

MULTIDIMENSIONAL POVERTY INDEX: A TOOL FOR POVERTY REDUCTION STRATEGIES

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ABSTRACT

The unidimensional conventional approach to estimate poverty based on income or consumption failed to capture many of the critical deprivations in the life of an individual. Over the years many studies concluded that poverty reduction must be done at three different levels in an integrated manner. Firstly, at macro level aimed to reduce income poverty through capital formation affecting human and physical resources and achieving economic growth through fiscal incentives and expenditure. Secondly, at the community and village level which can create local infrastructure development through human capital generation. Lastly, for eradication at grassroot level, government should intervene to target upliftment at individual level by providing good health, nutrition and education at all levels. Therefore, economists at the global level looked forward for a better approach regarding poverty estimation resulting in the development of multidimensional Poverty index by UNDP and OPHI in 2010. Since then, it has been considered as a blueprint for growth, prosperity, happiness, and development of the people which could be achieved through global partnership. This paper provides an overview based on review of literature that why we need Multidimensional Poverty Index to assess poverty.

KEYWORDS: Multidimensional Poverty Index, Sustainable Development Goals, Dimensions, Government Strategies

WHY DO WE NEED TO HAVE MULTIDIMENSIONAL POVERTY ESTIMATION?

Traditionally, poverty has been measured based on unidimensional approach i.e either income or consumption expenditure. But with due course of time it has been considered that monetary poverty doesn't show complete picture of poverty and important aspects of wellbeing might not depend on one's income. A more accurate results requires analysis on non-monetary deprivations too.

In his work on Capability approach (1979), Amartya Sen considered development as the part of expanding Freedom that people value whether rich or poor. He considered that Human development Index confined itself to longevity, income and level of literacy. However, there are many missing dimensions of poverty which is also needed to be looked upon. These are considered to be empowerment, quality of employment, safety, psychological well-being etc should also be valued equally while assessing the overall poverty.

To add further, studies on poverty should include medical and welfare facilities provided to the individuals and families., indicating how much poor are approachable to these facilities. In due course of time, many international works focussed on missing dimensions of data on poverty carrying

significant importance. To mention briefly few of them as Ranis, Stewart, Samman (2007) conducted the study on human development which aimed to go beyond Human Development Index, by identifying the 11 indicators of Human development and suggested that a full assessment of Human Development requires a much broader set of indicators rather than only three indicators of HDI. Additional choices included political Freedom, self-respect, social wellbeing etc. Finnis, Boyle, Grisez (1987) considered things that are required for human flourishing which included basic human values, health and safety, well-being, self-integration etc. Doyal and Gough (1991) suggested physical security, political participation, civil and political rights, protective housing, economic security are the important parameters for good living.

Several studies during 2000s showed that poverty is the condition in which people are exposed to number of disadvantages like poor sanitation, illiteracy, unemployment, poor health facilities, violence, humiliations, social exclusion along with low income. During the period late 90s and 2000s shortly before the Millennium Development Goals, World bank has conducted a significant study named "Voices of Poor" which aimed to capture the experiences and understand poverty from the perspective of poor people. The study showed that definition or views on poverty differs from person to person and therefore

delineating it with multidimensional perspective. The study put forth that poverty consists of overlapping deprivations and it's not confined only to lack of food. It leads to, powerlessness, voice lessness dependency etc. these poor people have less access to basic infrastructure facilities like roads, transport, safe drinking water. At many places gender discrimination is also reflected based on poor gender relations.

Millennium development goals of 2001 stated that "all the issues of poverty are interconnected and demand cross cutting solutions". Therefore, acceleration in one perspective could lead to growth in other dimensions and due the multiplier effects all goals can be achieved simultaneously. It was MDGs which stated that poverty cannot be confined to income. A poor suffers from malnutrition and poor health too and they have less access to safe drinking water and proper sanitation facilities. Thus, MDGs put forth the picture of poverty as multidimensional and suggested concrete policy decisions to be taken up for its reduction.

Sen (1999) argued that poverty must be seen as a deprivation of basic capabilities rather than merely lowness of income. The real poverty can be assessed through capability deprivations. In his book 'Development as Freedom', Sen put forth that it is dangerous to see poverty in narrow terms of income deprivation. He said investment in education, health care, nutrition, sanitation are the good means to the end to reduce income poverty. The improvement in human capabilities can help directly or indirectly in enriching human lives and making human deprivations rarer and less acute.

NORMATIVE ARGUMENTS

Under the normative arguments, it was considered that poverty study has to be conducted in the ethical manner so as to improve the conditions of people who are living in poverty as it multifaced in nature. Many studies are related to it like *Voices of Poor* (1999) by Deepa Narayan, *Capability Approach* (1993) by Sen, access to social rights (CONEVAL 2009), livelihoods (Bowley and Burnett-Hurst 1915) to social inclusion (Atkinson and Marlier 2010), *Buen Vivir* (Hidalgo-Capitán et al. 2014) to social protection (Barrientos 2010 and 2013) to capabilities (Sen 1993; Wolff and De-Shalit 2007), among others. All these studies tried to put forth that poverty is multidimensional in nature not unidimensional. Therefore, Poverty evaluation needs all kinds of concepts related to wellbeing. To evaluate these normative arguments some of the studies are mentioned below.

Voices of poor (1999) was the work of World Bank conducted on poverty based on Participatory Poverty Assessment. Under it the report was being prepared based on the studies conducted in 1990s in around 47 countries across the world in which main focus was how poor themselves defined poverty. It was found that poverty consists of many interlocked dimensions which included lack of access to basic infrastructure,

psychological dimensions such as powerlessness, voice lessness, humiliation, lack of education and social exclusion. These perspectives were common in almost all the countries in which poverty existed. This study concluded that poverty is multidimensional social phenomenon which varies in accordance to gender, age, culture and social and economic aspects. Poverty is not due to one deprivation but consists of many interlocking factors which results in its multidimensional nature.

Another body National Council for the Evaluation of Social Development Policy (CONEVAL) is a public agency which evaluates social policies and programmes in Mexico estimated multidimensional poverty based on social rights and economic wellbeing by formulating social deprivation index.

Sen (2006) in his book *Development as Freedom: An Indian Perspective* classified freedom into five categories namely, economic empowerment, political freedoms, social opportunities, security and transparency. All these categories are interlinked with each other and is a prerequisite for wellbeing of humans. These freedoms are the part of Sen's Capability approach, as if these are provided to an individual then lots of opportunities would be available to him to attain a good life. Freedom thus means developing one's own capabilities and also achieving them at desired level.

The social inclusion study conducted by (Atkinson and Marlier 2010), presented that social inclusion is must to combat poverty which means full participation of individuals in the society in terms of economic, political and social rights. This study focussed on the fact that lack of economic resources leads to social exclusion. However, social inclusion aims at creating "society for all". This study was conducted with a view to provide follow-up actions in order to promote practical strategies for social integration.

EMPIRICAL STUDIES

RUGGERI LADERCHI (1997) conducted the study using Chilean data from 1992 in order to analyse the dimension of poverty apart from income centric approach. The study was on role of income and its impact on indicators of wellbeing. However, the interconnection between income and other indicators of wellbeing found to be weak. This study suggested that poverty estimation is conditional in nature which depends on chosen indicators, therefore the need is to capture a broad approach for overall assessment of poverty. This study has been based CASEN 1992, a big household survey which is conducted in Chile every two years. This household survey included information about income and other indicators like child undernutrition, morbidity, school indicators etc. However, in this study these indicators were chosen as key functioning. It was found that income failed to prove itself the good proxy of other wellbeing as the relationship between the two is highly non-linear.

Nolan and Whelan (2011) a study on multiple deprivations in Europe emphasise on the fact that identification of the poor based on multidimensional poverty would help to understand and address the causes of poverty. In this regard they quoted few reasons to consider non-monetary indicators along with monetary one. They are Meaning, identification and Multidimensionality. They argued that non-monetary indicators usually put forth the clear picture of poverty bringing out concretely and graphically what it means to be poor. Secondly, when it comes to identification, income poverty fails to identify those who have lack of resources. On the other and non-monetary tools are more justified for identification. Third the multidimensionality of poverty can be measured by using multiple indicators or deprivations in the life of an individual. Therefore, notably in Europe, combined three indicators i.e. relative income poverty, material deprivation and household joblessness has been adapted to identify poor and who are at the risk of social exclusion in order to reduce poverty by 2020.

Laderchi, Caterina & Saith, Ruhi & Stewart, Frances. (2003) did the empirical work in Peru and India on poverty and found that half of the population identified as capable poor was not the part of monetary poverty and vice versa. In order to prove this, they considered four approaches of defining poverty based on monetary, capability, social exclusion and participatory approach. On the basis these approaches, it was found that in India and Peru that people were identified as poor in these two countries differently in each category. In India, 43% of children and over half adults of adults who were capability poor, using education or health as the indicator were not in monetary poverty; and similarly, over half the nutrition poor children were not in monetary poverty. In Peru, around a third of children and adults who were education-capability poor were not monetary-poor; while one fifth of children and over half adults who were capability poor (health/nutrition) but not monetary poor.

Bradshaw and Finch (2003) considered three different measures to assess poverty on same sample of people based on lack of social necessities, being subjectively poor and being relatively poor in Britain by considering the data from European Community Household Panel. In the empirical study it was found that between 17 and 20 percent poor are in each dimension, however only 5.7 percent of poor exists in all three dimensions together. Therefore, considering only one dimension to measure poverty would not provide clear picture.

Whelan, Layte, and Maitre (2004) conducted a study across nine European nations based on European Community Household Panel Data in order to bring out comparison between persistent income poor and materially deprived people in the population. It was found that roughly 20% of the people were persistently poor and only 9.7% were poor in accordance to both the measures. Therefore, empirical studies showed large number of mismatches between income poverty and deprivations. This

ultimately led to the development of new approach towards the estimation of poverty across the world.

According to the Global MPI report 2014 a study was conducted in which data from Indian Economy was considered to check how non-monetary dimensions leads to poverty. In this regard girl's education or mal nutrition was considered as general-purpose measure. From National Family Survey 2005-06 of India showed that around 18% of population live in the household where no member has completed five years of schooling and in 21% of population has not attended the school up to the age at which he or she could have completed class 10th education. But cross tabulation showed that only 7.4% of households experience both the deprivations whereas 13.6% and 10.6% were deprived in one indicator not the other. This kind of mismatch in poverty data was reported across 75 countries of the world, which led to the inclusion of non-monetary parameters in calculation of global MPI.

An empirical study was conducted by Dreze and Sen (2013), an uncertain glory which aimed to compare India's advances in growth and social indicators between 1990-2011 with those of neighbouring economies like Bangladesh and Nepal. It was found in the study that India's per capita GDP growth was much higher than that of countries like Bangladesh and Nepal between 1990-2011 but Bangladesh was much ahead in qualitative social indicators as compared to India. It means India became richer in 1990s but its performance in Non-monetary indicators was slower as compared to neighbouring economies. Thus, this study proved that there is no strong relationship between income growth and non-monetary indicators to assess quality of life.

According to National Statistics Bureau, Royal Government of Bhutan 2014 which assessed Bhutan Living Standards Survey Dataset of 2012 was the first assessment on poverty done by World Bank and Government of Bhutan together. It was found that, about 12% of the population was income poor and 12.7% of population were multidimensionally poor, however only 3.2 % of the population experienced both income and multidimensional poverty. This huge mismatch between the two measures illustrates the importance of two measures i.e. both monetary and non-monetary one.

POLICY PERSPECTIVES

The final stage of Multidimensional approach is having a concrete policy measures based on normative arguments and empirical studies so that lives of poor could be poverty free. It recommends that all measures should be analyzed with effective tools and determination so that strategic action could take place while implementing them. The main aims of policy making is to focus on the identification of overall patters of Deprivations, to compare poverty in subnational groups, to analyze trends of poverty across states, to assess changes in particular indicator

and last but not least to evaluate the impact of poverty eradication programmes on multiple outcomes.

THE GLOBAL MULTIDIMENSIONAL POVERTY INDEX

All these motivations ultimately resulted in the development of the Global Multidimensional Poverty Index (MPI) in 2010 by OPHI and UNDP which included three dimensions based on health, education, and standard of living. These three dimensions had multiple indicators to determine the incidence and intensity of poverty worldwide. This index replaced the globally acceptable Human Poverty Index and since 2010, MPI is used to measure acute poverty across over 112 countries around the world and 1,359 subnational regions. This index has become part of the Human Development Report of UNDP to measure an individual's or household's quality of life across the globe.

One of the key aspects of evolving this index was to meet the challenges of the Sustainable Development Goals adopted by United Nations member states in 2015 which they are intended to achieve collectively by the year 2030. The observation of the Multidimensional Poverty Index shows that it has included all the key concerns of the Sustainable Development Goals for the betterment of life and happy living.

The monetary-centric approach to estimate poverty continued from 1997 till 2000. However, the year 2010 led to the development of MPI, which was an improvement over the HPI, as it is considered to be a unique tool for identifying the people who experience overlapping deprivations at the same time. The multidimensional Poverty Index is a blueprint for growth, prosperity, happiness, and development of the people at the global level which could be achieved by countries whether developed or developing through global partnership. As such, there are 17 Sustainable Development Goals that recognize eradicating poverty and all kinds of deprivations with the strategies for the improvement in health and well-being, quality education, creative and technical learning opportunities, reduction in inequality, zero hunger and food security, clean water, and sanitation and many others. The main goal is to spur economic growth and development by improving the living conditions of all humans at the global level and thus, working towards creating a happy and healthy planet by 2030.

Global MPI is based on three non-monetary dimensions including health, education and living standard along with 10 indicators like nutrition, child mortality, years of schooling, attendance further under standard of living it included cooking fuel, sanitation, drinking water, electricity, housing and assets. If an individual or household is deprived in 1/3 of these indicators, he is considered to be as multidimensional poor.

The global MPI was computed based on the four international household surveys of key concerns which included, the Demographic and Health Survey (DHS), the Multiple Indicator Cluster Survey (MICS), the Living Standard Measurement Survey (LSMS), and the Core Welfare Indicators Questionnaire (CWIQ). These surveys have been conducted to gather wide-ranging data on various economic and health indicators of the households which included education, living standards, a household with electricity, cooking gases, drinking water, cleanliness and sanitation, assets, primary education, and child mortality.

It is thus an analytical tool to generate a comprehensive data analysis of people living in poverty and to identify the poorest of all for adequate reforms through policy measures of the government. It does a comparative analysis between the nations, within the economies, the states and regions urban or rural, etc. Therefore, MPI helps in understanding the patterns of poverty at the bottom level. It enables policymakers to use the resources and design policies effectively and efficiently to benefit every individual. It aims to implement the 2030 Agenda of UNDP with the commitment to put the pledge “to leave no one behind”.

With the changing view towards poverty, MPI can assess who is poor and also how they are poor because an individual experiences number of deprivations at the same time. Therefore, MPI can help in targeting poorest communities and could lead to impactful multisectoral interventions in policy making. Global MPI is the tool which focussed on the fact lack of many services related to schooling, health, sanitation, waste disposal etc can affect adversely quality of life of any individual though monetary resources are above the poverty line. As a result, it has become an internationally recognised approach to counter poverty at global level.

The Measurement of Global MPI involves two crucial steps: 1) identifying who is poor, and 2) aggregation that is to identify intensity of Poverty based on number of deprivations. In order to undertake these crucial steps counting approach has been adopted by various countries at large. Under it as mentioned above dimensions are examined and for each dimension number of indicators are included to assess the level of deprivation. A person or individual below the threshold level is considered to be deprived in that indicator. For example, value 1 is assigned if an individual is deprived in an indicator and 0 for non-deprivation. Each indicator is weighted equally or differently based on its number in each dimension. Ultimately poverty cut off is defined and if an individual exceeds the poverty cut then he is considered to be multidimensional poor and vice versa. Aggregating the values of all individual represents the picture of multidimensional poverty of particular region, state or country.

In this regard in order to identify the poor and its aggregation, Alkire and Foster approach has been used across the globe which includes number of multidimensional poverty measures and has been termed as “the MPI Approach”. This Approach includes number of steps like first assigning cut off for each deprivation and second cut off at the aggregation stage to evaluate whether a person is multidimensional poor or not. Based on the Headcount Ratio(H) as well as intensity of the poverty (A), the multidimensional poverty is calculated $M = H \times A$.

CONCLUDING REMARKS

Thus, it can be concluded with no denying fact that the Multidimensional poverty index is a multifaceted analytical tool to measure poverty and its depth. It is highly dynamic as it provides a holistic approach towards key deprivations of poverty and aims to target each one of them for the better future of mankind. A close study of MPI can help the government and policymakers to identify the poorest of all and judge what all kinds of overlapping deprivations are prevalent in them. Such kind of information and data analysis is important for resource allocation effectively and efficiently. MPI is considered to be important to understand poverty traps and shows the intensity and depth of poverty including inequalities in society.

The basic advantage of using this index is that it is highly flexible and different countries can use it under different dimensions, key indicators, cutoff, weights, etc as per the need of their economy. As we could see that in India as a part of Alkire Foster methodology instead of 10 key indicators our MPI baseline report (2021) has used 12 indicators. Similarly, Bhutan has used the methodology of MPI to calculate the ‘Gross Happiness Index’ and Mexico used it to create their new national poverty measure. At the global and national level, it has been considered that estimation of poverty on an MPI basis could help in formulating more targeted programs towards poverty eradication and raising the capital needed to solve all the issues at the grass-root level.

India has launched its first MPI baseline report in December 2021, to rigorously initiate the policy action at the district level with the adequate allocation of funds in 640 districts state-wise. Another country Malawi in East Africa aims to update its MPI data of 2019-20 to lift people out of poverty. However, Sri Lanka in its MPI is the first country to focus on child poverty based on individual deprivation profiles of the children.

Therefore, as a unique and wonderful tool, countries across the world are not using it only as a measure to estimate poverty but as a tool for planning and effective policy implementation. Thus, it can be concluded that Multidimensional Poverty Index is a splendid approach towards the estimation of poverty which not only identifies the poverty-driven population along

with the intensity of deprivation but is considered as an effective tool for policy formulation and resource allocation towards in the developing economies.

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