

ESTIMATION OF RURAL POVERTY IN KANCHEEPURAM DISTRICT OF TAMIL NADU

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Introduction

Poverty anywhere can be a threat to prosperity everywhere. The problems of poverty, nutritional insecurity, hunger and malnutrition are paradoxically, more acute in the predominantly agrarian countries. The UNICEF statistics indicate that, of the total global population of 6 billions, 1.10 billion people belong to households that earn a dollar a day or less per person. Fifty per cent of these absolutely poor people live in South Asia, 19 per cent in Sub-Saharan Africa, 15 per cent in East Asia and 10 per cent in Latin America and the Caribbean (Per Pinstруп, 1999).

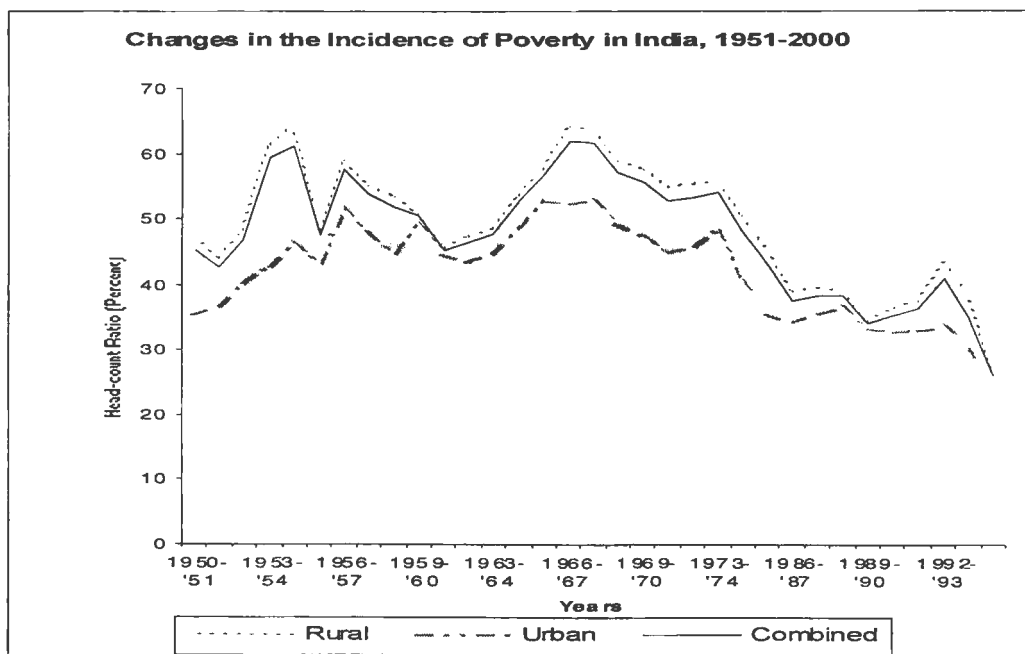
India alone is the home for 34.00 per cent of the world's poor. Despite all the development programmes implemented over the past five decades, about 26.10 per cent of the people in India live below the poverty line, while in rural and urban areas, their proportions are 27.09 and 23.62 per cent respectively in 1999-2000. The Planning Commission has now adopted an alternative definition of poverty provided by "Task Force on Projection of Minimum and Effective Consumption Demand". Using the income poverty method, the Task Force has defined Poverty Line as the mid point of the monthly per capita expenditure class having a daily calorie intake of 2400 calories per person in rural areas and 2100 calories in urban areas (Sundharam, 1998). The percentage of rural population living below the poverty line fluctuated between 50 and 65 per cent prior to 1977-'78 but it declined steadily afterwards (Table-1). From the Figure-1, it could be observed that the severity of poverty was more in rural areas throughout the five decades. The incidence of poverty was more during the pre-green revolution period

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Table 1: Incidence of Poverty in India, 1951-2000 (Head Count Ratio)

Years	Rural	Urban	Combined
1950-'51	47.37	35.46	45.31
1951-'52	43.87	36.71	42.63
1952-'53	48.21	40.14	46.80
1953-'54	61.29	42.77	59.30
1954-'55	64.24	46.19	61.07
1955-'56	48.34	43.15	47.43
1956-'57	58.86	51.45	57.55
1957-'58	55.16	47.75	53.84
1958-'59	53.26	44.76	51.75
1959-'60	50.89	49.17	50.58
1960-'61	45.40	44.65	45.27
1961-'62	47.20	43.55	46.54
1963-'64	48.53	44.83	47.85
1964-'65	53.66	48.78	52.75
1965-'66	57.60	52.90	56.71
1966-'67	64.30	52.24	62.00
1967-'68	63.67	52.91	61.60
1968-'69	59.00	49.29	57.11
1969-'70	57.61	47.16	55.56
1970-'71	54.84	44.98	52.88
1972-'73	55.36	45.67	53.37
1973-'74	55.72	47.96	54.10
1977-'78	50.60	40.50	48.36
1982-'83	45.31	35.65	43.00
1986-'87	38.81	34.29	37.69
1987-'88	39.60	35.65	38.47
1988-'89	39.06	36.60	38.44
1989-'90	34.30	33.40	34.07
1990-'91	36.43	32.76	35.49
1991-'92	37.42	33.23	36.34
1992-'93	43.47	33.73	40.93
1993-'94	38.74	30.03	35.04
1999-2000	27.09	23.62	26.10

Source: Dutt and Sundharam (1998)



and then it has declined steadily over the years. The steady decline in poverty in the 70's and the 80's may be strongly associated with agricultural growth, spurred by the Green Revolution. The major factors responsible for poverty include, low level of national income and per capita income, poor transportation facilities, lack of industrial progress, natural calamities, declining standard of education, unemployment and failure of development schemes (Jai Prakash, 1998). Poverty in India is not because of the non-availability of food but due to lack of accessibility, lack of purchasing power of the people, which in turn is mainly due to unemployment. (Kala Rani Rengasamy, 1999). The incidence of poverty was more severe in rural areas when compared to the urban areas. This may be due to the fact that the rural people are more dependent on on-farm employment, which is seasonal in nature, and, hence getting employment throughout the year is difficult. Non-farm wage income and employment now play a much larger role in reducing poverty, as these are less driven by agricultural growth than before. Further, government spending on rural poverty and employment programmes has increased substantially in recent years, and this has directly

benefited the rural poor (Peter Hazell, 1999). In Tamil Nadu, 32.48 per cent of the rural people live below the poverty line, as compared to 35.04 per cent at all India level as per the Planning Commission estimate for 1993-'94. This has subsequently reduced to 21.12 per cent when compared to the all India level of 26.10 per cent in 1999-2000.

The primary purpose of this study is to estimate the percentage of people belonging to different occupational groups such as agricultural labourers, farmers and non-agricultural workers living below the poverty line by using some common measures of poverty.

Data and Methodology

Most of the earlier studies of the rural poverty in India used a single Index viz., Head Count Ratio approach and have tried to estimate rural poverty. In the present study, besides using Head Count Ratio to estimate the incidence of poverty, Poverty Gap Ratio and Poverty Gap Index were used to measure the intensity of poverty. Further, Sen Index was used to measure the severity of poverty. Rural poverty was estimated based on the income of the rural households. In order to fix the poverty line, the calorie norm of 2400 calories for rural households as fixed by the Planning Commission was taken into account. The food composition recommended by the ICMR, to meet the above calorie norm was considered and the market value of the suggested foods was arrived at Rs.4215.75 per year per capita. To take care of the gender and age difference of individuals in a household, Lusk Coefficient was adopted to standardise the consumption units

Consumption Group	Lusk Coefficient (Consumption Units)
Male above 14 years	1.00
Female above 14 years	0.83
Children between 10 and 14 years	0.83
Children between 5 and 10 years	0.73
Children below 5 years	0.50

The study was carried out in Kancheepuram District in Tamil Nadu. Kancheepuram district broadly represents Tamil Nadu in terms of the proportion of the people below the poverty line. Out of the thirteen blocks in the district, two blocks namely, Acharapakkam and Thirukazhikundram were selected at random. One village each was selected from these two blocks. From each of these villages, 60 respondents were chosen with equal representation to the three occupational group's viz., agricultural labourers, farmers and non-agricultural workers. Thus, the total sample covered 120 households drawn from two villages, Nenmali (Acharapakkam block) and Sempoondi (Thirukazhikundram block).

Head Count Ratio (P_o)

The most commonly used measure of poverty is the Head Count Ratio (HCR), which measures the percentage of the population below the poverty line. The poverty level can be measured by calculating the minimum requirements of consumption per individual.

$$P_o = q/n$$

where P_o = HCR
 q = number of people below the poverty line
 n = sample size

Poverty Gap Ratio

The second measure of poverty is the Poverty Gap Ratio (PGR), which gives a good indication of the depth of poverty, by indicating the distance of the poor from the poverty line.

$$PGR = \sum_{i=1}^q \frac{Z - Y_i}{q \cdot Z}$$

where PGR = Poverty Gap Ratio
 Y_i = Income of the poor
 Z = Poverty line
 q = Number of people below the poverty line

Poverty Gap Index

Though, PGR captured the depth of poverty, it does not capture the number of people below the poverty line. However, multiplying the HCR by the PGR leads to Poverty Gap Index (PGI) that would overcome the above shortcoming.

$$\text{PGI} = \frac{1}{N} \sum_{i=1}^q \frac{Z - Y_i}{Z} \quad (\text{OR})$$

$$\text{PGI} = P_o * \text{PGR}$$

where PGI = Poverty Gap Index
n = Sample size
Z = Poverty line
Y_i = Income of the poor

Poverty Gap Index can be interpreted as the mean proportionate poverty gap across the whole population. The poverty gap will be unaffected by the transfer of income from a poor person to someone who is less poor. It gives equal weights to the poverty of all the poor people and therefore, is not sensitive to the distribution of living standards among the poor, thus violating the transfer axiom.

Sen Index

Amartya Sen, Nobel Laureate has proposed a better measure of the severity of poverty. Sen Index of poverty is an increasing function of the Head Count Ratio and income shortfall.

$$S = P_o \{ \text{PGR} + (1 - \text{PGR}) G_p \}$$

Where S = Sen Index
P_o = HCR
PGR = Poverty Gap Ratio
G_p = Gini Coefficient

Since the value of Gini Coefficient ranges from zero to one, Sen index is also an increasing function of the Gini Coefficient. However, Sen Index

does not satisfy the axiom of additivity, which requires that aggregate poverty must be equal to the population weighted sum of poverty levels in the various sub-groups of society

Results and Discussion

The estimates of poverty incidence and its intensity and severity in the study are given in Table 2. Table 2 reveals that about 40.00 per cent of agricultural labourers, 28.57 per cent of farmers and 16.66 per cent of non-agricultural workers respectively are below the poverty line. The overall percentage of people below the poverty line is estimated to be 30.83 per cent as per the Head Count Ratio. Thus, it could be observed that the non-agricultural workers are the least affected by poverty in rural areas when compared to farmers and agricultural labourers.

The Poverty Gap Ratio of the poor among the non-agricultural workers (0.041) indicates that their average income is 4 per cent less than the poverty line. This ratio was higher for the poor among the farmer's (0.061). The ratio for the poor among the agricultural labourers (0.198) is the highest among the occupational groups in the sample. Similarly, the Poverty Gap Index, is the lowest in case of non-agricultural workers at 0.68. It was much higher for the farmers at 1.74. The same was several times higher for the agricultural labourers at 7.92.

Table 2: Incidence, Intensity and Severity of Poverty in the Study Area

Categories	Head Count Ratio	Poverty Gap Ratio	Poverty Gap Index	Sen Index
Agricultural Labourers	40.00	0.198	7.92	38.18
Farmers	28.57	0.061	1.74	26.51
Non-agricultural Workers	16.66	0.041	0.68	15.48
Overall	30.83	0.148	4.56	23.52

The Sen Index also showed that the severity of poverty is more in agricultural labourers (38.18 per cent) followed by farmers (26.51 per cent) and non-agricultural workers (15.48 per cent). This clearly indicates that the severity of poverty is more in the case of agricultural labourers. This may be due to the fact that, agricultural labourers are dependent more on on-farm employment and are unemployed during the off-farm seasons. Since, the non-agricultural workers have employment throughout the year, their standard of living is better when compared to that of agricultural labourers and are, hence, less poor. These results suggest that the poverty of the rural households can be reduced if non-farm employment opportunities are provided to them in the off-season.

Conclusions

The incidence, intensity and severity of poverty is highest in the case of agricultural labourers, whose income mainly depended on agriculture, and where there is a uneven distribution of employment in a year. The farmers who owned land are less affected by poverty when compared to the agricultural labourers. The non-agricultural workers are much less prone to poverty, because their income is mainly through non-agricultural works, where they get a regular employment. Thus, from the study it could be inferred that off-season employment plays a major role in reducing the poverty in rural areas.

In order to alleviate rural poverty, the government should give priority to increase the employment opportunities through government schemes such as IRDP, JRY, EAS, TRYSEM etc. New irrigation projects and watershed programmes would increase the area under irrigation, as a result of which productivity of the lands will increase. It would indirectly increase the employment opportunities for the rural agricultural labourers. Increasing the marketing facilities, infrastructure facilities and transportation facilities are expected to fetch the farmers a remunerative price for their produce, which will also increase their standard of living. Thus, providing employment for the rural poor in the off-season and strengthening infrastructure are the possible ways to reduce the rural poverty.

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