Multi dimensional poverty measure and analysis: a case study of Cholanaikkkan tribal community in Kerala

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Abstract

Multidimensional Poverty Index tries to assess the multidimensional aspects of the poverty especially in the developing countries. The new index used primarily the secondary data and has many difficulties. No study is carried out in India considering all the indicators mentioned in the original MPI based on purely primary data. So there should be a research gap which demands more research works and case studies. If the Multidimensionality of poverty is agreeable then a new index is essential without much limitation and with much applicability. This study focused upon this problem. It took primary data and found out the MPI of the most vulnerable section of Kerala, which is taken as the best example for Human Development and social indicators by researchers and economists in the world.

Key words: MPI, POVERTY, HEALTH, BMI

Introduction

Poverty is a contested concept because it has a value dimension. The debates over poverty are not just about questions of measurement or technical definitions but involve much deeper ethical and value considerations. What is being contested in these debates is the kind of problem that poverty is represented to be. Poverty occurs when someone experiences a fundamental
deprivation. What is however contested refers to the values that occur in defining the fundamentals of which some are deprived. It is in this regard that the contested nature of the concept of poverty should be understood.

All governments in the world now are trying to eliminate poverty because it is a gripping problem. People are in the clutches of poverty cannot be bearable by a country. Almost all developmental activities are hitting back by the effects of poverty. Therefore the governments in the world trying to solve the problem of poverty, but the poverty less society are a myth. Before doing all such matters to tackle poverty, one should understand certain important issues like; what is poverty, its nature, its measurements and present position etc.

Most of the earlier studies on poverty are concerned with the income approach to poverty. Because of the view of a very high correlation between income and well-being later it is diverted to calorie intake or bare subsistence. But that was also not satisfactory; much difference arises in its measurement and difficulty in estimating the calorie intake among different regions, caste and countries. Now it is recognized that poverty has a multidimensional phase which should be analyzed. Therefore much efforts and studies are undertaking in this field.

Tribal communities in general and primitive tribal groups are highly disease prone. Also they do not have required access to basic health facilities. They are most exploited, neglected and highly vulnerable to disease with problems.

In Kerala, poverty is a major problem that mainly causes in the case of Tribal. Tribal in Kerala are the indigenous population found in the southern Indian state of Kerala. Most of the Tribal people of Kerala live in forests, and mountains. They are relatively isolated and autonomous groups. The existence of own culture and medical system is one of the important features of a tribal society. The tribal social culture has its own structural and ethnic specificity and the disease that inflict up on the tribal people who are likewise specific to attribute of their social culture. For the diseases spread among them poverty is a major reason. The diseases spread
among these tribal will differ from one person to another, one place to another, which depends up on the availability of related factors. Studies including health indicators in rural Kerala show that the lowest social caste including the tribes has the highest death rates. The health problems caused by them are the main reason for this death.

In Kerala, the main tribal zones are: Kasargod, Wayanad, Attappadi, Parambikkulam, Idukki and Travancore. Here am taking Nilambur, to study the tribal health issues and their poverty which may leads to their death by using Multidimensional poverty index. Nilambur tribes are located in forest ranges of Nilambur, they are living in caves and are away from the main stream.

Oxford University and Poverty Initiatives estimates multidimensional poverty among 104 developing countries in the world covering 78 percent of world population. Due to some data constraints and other difficulties, the estimation of Multidimensional Poverty Index requires some modifications especially relating to the Standard of Living dimension among the three dimensions of MPI; the others are Health and Education. India, as a developing economy and stood at top among them requires some clarification in the indicators of Multidimensional Poverty Index. No doubts that Scheduled Tribes are the most vulnerable section in the country like India. Therefore the Multidimensional Poverty Index for them is significant for further studies and has policy implications. By taking the case of tribes in Kerala this study try to analyses how far the new index is also applicable to a developed society and the depth and magnitude of tribal poverty in the Amarambalam Panchayat in the State of Kerala.

**Statement of the problem**

Multidimensional Poverty Index tries to assess the multidimensional aspects of the poverty especially in the developing countries. The new index used primarily the secondary data and has many difficulties. No study is carried out in India considering all the indicators mentioned in the original MPI based on purely primary data. So there should be a research gap which demands more research works and case studies. If the Multidimensionality of poverty is agreeable then a
new index is essential without much limitation and with much applicability. This study focused upon this problem. It took primary data and found out the MPI of the most vulnerable section of Kerala, which is taken as the best example for Human Development and social indicators by researchers and economists in the world.

There exists difference in the health status of Tribes in Kerala. The health status of tribal community reflects its ability to combine the cultural and biological endowments effectively with the eco system of which it is a part. The tribal societies were leading a very sagacious and adventurous life in unfavorable environment. Each tribal has its own culture specific health problems though is free from most of the languishing disease of the modern society.

Tribal communities in general and primitive tribal groups in particular are highly disease prone. Also they do not have required access to basic health facilities. They are most exploited, neglected and highly vulnerable to disease with high degree of malnutrition, morbidity and mortality. Their misery is compounded by poverty, illiteracy, ignorance of causes of diseases, poor sanitation, lack of safe drinking water, and blind beliefs etc. The chief causes of high maternal mortality rate are found to be poor nutritional status, low hemoglobin, and unhygienic primitive practices for parturition. The diseases spread among tribal people and the poverty challenges faced by them are a serious problem for their community. Hence this study has made an attempt to understand such issues in a specific tribal area.

The scope of the study

Since poverty is multidimensional in nature various studies and researches are going on this subject. Alkire and Foster find out a new innovative index which is called Multidimensional Poverty Index (MPI) to capture the multidimensionality of poverty. Multidimensional Poverty Index satisfies this to certain extent where three dimensions, Namely; Health, Education and Standard of Living is analyzing There are 10 indicators in it each of which is given same weights among the three dimensions. The indicators are Nutrition, Child Mortality, Child Enrolment, Years of schooling, Electricity, Sanitation, Drinking Water, Floor, Cooking Fuel and Asset Holding. The study will analyses the socio-economic situations of the
The study is related with the Scheduled Tribes in the Amarambalam Panchayat, Kerala, and South India. They are the poorest section in the Kerala state. Kerala is the tops in the human development which is comparable to the developed nation. This study analyses different dimensions suited to Indian situation also.

**Objective of the study**

- To estimate Multidimensional Poverty Index of the Cholanaikkan tribes in the study area.

**Methodological framework and data sources**

One of the important objectives of this study is to find out the Multidimensional Poverty Index for the tribes, who are considered as the most vulnerable sections in the society, therefore the study area is a tribal settled locality called Paattakkaribu in the Amarambalam Panchayat situated in Kerala, South India. Thus the study uses cluster Sampling Technique, scheduled survey and statistical tool used for the study is Multi-Dimensional Poverty Index (MPI).

Data needed for the study are collected through two ways, such as; primary and secondary. The primary sources of the data needed for the study are collected through the field survey and the secondary sources of the data are collected through various Published books, Journals, Articles, economic review, and Websites.

**Profile of the study area.**

Using Scheduled Survey Method the sufficient data related to the topic and indicators of the Multidimensional Poverty Index (MPI) is collected. The data are presented in tables.

Cholanaikkans are inhabitants of the Malappuram District. Cholanaikkans is divided into ten territorial groups, each one having a particular area demarcated by natural boundaries. The territories are known as Karimpuzha, panapuzha, Kuppanmaele, Pucappara, Thalipuzha, Korampuzha, Alakkal, Amblimaele, Olikkatodu and Manjakkadavu. They speak among themselves. It does not have a script. Some of them speak Malayalam. In their dialect, we can
distinguish words from Kannada, Tamil and Malayalam. The forest is the major economic resource for the Cholanaikkan community. Foraging, fishing and hunting are the three major activities. Rice and other commodities are available to them through exchange of minor forest produce at the Girijan Co-operative society. Fishing is seasonal. They are able to fish mostly during summer season only. Forest produce such as dammer, cardamom, ginger, pepper, turmeric, astringent fruit, medicinal roots and barks, oilseeds and honey are collected for barter. According to the 2011 census, their population can be estimated to be 300.

The nilambur valley: the habitat of the Cholanaikkan

The Nilambur Valley is situated in the Ernad taluk of Malappuram District. THE Valley is bounded on the north by the south vayanad taluk of Kozhikode district, on the east by the Nilgiri district of Tamilnadu, on the south by Nilambur village and on the West by the Manjeri tehsil headquarters. The valley is divided in to three forest ranges, viz. the Nilambur Range, Chungathara Range, and Karulai range. The Cholanaikkan inhabit the reserve forests of the Karulai range and chugathara range of the vested forests. The karulai range has a total area of 65333 acers. The range is segmented in to two forest blocks, viz. the Karimpuzha block (61619) acres. The karulai range comes under the revenue village of new Amarambalam. The range headquarter are situated at Karulai, the nearest bazaar for the Cholanaikkans.

Table 1

<table>
<thead>
<tr>
<th>Details of the study area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Place</td>
</tr>
<tr>
<td>Community</td>
</tr>
<tr>
<td>Male</td>
</tr>
<tr>
<td>Female</td>
</tr>
<tr>
<td>Children</td>
</tr>
<tr>
<td>Total population</td>
</tr>
</tbody>
</table>
The study focused on one tribal Cholanaikkkan tribes at Paattakkaribu tribal settlement of AmarambalamPanjayath. The above table indicates that, the total population of the tribal settlement is 306 and there are 51total households. Coming to their sex ratio there are 71 male, 176 females and 60 children. Among this 60, 28 are male and the other 31are female children.

Table 2

<table>
<thead>
<tr>
<th>Particulars</th>
<th>Samples taken</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>50</td>
<td>50%</td>
</tr>
<tr>
<td>Female</td>
<td>50</td>
<td>50%</td>
</tr>
</tbody>
</table>

This tribal settlement is dominant with female population. Therefore, to understand about the poverty challenges and the disease pattern among them, this study taken 100 samples from the total population of 307 contain 50 female samples and 50 male samples.
Table 3
CONSTRUCTION OF MPI

<table>
<thead>
<tr>
<th>INDICATORS</th>
<th>PEOPLE IN HOUSEHOLD</th>
<th>WEIGHTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>PEOPLE IN HOUSEHOLD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HOUSEHOLD SIZE</td>
<td>2 1 2 2 1 1 1 2 1 1 2 1 2 2 2 3 1 1 1 2 2 3 3 3 1</td>
<td></td>
</tr>
<tr>
<td>EDUCATION</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NO ONE HAS COMPLETED FIVE YEARS OF SCHOOLING</td>
<td>0 0 0 0 1 1 0 0 0 0 0 0 0 0 0 0 0 0 1 1 0 0 0 0 1</td>
<td>1/6=0.167</td>
</tr>
<tr>
<td>ATLEAST ONE SCHOOL - AGE CHILD NOT ENROLLED IN SCHOOL</td>
<td>0 1 0 1 0 1 0 0 0 0 1 1 0 0 0 1 0 1 0 1 1 1 1 0 0 0</td>
<td>1/6=0.167</td>
</tr>
<tr>
<td>HEALTH</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AT LEAST ONE MEMBER IS MALNOURISHED</td>
<td>0 0 0 0 0 1 0 0 0 0 1 0 0 0 0 1 0 0 0 0 1 0 0 0 0</td>
<td>1/6=0.167</td>
</tr>
<tr>
<td>ONE OR MORE CHILD HAVE DEID</td>
<td>1 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 1 0 0 0 1 0 0 0 1</td>
<td>1/6=0.167</td>
</tr>
<tr>
<td>LIVING STANDARD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NO ELECTRICITY</td>
<td>0 0 0 0 0 1 0 0 1 1 0 0 0 0 0 0 0 0 0 0 0 1 1 0 0 0</td>
<td>1/18=0.056</td>
</tr>
<tr>
<td>NO ACCESS TO CLEAN DRINKING WATER</td>
<td>0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 1 1 0 0</td>
<td>1/18=0.056</td>
</tr>
<tr>
<td>NO ACCESS TO SANITATION</td>
<td>0 1 0 0 0 1 0 0 0 0 1 0 0 0 0 1 1 1 1 1 0 0 1 0 0 1</td>
<td>1/18=0.056</td>
</tr>
<tr>
<td>HOUSE HAS DIRTY FLOOR</td>
<td>0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 1 0 0 0 0 1 0 0 1</td>
<td>1/18=0.056</td>
</tr>
<tr>
<td>HOUSEHOLD USES “DIRTY” COOKING FUEL (DUNG, FIREWOOD OR CHARCOAL)</td>
<td>1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 0 1 1</td>
<td>1/18=0.056</td>
</tr>
</tbody>
</table>
Note: 1 indicates deprivation in the indicator; 0 indicates non-deprivation.

Multidimensional Headcount ratio \( (H) = \left( \frac{11}{41} \right) = 0.2683 \)

Intensity of poverty \( (A) = \left( \frac{5.773}{11} \right) = 0.5249 \)

MPI = HxA = 0.14083
The above table indicates the construction of MPI and from that table we can interpret that among 100 samples taken for the study 27 people are deprived. When we are looking into the families, among 25 families 8 families are deprived.

In the education aspect, there exist 5 families in the head of no one has completed at least 5 years under this of schooling. When coming to the head of at least one school age-child is not enrolled in school, there come 10 families under the title.

In the case of the health related aspects, there exist 4 families in the head of at least one member is malnourished and 5 families comes under the head of one or more child have died.

When looking at the aspect of living standard, there exist 5 families in the category of no electricity while 3 families come under no access to clean drinking water. In the head of no sanitation, it consist of 9 families when only 4 families comes under the head of the house has dirt floor. There come 24 families in the head of household uses “dirty” cooking fuel (dung, firewood or charcoal) while 3 families come in the head of house has no car and owns at most one bicycle, motor cycle, radio, refrigerator, telephone or television.

So by calculating all these aspects of MPI we can interpret that among 25 families 8 of them are multidimensionally poor and their score is more than 0.222. Score of the rest 17 families is 0.222 and below 0.222 hence they are not poor.

By accepting the multidimensionality of poverty this study tries to employ the Multidimensional Poverty Index in Indian context, developed by Alkire and Foster. Multidimensional Poverty Index measures both intensity and depth of poverty among the people. It takes three dimensions; health, education and standard of living. In the context of strive to achieve the Millennium Development Goals, the indicators in Multidimensional Poverty Index has a crucial role to play. Academicians and researchers and the policymakers are very much concerned now about the multidimensional aspect of poverty. In India still the debate over the measurement of poverty is going on. No doubt that the Scheduled Tribes are the most vulnerable sections in the Indian
society. Kerala, the small state in India is the focal point and many cited its developmental achievements. But even in Kerala the tribes were marginalised. Therefore; this case study concentrated a tribal settled in Pattakkaribu tribal settlement at Amaramblam Panchayat situated in Malappuram District of Kerala. This study mainly uses a survey schedule for data collection relating to the indicators of poverty from 51 households consisting 100 samples.

**Suggestions**

The tribes are the poorest section in the society. The Multidimensional poverty index also substantiates it. Even if the government spends lot of money to the development tribes it may not remove the poverty completely from the tribal communities. Therefore more direct and vigorous actions needed. The multidimensionality of poverty is agreeable and MPI need modification.

- Tribes should be treated as separate class.
- They should be given additional attention and assistance.
- Do not separate them from their inhabitants.
- Try to survive and preserve their knowledge and skill
- Whenever a new policy or programme is going to implement it may not harm their innate knowledge and skill.
- Try to nurture their knowledge and skill.
- The education providing them should be in their own language and in their own locality.
- The curriculum should be prepared on the basis of understanding their past and present. It will help them to survive.
- They must get information about the higher education.
- Provide them sufficient nutritional food.
- Provide more health awareness to them.
- Provide awareness about the hygienic problems to them.
- Provide medical facilities in their own settlement.
Suggestions with the MPI

- Individual unit of data analysis is needed than house hold as a unit of study.
- Body Mass Index for measuring nutritional content should be included especially for children and women.
- Since MPI measures acute poverty, in the indicator asset should consider needy assets.
➢ It can take the belongings of the people and not with the assets of rich; it should not be a relative poverty index.

➢ More indicators can include in the MPI like Land, women empowerment, crimes, public participation etc.

➢ The purity and safety of the drinking water should be maintained.

Conclusion

The Multidimensional Poverty Index captures the multidimensionality of poverty. It looks at poverty ‘a high-resolution’ lens. By directly measuring the nature and magnitude of overlapping deprivations at the household level, the MPI provides information that can help to inform better policies to reduce acute poverty. The MPI is the product of two numbers the Head count H or the percentage of poor who are poor and the average intensity of deprivation A- which reflects the proportion of dimensions in which households on an average, deprived. Thus it measures both intensity and depth of poverty. Through the field survey the data related to the disease problems among the tribal settlement and their health condition has taken and also about the role of liquor in their daily life is also analyzed in this study. To know all its importance and significance in the Indian context, and especially from the centre of human development in India, the state Kerala and its one of the major tribal category named Cholanaikkan, is selected for the study at Paattakkarimbu tribal settlement in Amarambalam Panchayat, Nilambur. Tribes are the most vulnerable and deprived in various dimensions of life. After make use of a survey schedule 100 population is taken as sample for the study from 25 households. The ten indicators in the MPI is analysed by using simple averages, percentages, tables, and graphs. The Head count ratio of the tribe is 0.2683 and the intensity of deprivation is 0.5249. By multiplying this MPI value of the Cholanaikkan in Paattakkaribu tribal settlement is 0.14083. This clearly indicates that among 100 people 27 percentage of the tribal population is multidimensionaly poor and among 25 households, 8 of them are deprived. So there must need attention from the part of authorities and policy makers.
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