

## REVISION IN THE METHODOLOGY OF POVERTY ESTIMATION IN INDIA AND VULNERABILITY TO POVERTY

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### **ABSTRACT**

*Successive changes in the methodology for estimating poverty helps to understand changing how minimum required standard of living itself has changed decisively. Hence, it is understood that the consumption of a specified basket of goods and services cannot be fixed to measure poverty. The reports of successive committees constituted to review such methodology over the time confirms this fact. Besides this, there is another situation which might be considered as harmful as poverty itself. It is vulnerability to poverty. It is threat multiplier of poverty. Due to factors not in control, people may slip under poverty. These external factors constitute 'state of the world'. These aspects of poverty have been discussed in this article. It is concluded that the vulnerability to poverty is the resultant of mismatch between what an individual or household is capable of and how the present state of the world is.*

**KEYWORDS:** *Poverty*

### **INTRODUCTION**

Recent changes in economic situations have necessitated changes in the methodology of estimating the size and intensity of poverty in India. The change in methodology of estimating poverty has its effect on poverty estimations, that is, finding the number of people in poverty. However, to gauge the intensity of poverty, the dimensions, or factors, taken into consideration to measure the standard of living of a person or a household plays an important role in. The poverty estimations give number of people being poor. But, the size and depth of deprivation is found through the dimensions used in the estimation of poverty. In India, the changes in the methodology of poverty estimation have mainly concerned with horizontal perspective. This signifies that the change in methodology never meant to identify benchmark measurement which is dynamic to detect vulnerability to poverty. The estimation of poverty in India has always concerned with the quantity of food measured by calorie intake. However, the measurement of calorie intake was represented by proxy in terms of per capita per day consumption expenditure. That is to say, the minimum consumption expenditure required to maintain a given amount of calorie after adjusting for inflation. Only recently, Tendulkar Expert Group in the year 2009 and Rangarajan Committee in the year 2014 incorporated expenditure on health and education in re-defining poverty line. This is the modest attempt made in India to estimate poverty. However, the question that arises is, does this reflect the intensity and, thus, the vulnerability to poverty? What is the challenge India would face to alleviate poverty?

Hence, the objective of the present paper is to bring forth an understanding about what it means by intensity and vulnerability to poverty and to identify variables necessitating catch up with changing dimensions of poverty estimation that present as a challenge to India in its efforts to alleviate poverty.

## INTENSITY AND VULNERABILITY TO POVERTY

Measurement of poverty in terms of prescribed calorie intake does not reflect the conditions required to sustain intake of a given amount of food to maintain such prescribed levels of calorie intake. The frequency of recurrence of situation and the condition that lead to such situation where a person or a household fails to maintain required calorie intake defines intensity of poverty. In India, the methodology to collect data on per capita per day consumption expenditure is based on recall period of 30 days of consumption expenditure (More, 2014). This may reveal the backward chaining of events for such poor conditions, which may be represented as follows in the form of a causal hypothesis:

***“A poor is poor because the calorie intake is less, which is because there is less income, which is because of lack of employment, which is because there is lack of capability to exploit employment opportunities.”***

It is the quality of bond in this chaining which makes a person or a household protected from or vulnerable to poverty. High probability of relapsing into poverty because of even minimal degeneration or break-up in the chain of events may be regarded as vulnerability to poverty. This approach to vulnerability to poverty has also been given by welfarist approach (Fujii, 2016) as follows:

$$vi = ui(z) - E[ui(ci(w))] \dots (1)$$

Where,  $vi$  is vulnerability of a person or household,  $ui$  is utility function of that individual or household,  $z$  is required minimum consumption expenditure,  $E$  is functional operator,  $ci$  is consumption expenditure per capita,  $w$  is the state of the world. The equation (1) states that if a person's expected consumption is below than what is required as minimum, then a person or a household is vulnerable to poverty. The inclusion of the state of the world ( $w$ ) an external factor determining vulnerability. This assumes significance in the context that majority of the people do not have control over such external factor. They are just swayed by it.

The removal of conditions leading to this kind of vulnerability may be thought to alleviate poverty. However, is only this limit of alleviation enough to raise standards of living of a person or household? This question becomes relevant when we look that deprivation of consumption of certain goods and services constitute a condition because of which poverty remains in existence in one or the other form (Muellbauer, 1974). For this purpose, it is essential to make a basket of such goods and services consumption of which constitutes minimum necessary for a given standard of living (Jenkins, 1995). In terms of money, this basket of goods and services can be measured based on current prices.

For this purpose, the successive committees constituted for estimating poverty in India have from time to time not only based estimation of poverty-line in terms of calorie-intake but also ensured that the same is reflected in terms of money. This can be confirmed by the following table which gives various methods and measurable indicators to define poverty line in India. The table represents a summary of methodology and measurable indicators of poverty given by various groups/committees in India and as well as given by United Nations Organisation.

**Table 1: Committees & Revision in the Methodology and Measurable Indicators of Poverty**

Sl. No.	Name of the Poverty Measurement Group/Committee	Revisions in Methodology	Measurable indicators
1	Working Group (1962)	Per-capita consumption expenditure required for diet of prescribed minimum calories.	Per capital consumption expenditure on food and non-food articles for healthy living.
2	V.M. Dandekar and N Rath (1972)	Minimum calorie norms: 2,250 calories per capital per day in rural and urban areas	Rs. 15 per capital per month in rural areas and Rs. 22.5 per capital per month in urban areas.
3	Task Force on "Projections of Minimum Needs and Effective Consumption Demand" headed by Dr. Y. K. Alagh (1979)	Minimum calorie norms: 2,500 calories per capital per day in rural areas and 2,100 calories in urban areas	Rs. 49.09 per capital per month in rural areas and Rs. 55.64 per capital per month in urban areas.
4	Lakdawala Expert Group (1993)	Minimum nutritional requirements as suggested by Dr. Y.K. Alagh Task Force	Poverty line based on Consumer Price Index for Agricultural Labourers and Consumer Price Index for Industrial Labourers
5	Tendulkar Expert Group (2009)	Calorie intake and incorporation of private health expenditure on health and education.	Nutritional outcomes. Consumption expenditure per person per day of Rs. 26 for rural areas and Rs. 36 for urban areas.
6	Rangrajan Committee (2014)	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.	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.
7	Oxford Poverty & Human Development Initiative (OPHI) and the United Nations Development Programme, 2010.	Multi-Dimensional Poverty Index	1. Nutrition 2. Child-mortality 3. Years of schooling 4. School attendance 5. Cooking fuel 6. Sanitation 7. Drinking water 8. Electricity 9. Housing 10. Assets

A perusal of the Table-1 reveals that the scope of basic needs expands with changing times. The factors included in the methodology to estimate poverty have progressively included consideration given to money measure of calorie-intake, per-capita expenditure on health and expenditure, clothing and transportation and ending with multi-dimensional index of poverty. The revisions in the methodology acknowledges efforts undertaken world-wide to identify new factors responsible for intensity of poverty (Gallardo,

The successive revisions in the poverty estimations given above show progressive nature of methodology. This asserts the fact that poverty, though it is significant from the economic and social point of view, it is relative and its estimation changes from time to time. The factors included in successive changes in the methodology of estimation also determines the capabilities of individuals as advocated by Amartya Sen (1993). Apparently, it can be deduced that the level or quality of such capabilities determine the degree of vulnerability to poverty. Another important aspect in the methodology of estimation is the introduction of the calorie-intake difference and corresponding money measure of it between rural and urban areas. For more on this the reader is suggested to refer an article written by Nilakantha Rath (1996).

## VULNERABILITY TO POVERTY

The equation (1) can be expanded further by explicit inclusion of variables introduced in the successive revisions in the methodology of poverty estimations in India.

$$v_i = u_i (K_i + E_i + H_i + C_i + S_i + T_i) - E [u_i(c_i(w))] \dots (2)$$

Equation (2) shows consumption expenditure on required calorie intake ( $K$ ), education ( $E$ ), health ( $H$ ), clothing ( $C$ ), housing ( $S$ ), and transportation ( $T$ ). The latter part of the equation (2) in square brackets shows the dynamic nature of state of the world. Utilities derived from consumption in the dynamic state of the world do not remain static. The state of the world changes with various dimensions of production namely, its function, possibility, and distribution.

The equation (2) gives an expressive inclusion of minimum consumption of goods and services required for a decent standard of living which may be considered as benchmark to define poverty line. There is a need to explain state of the world ( $w$ ) further. It is appropriate to recall Engel's Law to explain state of the world. The Engel's Law states that "as the income increase expenditure on food decreases". This Law has spillover effect. That is, with decreasing share of expenditure on food in the increasing income, expenditure and demand for non-food goods increases. Consequently, allocation of resources shifts towards the production of non-food goods. Employment in non-food sector increase and labour starts migrating to it from food sector. Apparently, there will be a gap between income in food and non-food sectors. Correspondingly, the basket of goods and services required for a decent standard of living also changes. Few more goods and services are added only this time non-food goods find place in it. In all this an important thing to underline is that not all non-food goods are luxury goods. For example, with crucial importance of digitized information, possession of cell-phone and internet connectivity have become a necessity. Hence, they play an important role in enhancing welfare of a family/individual. Things like this make state of the world dynamic ( $w$ ). In direct proportion to this vulnerability to poverty changes and as also methodology of estimating poverty.

Now there must be a way to understand the state of the world ( $w$ ). There are two ways to understand it. One, subject and the second it objective. Subjectively, it can be understood with the help of three indices which are under practice presently, viz., index of 1) consumer sentiments, 2) consumer expectations and 3) current economic situation. These three indices together give firsthand information about the state of the world. The consumers' sentiments and expectations reveal how they view state of the world given their income and financial strength (Gonzalez & Bautista, 2013). Objectively, the state of the world ( $w$ ) can be measured by current minimum standard of living required for decent living according to current basket of goods based on current level of prices. It can be deduced that, the vulnerability to poverty is directly and proportionately the function of state of the world ( $w$ ). For example, if the rate of unemployment increases in the present state of the world, then income earning opportunities for so many wage earners will be reduced. In this scenario, both subjective and objective measures of state of the world will have negative impact on the people. As a result of this, among the people those who came out of poverty will face the threat of falling back to poverty. This is a forward looking dimension of poverty and its estimation (Makoka & Kaplan, 2005).

Based on the above analysis, equation (2) can be put in the form of two hypotheses such as: One, *when the utility derived from previous consumption basket of goods is compared to the utility expected to be derived from the current basket of goods if it gives negative result such a change determines the scale and direction of vulnerability to poverty*. And two, *when vulnerability to poverty itself is determined by the ever-changing standards of living for a decent life then it*

becomes transitional and a phase is encountered where economic support is not required from the government and individual capabilities are relied upon as the second- best alternative to achieve desired goals of life.

## CONCLUSION

Successive revision in the methodology of estimating poverty is the affirmation of the fact that poverty cannot be defined by consumption expenditure on a basket of goods and services which is fixed. And required minimum standard of living for a decent life also cannot be defined with rigidity. Hence, it needs to be acknowledged that poverty is not only relative but dimensions of such relativity also keep changing by allowing the inclusion of factors which make present state of the world. Vulnerability to poverty is the resultant of mismatch between what an individual or household is capable of and how the present state of the world changes in terms of consumption of goods and services required for the current standards of decent living. Hence, always there will be a need for the second-best alternative methodology to measure and estimate poverty and vulnerability to it.

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