oct	22-Sep	07-Oct	22-Sep	07-Oct
	Sep '22 status	2018 status	Sep '22 status	2018 status	Sep '22 status	2018 status	Sep '22 status	2018 status	Sep '22 status	2018 status
Number of household members	26	26	26	26	7	7	19	19	26	26
What is the general level of education of the female head/spouse	3	3	3	3	3	3	3	3	3	3
Does the household possess a refrigerator	11	0	11	0	11	0	11	0	11	0
Does the household possess a stove/gas burner	2	0	2	0	2	2	2	0	2	0
Does the household possess a pressure cooker/pan	4	0	4	4	4	4	4	0	4	0
Does the household possess a television	5	0	5	0	5	5	5	0	5	5
Does the household possess an electric fan	3	3	3	0	3	0	3	0	3	0
Does the household possess an almirah/dressing table	4	0	4	4	4	0	4	4	4	0
Does the household possess a chair, stool, bench or table	6	0	6	0	6	0	6	0	6	6
Does the household possess a motor cycle, scooter, motor car or jeep	0	0	0	0	19	0	19	0	19	0
Total Score	64	32	64	37	64	21	76	26	83	40

PPI Scores Tabulated for 50 respondents at 2 time points (2018 and 2022)										
Respondent Number →	16		17		18		19		20	
Interview ID →	32358		1343675		13438		13438		13438	
Participant →	**Sameena Taj**		**Kalavathi**		**Padmamma**		**Rajamma - Tadikavagilu**		**Fahim Taj A**	
Interview date →	22-Sep	07-Oct	22-Sep	07-Oct	22-Sep	07-Oct	22-Sep	07-Oct	22-Sep	07-Oct
	Sep '22 status	2018 status	Sep '22 status	2018 status	Sep '22 status	2018 status	Sep '22 status	2018 status	Sep '22 status	2018 status
Number of household members	11	11	26	26	19	19	7	7	7	7
What is the general level of education of the female head/spouse	3	3	3	3	3	3	3	3	5	3
Does the household possess a refrigerator	11	0	11	0	11	0	11	0	11	0
Does the household possess a stove/gas burner	2	2	2	0	2	0	2	2	2	2
Does the household possess a pressure cooker/pan	4	4	4	0	4	4	4	4	4	4
Does the household possess a television	5	0	5	0	5	5	5	0	5	5
Does the household possess an electric fan	3	0	3	3	3	0	3	0	3	0
Does the household possess an almirah/dressing table	4	0	4	0	4	0	4	4	4	0
Does the household possess a chair, stool, bench or table	6	0	6	6	6	0	6	0	6	0
Does the household possess a motor cycle, scooter, motor car or jeep	19	0	0	0	0	0	0	0	19	0
Total Score	68	20	64	38	57	31	45	20	66	21

PPI Scores Tabulated for 50 respondents at 2 time points (2018 and 2022)										
Respondent Number →	21		22		23		24		25	
Interview ID →	13438		32358		32358		32358		39653	
Participant →	**Bibi Ayesha**		**Anuradha S**		**Raffyalahar**		**ShahanBanu**		**Shivarajamma**	
Interview date →	22-Sep	07-Oct	22-Sep	07-Oct	22-Sep	07-Oct	22-Sep	07-Oct	22-Sep	07-Oct
	Sep '22 status	2018 status	Sep '22 status	2018 status	Sep '22 status	2018 status	Sep '22 status	2018 status	Sep '22 status	2018 status
Number of household members	19	19	19	19	19	7	19	19	19	26
What is the general level of education of the female head/spouse	3	3	3	3	3	3	3	3	3	3
Does the household possess a refrigerator	11	0	11	0	11	0	11	0	11	0
Does the household possess a stove/gas burner	2	2	2	0	2	0	2	0	2	0
Does the household possess a pressure cooker/pan	4	4	4	4	4	0	4	4	4	0
Does the household possess a television	5	0	5	5	5	5	5	5	5	5
Does the household possess an electric fan	3	3	3	0	3	0	3	0	3	3
Does the household possess an almirah/dressing table	4	0	4	0	4	0	4	0	4	0
Does the household possess a chair, stool, bench or table	6	0	6	0	6	0	6	0	6	0
Does the household possess a motor cycle, scooter, motor car or jeep	19	0	19	0	19	0	19	0	19	0
Total Score	76	31	76	31	76	15	76	31	76	37

PPI Scores Tabulated for 50 respondents at 2 time points (2018 and 2022)										
Respondent Number →	26		27		28		29		30	
Interview ID →	39653		39653		39653		28276		28276	
Participant →	**Shanthamma L**		**Ambika**		**Lakshmamma R**		**Seema Sultana**		**Rajamma - Gandhinagar**	
Interview date →	22-Sep	07-Oct	22-Sep	07-Oct	22-Sep	07-Oct	28-Sep	07-Oct	28-Sep	07-Oct
	Sep '22 status	2018 status	Sep '22 status	2018 status	Sep '22 status	2018 status	Sep '22 status	2018 status	Sep '22 status	2018 status
Number of household members	26	26	19	19	19	19	19	19	19	19
What is the general level of education of the female head/spouse	3	3	3	0	3	3	3	3	3	3
Does the household possess a refrigerator	11	0	11	0	11	0	11	0	11	11
Does the household possess a stove/gas burner	2	2	2	2	2	2	2	2	2	0
Does the household possess a pressure cooker/pan	4	4	4	4	4	4	4	4	4	0
Does the household possess a television	5	0	5	0	5	0	5	0	5	0
Does the household possess an electric fan	3	3	3	3	3	0	3	0	3	0
Does the household possess an almirah/dressing table	4	0	4	0	4	0	4	0	4	0
Does the household possess a chair, stool, bench or table	6	0	6	0	6	0	6	6	6	0
Does the household possess a motor cycle, scooter, motor car or jeep	19	0	19	0	19	0	19	0	19	0
Total Score	83	38	76	28	76	28	76	34	76	33

PPI Scores Tabulated for 50 respondents at 2 time points (2018 and 2022)										
Respondent Number →	31		32		33		34		35	
Interview ID →	28276		28276		28276		37629		37629	
Participant →	**Arshiya Khanum**		**Mamatha - Kottipura**		**Afroz Begum**		**Janakamma**		**Nargis Banu**	
Interview date →	28-Sep	07-Oct	28-Sep	07-Oct	28-Sep	07-Oct	28-Sep	07-Oct	28-Sep	07-Oct
	Sep '22 status	2018 status	Sep '22 status	2018 status	Sep '22 status	2018 status	Sep '22 status	2018 status	Sep '22 status	2018 status
Number of household members	19	19	19	19	19	19	19	19	19	19
What is the general level of education of the female head/spouse	3	3	3	3	3	3	3	3	3	3
Does the household possess a refrigerator	11	0	11	0	11	0	11	0	11	0
Does the household possess a stove/gas burner	2	2	2	0	2	2	2	2	2	2
Does the household possess a pressure cooker/pan	4	0	4	0	4	4	4	4	4	4
Does the household possess a television	5	5	5	0	5	0	5	5	5	0
Does the household possess an electric fan	3	3	3	0	3	0	3	0	3	0
Does the household possess an almirah/dressing table	4	0	4	0	4	0	4	0	4	0
Does the household possess a chair, stool, bench or table	6	0	6	0	6	0	6	0	6	0
Does the household possess a motor cycle, scooter, motor car or jeep	19	0	19	19	19	19	19	0	19	0
Total Score	76	32	76	41	76	47	76	33	76	28

PPI Scores Tabulated for 50 respondents at 2 time points (2018 and 2022)										
Respondent Number →	36		37		38		39		40	
Interview ID →	37629		37629		37629		7224024		1295048	
Participant →	**Rizwana Khanum**		**Lakshmi S M**		**Usha**		**Almaz**		**Puttalakshmamma**	
Interview date →	28-Sep	07-Oct	28-Sep	07-Oct	22-Sep	07-Oct	22-Sep	07-Oct	22-Sep	07-Oct
	Sep '22 status	2018 status	Sep '22 status	2018 status	Sep '22 status	2018 status	Sep '22 status	2018 status	Sep '22 status	2018 status
Number of household members	19	19	19	19	19	19	4	4	26	26
What is the general level of education of the female head/spouse	3	3	3	3	3	3	3	3	3	3
Does the household possess a refrigerator	11	0	11	0	11	0	11	11	11	0
Does the household possess a stove/gas burner	2	2	2	2	2	2	2	0	2	0
Does the household possess a pressure cooker/pan	4	0	4	4	4	4	4	0	4	0
Does the household possess a television	5	0	5	0	5	5	5	0	5	0
Does the household possess an electric fan	3	0	3	3	3	0	3	0	3	0
Does the household possess an almirah/dressing table	4	4	4	0	4	0	4	0	4	0
Does the household possess a chair, stool, bench or table	6	0	6	0	6	0	6	0	6	6
Does the household possess a motor cycle, scooter, motor car or jeep	19	0	19	0	19	0	19	0	0	0
Total Score	76	28	76	31	76	33	61	18	64	35

PPI Scores Tabulated for 50 respondents at 2 time points (2018 and 2022)										
Respondent Number →	41		42		43		44		45	
Interview ID →	1165624		1991385		39653		4846618		13438	
Participant →	**Noor Banu**		**Sharadha**		**Mamatha - Arehalli**		**Amreen Taj**		**Varalakshmi**	
Interview date →	22-Sep	07-Oct	22-Sep	07-Oct	22-Sep	07-Oct	22-Sep	07-Oct	22-Sep	07-Oct
	Sep '22 status	2018 status	Sep '22 status	2018 status	Sep '22 status	2018 status	Sep '22 status	2018 status	Sep '22 status	2018 status
Number of household members	7	7	19	19	19	19	7	7	11	11
What is the general level of education of the female head/spouse	3	3	3	3	3	3	3	3	3	3
Does the household possess a refrigerator	11	11	11	0	11	0	11	0	11	0
Does the household possess a stove/gas burner	2	0	2	2	2	2	2	2	2	0
Does the household possess a pressure cooker/pan	4	0	4	4	4	4	4	4	4	4
Does the household possess a television	5	0	5	5	5	0	5	5	5	0
Does the household possess an electric fan	3	0	3	0	3	3	3	0	3	0
Does the household possess an almirah/dressing table	4	0	4	0	4	0	4	0	4	0
Does the household possess a chair, stool, bench or table	6	0	6	0	6	0	6	0	6	6
Does the household possess a motor cycle, scooter, motor car or jeep	19	0	0	0	19	0	19	0	0	0
Total Score	64	21	57	33	76	31	64	21	49	24

PPI Scores Tabulated for 50 respondents at 2 time points (2018 and 2022)										
Respondent Number →	46		47		48		49		50	
Interview ID →	1620108		1618646		20334087		7654709		208075	
Participant →	**Swetha**		**Chaithra**		**Lavanya**		**Sabiha Banu**		**Bhagyamma**	
Interview date →	22-Sep	07-Oct	22-Sep	07-Oct	22-Sep	07-Oct	22-Sep	07-Oct	22-Sep	07-Oct
	Sep '22 status	2018 status	Sep '22 status	2018 status	Sep '22 status	2018 status	Sep '22 status	2018 status	Sep '22 status	2018 status
Number of household members	11	19	26	26	26	26	19	19	19	19
What is the general level of education of the female head/spouse	3	3	3	3	3	3	3	3	3	3
Does the household possess a refrigerator	11	0	11	0	11	0	11	0	11	0
Does the household possess a stove/gas burner	2	2	2	2	2	2	2	2	2	0
Does the household possess a pressure cooker/pan	4	4	4	4	4	4	4	4	4	0
Does the household possess a television	5	0	5	5	5	0	5	5	5	5
Does the household possess an electric fan	3	0	3	0	3	0	3	0	3	0
Does the household possess an almirah/dressing table	4	0	4	0	4	0	4	0	4	0
Does the household possess a chair, stool, bench or table	6	0	6	0	6	6	6	0	6	0
Does the household possess a motor cycle, scooter, motor car or jeep	0	0	0	0	0	0	19	0	0	0
Total Score	49	28	64	40	64	41	76	33	57	27

Appendix 4 a

Respondent	PPI Likelihood 2022	PPI Likelihood 2018	Difference
Fouziya Bano	11.20%	22.90%	11.70%
Bhavya N	11.20%	51.70%	40.50%
Kavitha	11.20%	37.50%	26.30%
Lakshmi	5.10%	31.50%	26.40%
Abhilasha	11.20%	44.60%	33.40%
Pavithra	11.20%	51.70%	40.50%
Rajamma - Melehalli	11.20%	44.60%	33.40%
Sridevi	3.10%	44.60%	41.50%
Yasmeen	5.10%	37.50%	32.40%
Haseena	11.20%	44.60%	33.40%
Parveen	3.10%	31.50%	28.40%
Palavi M R	3.10%	22.90%	19.80%
Rihana	3.10%	44.60%	41.50%
Shanthamma	0.50%	37.50%	37.00%
Sadhika Khan	0.10%	16.90%	16.80%
Sameena Taj	1.50%	44.60%	43.10%
Kalavathi	3.10%	22.90%	19.80%
Padmamma	5.10%	31.50%	26.40%
Rajamma - Tadikavagilu	11.20%	44.60%	33.40%
Fahim Taj A	1.50%	44.60%	43.10%
Bibi Ayesha	0.50%	31.50%	31.00%
Anuradha S	0.50%	31.50%	31.00%
Raffyalahar	0.50%	51.70%	51.20%
ShahanBanu	0.50%	31.50%	31.00%
Shivarajamma	0.50%	22.90%	22.40%
Shanthamma L	0.10%	22.90%	22.80%
Ambika	0.50%	37.50%	37.00%
Lakshmamma R	0.50%	37.50%	37.00%
Seema Sultana	0.50%	31.50%	31.00%
Rajamma - Gandhinagar	0.50%	31.50%	31.00%
Arshiya Khanum	0.50%	31.50%	31.00%
Mamatha - Kottipura	0.50%	16.90%	16.40%
Afroz Begum	0.50%	11.20%	10.70%
Janakamma	0.50%	31.50%	31.00%
Nargis Banu	0.50%	37.50%	37.00%
Rizwana Khanum	0.50%	37.50%	37.00%
Lakshmi S M	0.50%	31.50%	31.00%
Usha	0.50%	31.50%	31.00%
Almaz	3.10%	51.70%	48.60%
Puttalakshmamma	3.10%	22.90%	19.80%
Noor Banu	3.10%	44.60%	41.50%
Sharadha	5.10%	31.50%	26.40%
Mamatha - Arehalli	0.50%	31.50%	31.00%
Amreen Taj	3.10%	44.60%	41.50%
Varalakshmi	11.20%	44.60%	33.40%
Swetha	11.20%	37.50%	26.30%
Chaithra	3.10%	16.90%	13.80%
Lavanya	3.10%	16.90%	13.80%
Sabiha Banu	0.50%	31.50%	31.00%
Bhagyamma	5.10%	37.50%	32.40%
Average	3.70%	34.47%	30.78%
Std Dev	0.040414334	0.101101145	

Appendix 5 Converting PPI Scores to Poverty Likelihoods - Lookup table for India using r68 poverty definitions

PPI® for India 2011

Look-up Tables

The following look-up tables are used to convert PPI scores to poverty likelihoods: R68 National and RBI Lines using MMRP consumption

PPI Score	R68					
	100% National Rangarajan	150% National Rangarajan	200% National Rangarajan	Poorest Half below 100% National	RBI Urban	RBI Rural
0 – 4	76.4	98.1	99.5	58.0	99.8	86.0
5 – 9	70.9	97.3	99.3	48.3	99.5	86.0
10 - 14	61.8	93.8	98.8	41.2	96.7	85.2
15 - 19	51.7	90.6	97.2	30.0	94.3	84.4
20 - 24	44.6	85.8	97.0	20.8	93.8	84.4
25 - 29	37.5	81.5	95.4	17.6	93.0	84.4
30 - 34	31.5	77.1	93.2	12.6	93.0	84.4
35 - 39	22.9	69.5	88.6	6.9	89.2	83.7
40 - 44	16.9	60.8	84.2	5.3	88.8	80.5
45 - 49	11.2	46.8	75.4	3.5	88.7	78.0
50 - 54	8.0	39.1	67.7	1.8	84.5	71.9
55 - 59	5.1	28.2	55.8	0.7	76.3	63.2
60 - 64	3.1	21.9	48.1	0.5	73.4	58.6
65 - 69	1.8	18.6	43.3	0.1	66.6	50.9
70 - 74	0.9	11.9	33.9	0.0	62.1	46.9
75 - 79	0.5	7.8	26.8	0.0	56.0	40.1
80 - 84	0.1	4.1	17.9	0.0	54.0	38.1
85 - 89	0.0	3.1	11.7	0.0	54.0	36.3
90 - 94	0.0	0.5	4.1	0.0	54.0	36.3
95 - 100	0.0	0.0	0.0	0.0	48.9	36.3

This PPI was created in May 2016 using India's 2011/12 Socio-Economic Survey by Mark Schreiner of Microfinance Risk Management, L.L.C. For more information, please visit

Glossary

Concept of consumption externalities and application to micro finance

Externality defined:

An externality is a cost or benefit caused by a producer that is not financially incurred or received by that producer. Externalities could be positive or negative depending on whether they imply costs or benefits. They can stem from either the production or consumption of a good or service. The costs and benefits can be both private—to an individual or an organization—or social, meaning it can affect society as a whole.

Typically, externalities are environmental, such as natural resources or public health. For example, if the pollution caused by a factory impacts negatively the health of people in the neighbourhood, it would constitute a negative externality. A positive externality includes actions that reduce transmission of disease or avoids the use of lawn treatments that runoff to rivers and thus contribute to excess plant growth in lakes.

Externalities occur in an economy when the production or consumption of a specific good or service impacts a third party that is not directly related to the production or consumption of that good or service.

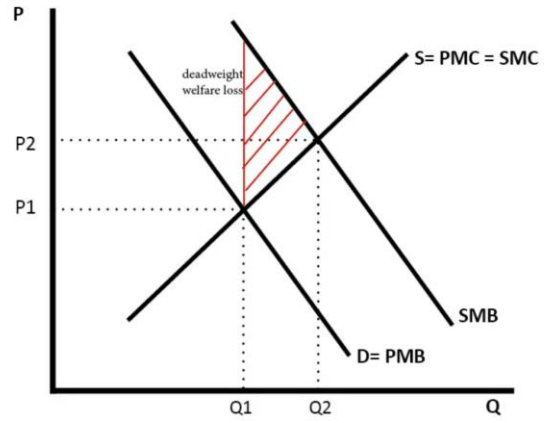
Externalities therefore are like spill over effects of production and/or consumption which are not accounted for and therefore no appropriate compensation is paid/received by the third parties impacted. Because these lie beyond the mechanics of how the market works, these are not reflected in freely determined market prices.

Improved access to financial services through micro credit as a positive consumption externality:

Consumption for affordable and accessible micro finance benefits not just the client but society at large. It can be argued for example that opportunities for self-employment and small businesses will increase reducing unemployment and therefore, crimes in the neighbourhood. The MFI drives down the interest cost of loan for the community in general, making loans cheaper than before. Presence of the MFI could attract other financial service providers which has made reliable institutional credit from regulated institutions much more accessible. Through the different kinds of loans and insurance products an MFI offers, its marketing activities increase awareness around aspects like sanitation and health/life insurance.

This means that the social benefits of consumption exceed the private benefits. The social marginal benefit curve (SMB) is greater than private marginal benefit (PMB). In a free market without government intervention there will be under-consumption of goods with positive consumption externalities leading to market failure.

Diagram of Positive Externality (consumption)



In a free market, consumption will be at Q1 because demand = supply (private benefit = private cost)

However, this is socially inefficient because at Q1, social marginal cost < social marginal benefit. Therefore, there is under-consumption of the positive externality.

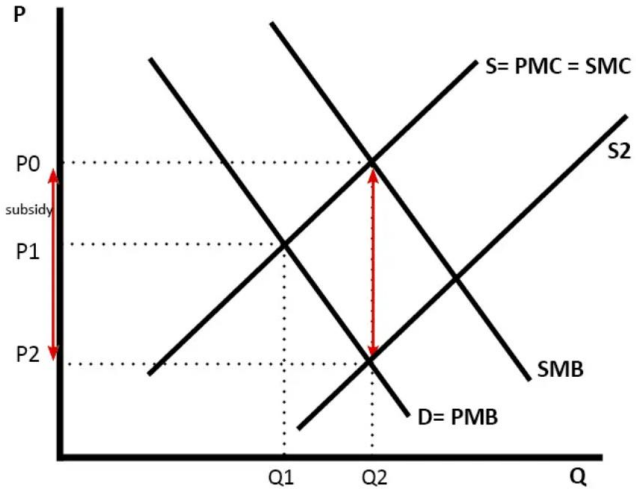
Social efficiency would occur at Q2 where social cost = social benefit

Dealing with positive externalities

Positive externalities lead to under-consumption and market failure. Government policies to increase demand for goods with positive externalities include

- Rules and regulations – minimum school leaving age
- Increasing supply – the government building of council housing to increase the stock of good quality housing.
- Subsidy to reduce price and encourage consumption, e.g. government subsidy for rural train services.

Diagram to show the effect of subsidy on good with positive externalities



A subsidy of P0-P2 shifts supply curve to the right (S2) and the new quantity demand will be Q2 (where SMB=SMC). In this case, the subsidy has overcome the market failure. Though government intervention itself could be subject to government failure.

Multi-Dimensional Poverty Index Explained

The multidimensionality of poverty is a key component of the Sustainable Development Goals. Target 1.2. talks about reducing "at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions".

The interlinkage across SDGs is reflected in the multidimensional poverty approach and its measurement as well. This is because the multidimensional measures examine deprivations in areas such as nutrition (Goal 2), health (SDG 3), education (SDG 4) and living standards related indicators such as water and sanitation (SDG 6), and electricity and clean cooking fuel (SDG 7), among others.

What makes this tool powerful is that insights from this tool can be used to develop and assess cross-sectoral policies which target the interconnected and simultaneous disadvantages and deprivations faced by the poor. Two distinctive normative conditions are satisfied by the MPI –the acknowledgement that non-monetary deprivations are an integral part of poverty, and that deprivations often simultaneously overlap. For example, 10% of the population may not have access to sanitation and 10% may have insufficient education. What these two measures do not tell us is the percentage of the population which is deprived of both. Being able to measure simultaneous deprivations is a unique feature of the MDI and helps identify the poorest of the poor.

As mentioned earlier, MPI goes beyond a simple headcount ratio of proportion of people who are multidimensionally poor but also includes important information on average deprivations or "depth of poverty"

The MPI can complement traditional income and consumption-based measures of poverty. It allows us to incorporate a perspective that wellbeing can be adversely impacted in ways that are only indirectly linked to income and consumption levels.

Constructing and measuring a national MPI allows for

- comparison of poverty levels across regions within the same country.
- tracking of poverty levels over time,
- assessing just "how" poor are the people in poverty, using direct information from the set of MPI indicators.

National MPIs are reported with two dimensions. These are:

- Incidence, 'H' which shows the percentage of people who are multidimensionally poor.
- Intensity, 'A' which shows the percentage of weighted deprivations the average multidimensionally poor person suffers from.

In early 2020 the Government of India identified 29 global indices with the intent of monitoring and analysing these to improve India's position in global rankings: Global Indices for Reforms and Growth.

The Alkire-Foster (AF) methodology is fundamental to MPI. It identifies people as poor or not poor based on a dual cut off counting method.

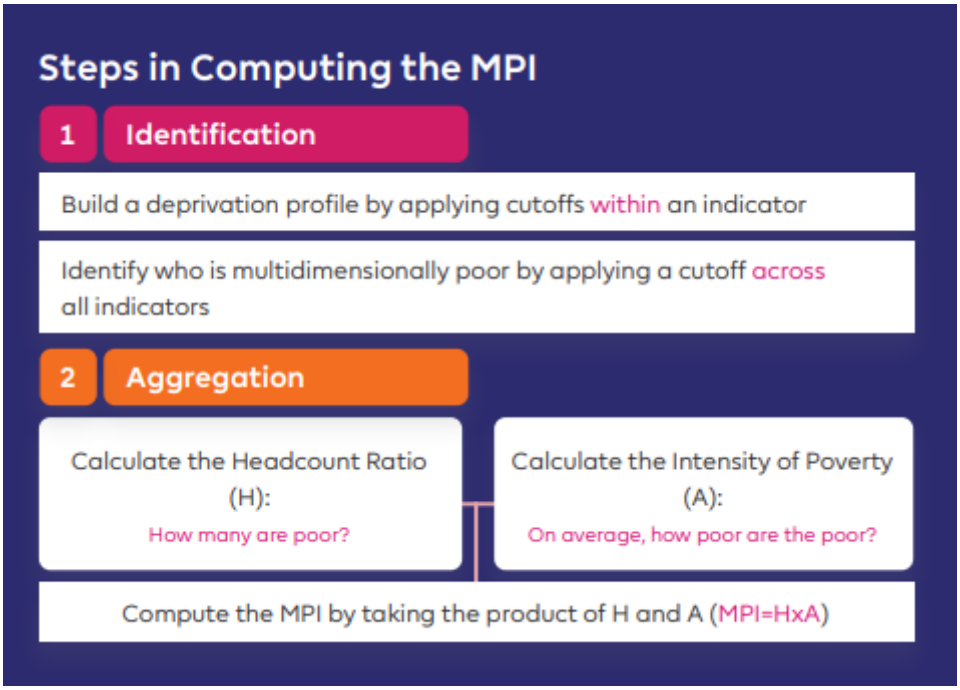
The first order cut-off within each component indicator is applied to determine which person is "deprived" in that indicator. The information across all indicators is then aggregated to arrive at a deprivation score for each individual.

The second order cut-off is then applied to identify the individuals who are multidimensionally poor.

Having both cut offs addresses issues that arise from the union and intersection approaches in the measurement of multidimensional poverty. Union of measures across indicators would lead to overestimation of the extent of poverty and ignoring possible intersections would lead to underestimation of the depth or intensity of poverty.

The fact that the construction of the MPI for a particular country allows flexibility (within realms of logic and reason) in selection of indicators, determination of first and second order cut offs and indicator weights allows for customization making the MPI more relevant to the national context.

Computation of MPI involves two broad steps: Identification and Aggregation.



Identification involves:

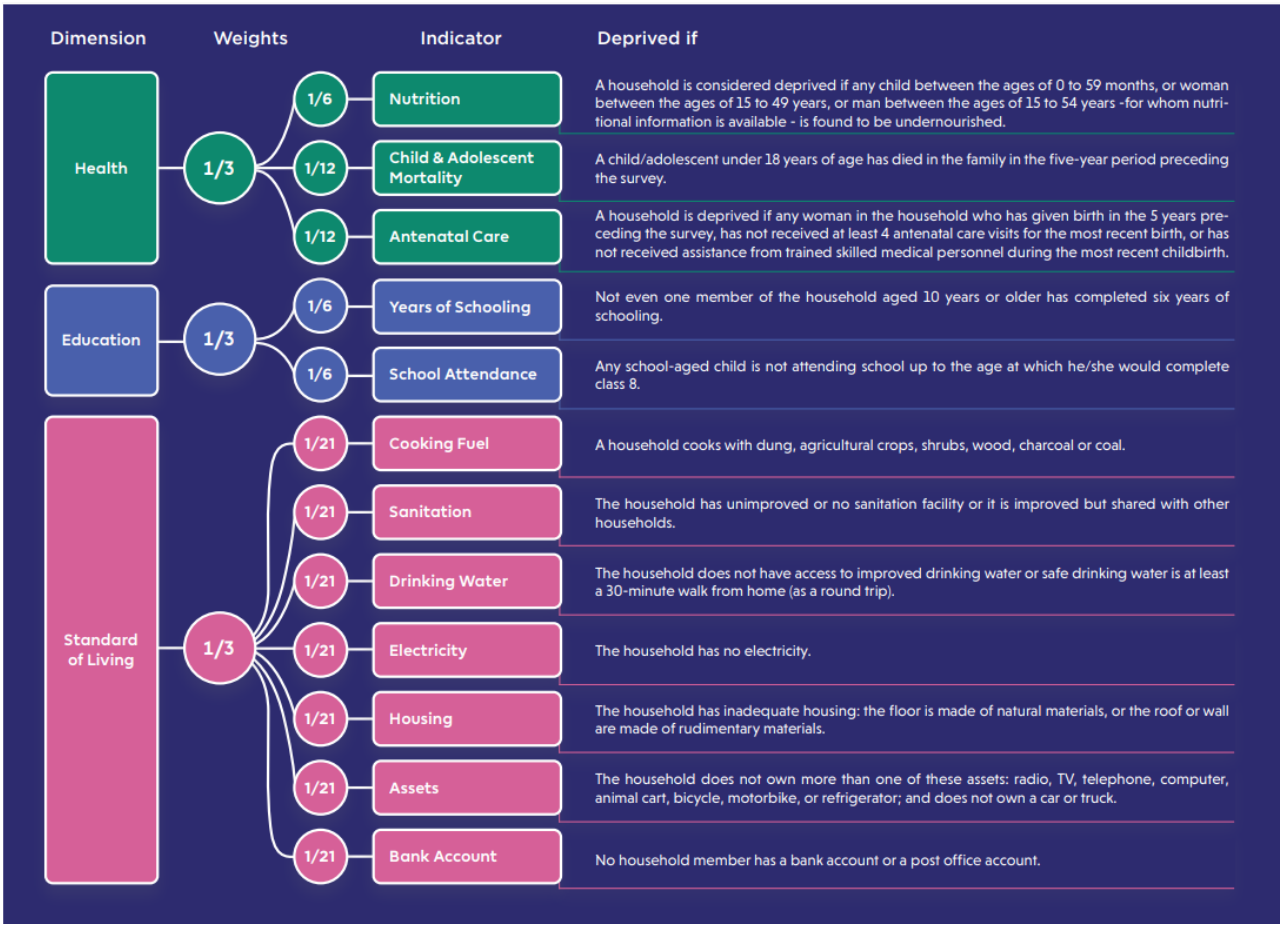
- Determining the set of indicators to be used in the MPI and grouping them thematically into dimensions. For example, years of schooling and school attendance are indicators under the dimension of education.
- Assigning deprivation cut-offs for each indicator, i.e., the level of achievement considered normatively sufficient for an individual to be considered not deprived in an indicator. E.g., the individual has completed at least six years of schooling.
- Applying the cut-off to determine whether the individual is deprived in each indicator.
- Selecting weights to be applied to each indicator such that the sum of the weights for all indicators adds up to 1. Optionally, the weights of the indicators could be such that the weight attributable to each dimension (i.e. the sum of the weights of the indicators in that dimension) is the same.
- Calculating the weighted sum of deprivations for each individual. This is known as their deprivation score.
- Applying the second order cut-off, i.e., the proportion of weighted deprivations that an individual needs to experience to be identified as multidimensionally poor.

India's national MPI follows the second order cut-off of 33.33 percent used in the global MPI measure.

Aggregation involves:

- Determining the proportion of individuals identified as multidimensionally poor in the population. This is known as the headcount ratio (H) of the MPI or the incidence of poverty. The headcount ratio broadly explains 'how many are poor'.
- Determining the average share of weighted indicators in which multidimensionally poor individuals are deprived i.e., add the deprivation scores of the poor and divide it by the total number of poor individuals. This is known as the intensity of poverty (A) in the MPI or the breadth of poverty, which broadly explains 'how poor are the poor'.
- Computing the MPI score (M0) as the product of the partial indices of Headcount Ratio and Intensity

India's MPI model retains the ten indicators of the global MPI model which ensures alignment with the global methodology and rankings. It has three equally weighted dimensions – health, education, and standard of living - which are represented by twelve indicators.



Arriving at the MPI:

In administering the framework, every individual gets a score of 1 for every indicator out of the 12 indicators that he is deprived in. These are then multiplied by the indicator weightages to arrive at the deprivation score for the individual.

For example, we could have 2 individuals, A and B. A may have emerged with a deprivation score of 0.44 and B could have emerged with a deprivation score of 0.28.

A second order cut-off is then applied to determine if the individual is multi-dimensionally poor. India has adopted the global second order cut off of 0.33. Therefore, in our example, A would be considered to be multidimensionally poor and B would not.

At this stage, a step called censoring is applied. Since A is multidimensionally poor, his deprivation score is reset at this stage to '1' and B's deprivation score is reset to '0'.

The next step is to determine the proportion of multidimensionally poor individuals in the total population. This is known as the **headcount ratio of multidimensional poverty or the incidence of poverty** and is the first of two partial indices used to determine the MPI. The headcount ratio **(denoted by H)** answers the question 'how many are poor?'

India's national MPI identifies 25.01 percent of the population as multidimensionally poor.

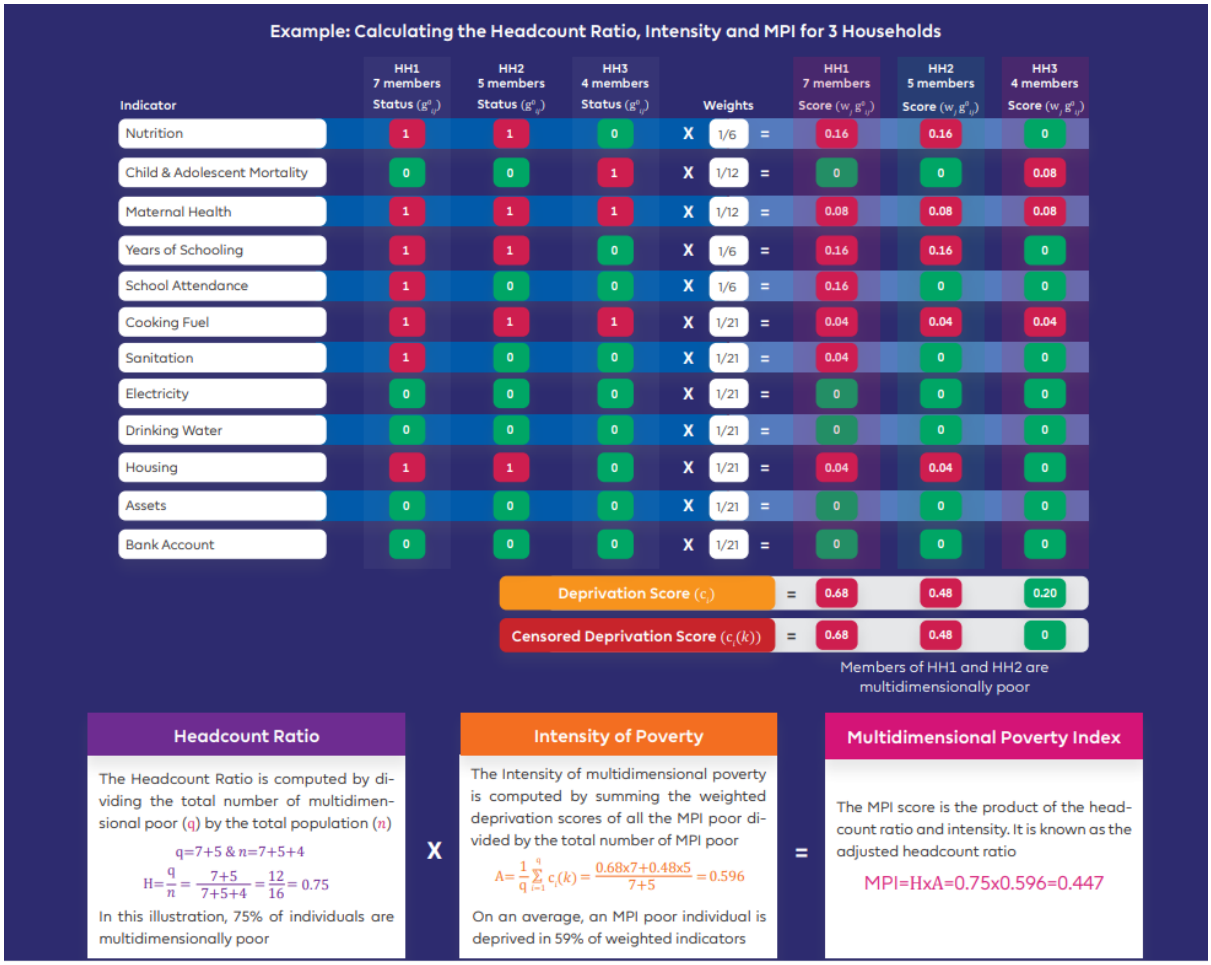
Uncensored (Raw) Headcount Ratio: While the headcount ratio (H) provides the proportion of multidimensionally poor individuals in the population, the uncensored headcount ratio (denoted by hj) provides the proportion of individuals who are deprived in an indicator j irrespective of whether they are multidimensionally poor or not.

Censored Headcount Ratio: The censored headcount ratio (denoted by hj (k)) provides the proportion of individuals who are multidimensionally poor and deprived in an indicator j.

Intensity of Poverty: The intensity of poverty (denoted by A) is the average proportion of deprivations which is experienced by multidimensionally poor individuals. It is the average deprivation score of all multidimensionally poor individuals. A is the second partial index used in the construction of the MPI and answers the question how poor are the poor?

The MPI reflects both the incidence and the intensity of multidimensional poverty. The index (denoted by M0) is the product of the two partial indices, the headcount ratio (H) and intensity (A) of multidimensional poverty. This can also be defined as the share of population that is multidimensionally poor adjusted by the intensity of deprivation.

Adjusting the Headcount Ratio with the Intensity ratio is important. Traditionally, poverty measures (such as poverty lines) would define a single threshold to determine if an individual was poor or not. However, this would only convey the information regarding number of people in poverty but not the extent of their poverty. Therefore, any change in the level of deprivations (for better or for worse) faced by an individual in poverty would not affect the poverty measure unless the change was substantial enough to make the individual cross the determined poverty threshold. To put it in simpler terms, traditional poverty measures would remain unaltered if an individual who is already poor became poorer, or an individual who is poor became less poor but not enough to cross the poverty line.



Demographic and Health Surveys (DHS) data is used to calculate MPI. The DHS for India is the National Family Health Survey (NFHS), which is conducted by the International Institute for Population Sciences (IIPS) under the aegis of the Ministry of Health and Family Welfare (MoHFW), Government of India. This is the baseline report for India's national MPI and has been computed using the data from the 4th round of the NFHS conducted in 2015-16. The NFHS-4 captures the data for 28,69,043 individuals across 6,28,892 households

Note on Progress out of Poverty Index:

The Progress out of Poverty Index is an integral part of Grameen Foundation's industry-wide effort to assist MFIs in assessing social performance. It was developed to provide MFIs with the necessary data to evaluate how well they are meeting their social goals.

It's important to point out that the PPI provides a snapshot of poverty levels and does not by itself establish causality. The onus is on the MFI/research body to draw insights from PPI data in order to assess effectiveness of interventions.

However, it does meet the needs of simplicity as it is typically composed of 10 questions (linked to poverty correlated non-financial indicators) which take 5 to 10 minutes to administer. PPIs are country specific, constructed country wise and reflect the national household income and expenditure surveys of the respective countries. **The India PPI is based on 2011 survey data and was released in 2016.**

When using the PPI and reporting its results, it's helpful to understand the difference between the terms poverty likelihood and poverty rate—sometimes referred to as estimated poverty. These terms are not interchangeable and express different concepts, so it is important to use them correctly.

A poverty likelihood is the probability that an individual household's expenditure level falls below a poverty line. For example. a poverty likelihood of 30% reflects a three-in-ten chance that a household is poor. Since this is a probability, one cannot say with certainty that an individual household is below a poverty line, though confidence increases the nearer the poverty likelihood is to 100 since this means the odds of a household being below a poverty line are much higher.

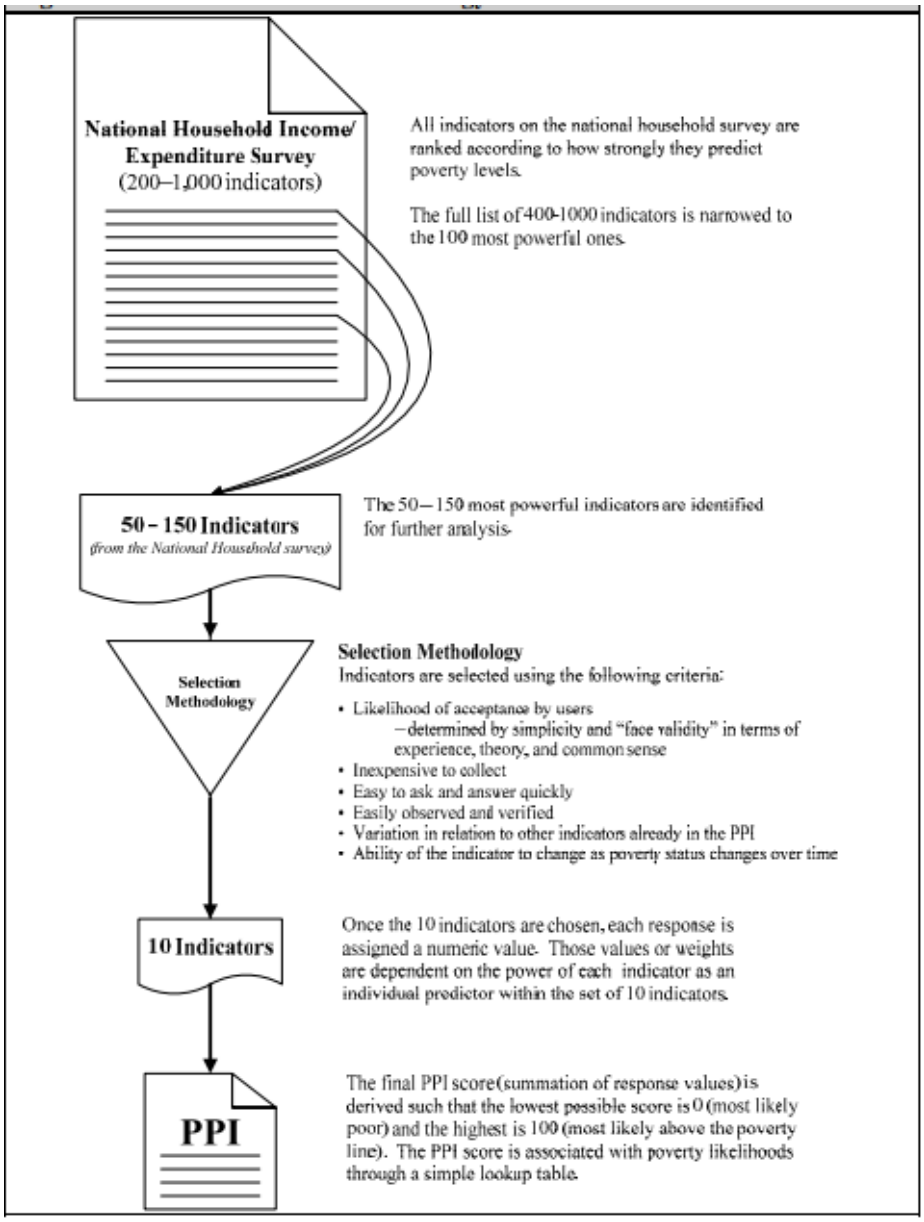
Users determine poverty likelihoods at the household level by cross-referencing a household's PPI Score in the PPI Look-up Table. (Remember: never use a PPI score for data analysis.) The poverty likelihoods listed in the PPI Look-up Table are derived from the underlying dataset used to create the PPI; they represent the actual percentages of households whose expenditure levels fell below a poverty line for the varying score ranges. Since the underlying dataset is representative of the entire country, the likelihood can be interpreted as the probability that a household picked at random within the score range will fall below a particular poverty line in that country.

A poverty rate is for a group of households. It is an estimate of the actual poverty rate for the group. For example, if the poverty rate of a group of 1,000 households is 64%, an organization should assume that there are 640 households in the group that are below a poverty line. A poverty rate essentially allows an organization to accurately estimate the number of households below a poverty line. However, the PPI cannot tell you which households are actually poor.

The data collected can be used to draw insights along the lines of:

- **measuring** poverty outreach (i.e., the portion of customers, clients, or employees who live below the poverty line),
- **improving** the performance of the intervention among the poor and poorest, and
- **tracking** poverty levels over time.

PPI Construction Methodology



Each PPI survey results in a score between 0 and 100. That PPI score is not the poverty likelihood. The score is related to the poverty likelihood based on the chart/look up table. The poverty likelihood reflects the probability that the household falls into certain poverty bands.

For example, if a respondent household received a score of 26:

PPI Category Likelihoods:

PPI Score of 26

PPI Score	Below the Poverty Line		Total Below National Poverty Line	Total Above National Poverty Line
	Bottom Half Below National Poverty Line	Top Half Below National Poverty Line		
0-4	85.0%	14.3%	99.3%	0.7%
5-9	79.7%	12.8%	92.5%	7.5%
10-14	61.9%	30.0%	91.9%	8.1%
15-19	70.5%	22.9%	93.4%	6.6%
20-24	53.2%	24.4%	77.6%	22.4%
25-29	42.4%	34.4%	76.8%	23.2%
30-34	35.2%	42.6%	77.8%	22.2%
35-39	23.8%	24.8%	48.6%	51.4%
40-44	22.2%	26.1%	48.3%	51.7%
45-49	16.5%	17.1%	33.6%	66.4%
50-54	12.6%	21.8%	34.4%	65.6%
55-59	8.4%	14.2%	22.6%	77.4%
60-64	4.7%	5.4%	10.1%	89.9%
65-69	2.5%	7.6%	10.1%	89.9%
70-74	1.7%	5.2%	6.9%	93.1%
75-79	1.6%	2.2%	3.8%	96.2%
80-84	0.7%	1.4%	2.1%	97.9%
85-89	0.0%	0.0%	0.0%	100.0%
90-94	0.0%	0.0%	0.0%	100.0%
95-100	0.0%	0.0%	0.0%	100.0%

The client interviewed has a 76.8% likelihood of falling below the poverty line and a 23.2% likelihood of being above the poverty line

Poverty Probability Index (PPI®) for India

			Name	Identifier
Interview ID:				
Interview date:		Participant:		
Country:	IND	Field agent:		
Scorecard:	004	Service point:		
Sampling wgt.:		Number of household members:		

Indicator	Response		Points	Score
1. How many household members are there?	A. Eight or more		0	
	B. Seven		4	
	C. Six		7	
	D. Five		11	
	E. Four		19	
	F. Three		26	
	G. Two		34	
	H. One		41	
2. What is the general education level of the female head/spouse?	A. Primary or below, or not literate		0	
	B. Middle		3	
	C. Secondary or higher		5	
	D. No female head/spouse		5	
3. Does the household possess a refrigerator?		A. No	0	
		B. Yes	11	
4. Does the household possess a stove/gas burner?		A. No	0	
		B. Yes	2	
5. Does the household possess a pressure cooker/pressure pan?		A. No	0	
		B. Yes	4	
6. Does the household possess a television?		A. No	0	
		B. Yes	5	
7. Does the household possess an electric fan?		A. No	0	
		B. Yes	3	
8. Does the household possess an almirah/dressing table?		A. No	0	
		B. Yes	4	
9. Does the household possess a chair, stool, bench, or table?		A. No	0	
		B. Yes	6	
10. Does the household possess a motorcycle, scooter, motor car, or jeep?		A. No	0	
		B. Yes	19	
SimplePovertyScorecard.com			Score:	

Short Note on MMRP:

The World Bank uses modified mixed reference period (MMRP) instead of the uniform reference period (URP) while estimating poverty.

Under the URP, used in the National Sample Surveys since the 1950s, data is collected on the "30-day recall for consumption of both food and non-food items to measure expenditures". But under the MMRP, which was first introduced in NSS (alongside URP) in 2009-10, the 30-day recall was modified to a 7-day recall for some food items and to a 1-year recall for low-frequency non-food consumption items.

As a result of the shorter recall period for food items, MMRP-based consumption expenditures in both rural and urban areas are 10-12 per cent larger than URP-based aggregates.

Note on the SECC Census

Socio-Economic Caste Census-2011 is a study of socio economic status of rural and urban households and allows ranking of households based on predefined parameters. SECC 2011 has three census components which were conducted by three separate authorities but under the overall coordination of Department of Rural Development in the Government of India. Census in Rural Area has been conducted by the Department of Rural Development (DoRD). Census in Urban areas is under the administrative jurisdiction of the Ministry of Housing and Urban Poverty Alleviation (MoHUPA). Caste Census is under the administrative control of Ministry of Home Affairs: Registrar General of India (RGI) and Census Commissioner of India.

Ministry of Rural Development commenced the Socio-Economic Caste Census-2011 on 29th June, 2011 through a comprehensive door to door enumeration across the country. The data of the exercise is now available for policy, research and for implementing various development programmes.

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