

# Capability Approach and Multidimensional Poverty Analysis – A Theoretical Discussion

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## Abstract

Capability Approach is very interesting among the researchers, policy makers and political philosophers. It can be used for evaluating several aspects of people's well-being such as inequality, poverty and so on. It is highly interdisciplinary in nature. It can also be used as an alternative tool for social cost-benefit analysis. Thus CA is not a theory that can only explain poverty, inequality or well-being, rather it provides a tool and a framework within which to conceptualize and estimate these phenomena. The capabilities are the freedom that a person enjoys in terms of functioning. A person is multidimensional poor if he/she has failed to attain the threshold limit of functioning. The CA gives a philosophical and theoretical platform for measuring poverty or deprivation in a multidimensional space. Our paper concentrates much on this.

**Keywords:** Capability, Ends, Functionings, Poverty, Means, Multidimensional, Well-being.

## 1. Introduction

There is now an explosion of interest in the Capability Approach (CA) among the researchers and policy makers. The highly interdisciplinary nature of the CA has led to a literature that is the centre of all attraction. The CA is a broad normative framework for the assessment of individual well-being and social arrangements, the design of policies and proposals about social change in society. It is used in several fields, mostly in development studies, welfare economics, social policy and political philosophy. It can be used for evaluating several aspects of people's well-being such as inequality, poverty and so on. It can also be used as an alternative tool for social cost-benefit analysis. Thus CA is not a theory that can only explain poverty, inequality or well-being, rather it provides a tool and a framework within which to conceptualize and estimate these phenomena.

The central characteristic of the CA is its focus on what people are effectively able to do and to be; on their capabilities. This is dissimilar to the philosophical approach that concentrates on people's happiness or desire fulfillment on income, expenditures or consumption. Sen (1979, 1980, 1984, 1985, 1987, 1990, 1992, 1993, and 1995) argues that our evaluation and policies should focus on what people are able to do and be, on the quality of their life, and on removing obstacles in their lives so that they have more freedom to live the kind of life that, upon reflection, they have reason to value.

There are mainly two important aspects in CA, one is the 'means' and the other is the 'ends' of well-being and development. 'Means' are instrumental to reach the goal of increased well-being, justice and development, while 'ends' have intrinsic importance. In some concrete situations these distinctions often blur, since some ends are simultaneously also means on other ends. For example, capability of being in good health is an end in itself, but it is also a means to the capability to work. The ends of well-being and development should be conceptualized in terms of people's capabilities to function, that is, their effective opportunities to undertake the actions and activities that they want to engage in and be whom they want to

be. This being and doing is referred by Sen as functioning, which makes life valuable. In CA 'functioning', means working, resting, being literate, taking part in democracy etc.

Capabilities and achieved 'functionings' are two different things. Capabilities are the freedom or valuable opportunities to lead the kind of lives they want to lead, to do what they want to do and be a person what they want to be. Once they effectively have these substantive opportunities, they can choose those options that they value most. Once these choices are met, it becomes achieved functionings. That is to say that, every person should have the opportunity to practice a religion, but if someone prefers to be an atheist, they should also have this option.

## **2. Capability Approach and Multidimensional Poverty**

### *2.1 Capability approach (CA)*

The CA is mainly and primarily a framework of thought. It is a mode of thinking about some normative issues which can be used for a wide range of evaluative purposes. It focuses on the information that we need in order to make judgments about individual well-beings, social policies etc. and it consequently rejects the alternatives that are normatively inadequate. The CA also identifies social constraints that influence and restrict both well-being and evaluative exercises.

The CA specifies an evaluative space and this does not amount to a *Theory of Justice* (Sen, 1995, 2004a). Sen argues or rather stresses that a *Theory of Justice* must include both aggregative considerations as well as distributive ones, but the CA does not specify an aggregative principle. Moreover, a *Theory of Justice* also requires procedural components, like non-discrimination, which CA is not designed off. CA criticizes, welfarist approaches as they exclusively rely on utility and thus exclude non-utility information from our moral judgment (Sen, 1979). It also discourages normative theories, for ex. Ronald Dworkin (1981, 2000), as they rely exclusively on mental state. Sen argues that mental state is not unimportant but exclusive dependence in it is not worthy.

The CA is sometimes understood as a formula for interpersonal comparisons of welfare. This approach may provide a neat recipe or even an algorithm to carry out empirical exercises in welfare comparisons. For this we need to look into several elements of the approach.

### *2.2 Means and functioning*

Means are goods and services (not necessary be thought of as exchangeable for money), while functionings are being and doing. A good has certain characteristics that makes it important to people, such as, a motor bike is not important because of its physical appearance rather it is useful because it can transport anyone much faster than walking. This trait of good enable a functioning (here mobility). The relation between good and the functionings to achieve certain beings and doings is influenced by three types of conversion factors:

- i) *Personal conversion factor*: metabolism, physical condition, sex, reading skills etc. influence how a person can convert the features of a commodity to functioning. In our example; a handicap or physically challenged person generally will not find it easy in functioning of mobility by motor bike.
- ii) *Social conversion factor*: public policies, discriminating practices, gender roles etc. for example, if girls are prohibited to drive motor bike then they cannot attain functioning of mobility. and
- iii) *Environmental conversion factor*: climate, geographical location etc. that is, people may not find interest in driving motor bike in rain and thunder.

These three conversion factors play an important role in conversion from characteristics of the good to individual functioning. Knowing that a person owns a good and can use it is not sufficient to know which functioning is achieved. So we need to look about the person and into the circumstances in which he/she is living. Hence the CA takes into account the human diversity in two ways:

- i) *By its focus on the plurality of functionings and capabilities as the evaluative space.*

ii) *By the explicit focus on personal and socio-environmental conversion factors of commodities into functionings.*

Goods and services are not the only means to people's capabilities, there are other means like social institutions which function like an input in the creation and expansion of capabilities. Thus the material and non-material circumstances that shape people's opportunity sets, and the circumstance that influences the choices that people make from the capability set, should receive the central place in capability evaluations. Moreover it should be clear that we have tended to judge development by the expansion of substantive human freedom, not just by economic growth (i.e. GNP), or technical progress, or social modernization. This is not to deny in any way that advances in the latter fields can be very important (depending on circumstances) as instruments for the enhancement of human freedom. But they have to be appraised in that light, that is in terms of their actual effectiveness in enriching the lives and liberties of the people, rather than taking them to be valuable in themselves (Dre`ze and Sen, 2002).

### 2.3 *Achieved Functioning and Capabilities*

In Sen's earlier work the term 'capability' was conceptualized as each capability for each person and vice-versa. In this terminology a capability is synonymous with a capability set, which consists of a combination of potential functionings. Thus functionings could be either potential or achieved. A person's capability is equivalent to a person's opportunity set. The capability set consists of a number of capabilities in the same way as a person's overall freedom is made up by a number of 'more specific freedoms'.

The use of capabilities as plural of capability is continuously used in the literature of CA. In Sen's work, basic capabilities are a subset of all capabilities taken together; they refer to the freedom to do some basic things that are necessary for survival and to avoid poverty. The relevance of basic capabilities "not so much in ranking living standards, but is deciding on a cut-off point for the purpose of assessing poverty and deprivation" (Sen, 1987).

A few things need to be said about the use of functionings and capabilities in the evaluative exercises and policy design.

i) It should be noted that there are cases and situations where it makes more sense to investigate people achieved functionings directly, instead of evaluating their capabilities. While considering capability of 'bodily integrity', we will not be concerned with a stuntman, who deliberately puts his body at danger of being hurt. But as far as domestic violence is concerned, we can use the very plausible assumption that no one wants to be beaten up by another person in the household. If a person's achieved functioning of bodily integrity is harmed by domestic violence, then this is an unequivocal or unambiguous sign that the victim did not have the capability of being safe from bodily harm in the first place.

Other areas where it makes more sense to focus on the achieved level of functionings directly instead of on capabilities (i.e. being well nourished in the country filled by hunger and famines. So, in these situations it might be better to focus on functionings rather than capabilities, but we can conceptualize 'being able to choose' as one functioning among others (Stewart, 1995).

ii) In reality two people with identical capability sets are likely to end up with different types and levels of achieved functionings as they make different choices following their different ideas of the life.

The CA being a liberal philosophical framework respects people's different ideas of the good life. This is why in principle capability instead of achieved functioning's the appropriate political goal. In reality our ideas of the good life are profoundly by our family, tribal, religious, community or cultural ties and background. That is why there are very few men and women in Indian family who want to live gay. If anyone calls it a choice then it is very constraint choice. Not necessarily these constraints always have to be negative or unjust. On the contrary some may find them very enabling and supporting. These constraints are much intermingled with a person's own history and personality, so these cannot be generalized.

Now in relation to the above example ( of living gay) it is important to question, to what extent people have genuinely access to all the capabilities in there capability set, and whether or not they are punished by members of the family or community for making such choices of the kind of life they value.

### *2.3 Well-being and agency goals*

Most often concept of well-being are narrowed to the standard of living which is very personal i.e. well-being related to one's own life. If we add the outcomes resulting from sympathies like helping another person then we are measuring well-being. But when well-being is supplemented with commitments like some actions not beneficial to the agent then we are focusing on overall agency (Sen, 1987). These concepts are specific either to achieved outcomes (independent of whether they opt to achieve or not). Since standard of living primarily focuses on achievement levels so the terms like achievements, freedoms, agency and well-being are to be understood from the following example.

Suppose two brothers X and Y live in a village in West Bengal (India) and have the same achieved well-being levels. Both believe that corruption is deafening democracy, and the government should bring a strong **LOKPAL Bill** and curb corruption from the system. X decided to travel to **Ram Lila Maidan** (New Delhi) to join Anna Hazare and demonstrate in favour of strong **LOKPAL**, while Y chooses to stay home. At that moment X is using his agency freedom to voice some of his political concerns. However, Delhi Police do not like the agitation of the protestors, and violate their civil and political rights by beating them up in prison. Alike other protestors X was also beaten and thrown to prison. Now X's achieved well-being has obviously been lowered considerably. X is offered to sign a piece of paper declaring that he committed violence (which will bring him a criminal record). If he does not sign, he will be kept in prison for a further unspecified time. At that time X has a highly constraint option to trade off his agency freedom for higher achieved well-being. Y had the same agency freedom to voice his concerns and protest against either the government or the way the Delhi Police abuse their power, but chose not to do so. He is much concerned about the hollowing of democracy and Human Rights violations but doesn't want to sacrifice his achieved well-being for these agency goals. This example shows that that the distinction Sen makes are important, because while evaluating an exercise one has to ask whether the relevant dimension of advantage is the standard of living or achieved well-being or agency achievement or well-being freedom or agency freedom.

The central claim of the CA is that the informational base of judgment must relate to the space of functionings and/or capabilities, depending on the issue at hand (Robeyns, 2005). Sen argued that well-being achievements should be measured in functionings, where as well-being freedom is reflected by a person's Capability Set. A focus on agency will always transcend an analysis in terms of functionings and capabilities and will take agency goals into account.

### **3. Multidimensional Poverty Analysis**

In an important contribution, Sen (1976) viewed that the poverty measurement problem has two steps: (i) the identification of the poor and (ii) aggregation of the characteristics of the poor into an overall indicator. The first problem is mostly solved by the income (or consumption) method, which requires the specification of a subsistence income level, referred to as poverty line. That is a person is said to be poor if his/her income falls below the poverty line. On the aggregation issue Sen (1976) criticized two crude poverty measures the Head Count Ratio (proportion of person below the poverty line) and the Income Gap Ratio (the gap between the poverty line and average income of the poor, expressed as a proportion of the poverty line), as they are insensitive to the redistribution of income among the poor. The former also remain unaltered if the position of a poor worsens.

The well-being of a population or its poverty (which is insufficient well-being) depends both on monetary and non-monetary variables. Income as the sole indicator of well-being is inappropriate, as higher income or consumption cannot always improve the position of person's monetary or non-monetary attributes and markets for some non-monetary attributes do not exist. So income should be supplemented by other attributes like education, life expectancy, housing etc. The need for such a multidimensional approach to the measurement of inequality in well-being was already emphasized by Kolm (1977), Atkinson and Bourguignon (1982), Maasoumi (1986) and Tsui (1995).

The basic need approach advocated by development economists regard development as an important in an array of human needs and not just as growth of income (Streeten, 1981). Well-being is intrinsically

multidimensional from the point of view of capabilities and functionings, where functionings deal with what a person can ultimately do and capabilities indicate the freedom that a person enjoys in term of functioning (Sen, 1985, 1992). In the CA functionings re closely approximated by attributes like literacy, life expectancy etc. and not by mere income. An example of multidimensional measure of well-being in terms of functioning achievements is the Human Development Index suggested by UNDP. It aggregates at the country level functioning achievements in terms of the attributes- life expectancy, per-capita real GDP and educational attainment rate.

In our multidimensional framework instead of visualizing poverty or deprivation using income or consumption (as sole indicators of well-being), we go with the term functioning failure, which is shortfalls from the threshold levels of attributes themselves, and then comes to a Poverty Index by aggregating the achieved functioning.

### 3.1 Counting Multidimensional Poverty (Bourguignon & Chakravarty, 2003)

The first question that comes in front is who are poor? That is what should be the way out for identifying the poor. Multidimensional poverty analysis is based on certain mathematical logics, which are stated below.

Let, 'n' be the size of the population and person 'i' possesses an m-row vectors of attributes, such that  $x_i \in \mathbb{R}_+^m$ , where  $\mathbb{R}_+^m$  is the non-negative outhunt of the Euclidian m-space  $\mathbb{R}^m$ .

The vector  $x_i$  is the i-th row of an  $n \times m$  matrix and  $X \in M^n$ , where  $M^n$  is the set of all  $n \times m$  matrices whose entries are non-negative reals.

$X_{ij}$  is the quantity of attribute j enjoyed by person i. j-th column of X gives a distribution of attribute 'j' among 'n' persons.

Let,  $M = \cup_n \mathbb{R}_+^m$ , where N is the set of positive integers. For any  $X \in M$  we write  $n(x)$  or n for the corresponding population size.

The fundamental point is that a multidimensional approach to poverty defines poverty as a shortfall from threshold on each dimension/attribute of an individual's well-being. For calculating the subsistence or threshold level of attribute m,

Let,  $z \in Z$  is a vector of threshold for different attributes (where Z is a subset of  $\mathbb{R}_+^m$ ). Thus the problem is to determine whether a person 'i' is poor or not on the basis of  $x_i$  and vector z.

Person 'i' may be called poor with respect to attribute j if  $x_{ij} < z_j$  or a rich if  $x_{ij} \geq z_j$  for all j.

Thus, a simpler way of defining poverty or counting poor is to explicitly account for the possibility of being poor in any poverty dimensions.

Therefore, possibility being poor  $\Omega(x_i, z) = 1 \forall j = 1, 2, \dots, m$ , when  $x_{ij} < z_j$  or 0 otherwise.

Then the no. of poor is simply given by:  $H = \sum_i \Omega(x_i, z)$ .

## 4. Conclusion

It can be concluded that CA provides a foundation or base for multidimensional poverty analysis. The capabilities are the freedom that a person enjoys in terms of functionings. And functionings are close approximation of functioning's (i.e. life expectancy, education, health etc.) means are the goods and services and ends are of intrinsic importance. As functionings are being and doing, the achieved functionings are realized functionings not the potential. A person is multidimensional poor if he/she has failed to attain the threshold limit of functioning. Thus CA gives a philosophical and theoretical platform for measuring poverty or deprivation (in- sufficient well-being) in multidimensional space.

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