

Poverty in Puducherry: An Analysis of Rural and Urban Disparity

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Abstract

Poverty is measured in terms of caloric food intake and income earned during the particular year. The minimum food requirements for rural and urban areas were pre-determined as 2400 and 2100 caloric per person per day. If a person lives in rural area with Rs.49/- per month and Rs.57/- per month in urban area in 1973 - 74 prices they were considered as poverty living people. However, this estimation varies and not agreed by the subject experts. A number of programmes (self employment - IRDP and PMEGP; wage employment - JRY and MGNREGAs; public distribution system - PDS and SGSY and nutrition programmes) were implemented by the Government of India to eradicate poverty. Nonetheless, largest number of poor people lives in India. This paper discusses the rural-urban poverty disparity in Puducherry by taking 200 samples. The study has used Engel's Law of Consumption expenditure, Head Count Ratio, Poverty Gap and Lorenz Curve for analysing the intensity of poverty. The study found that the incident of poverty was more among Agriculture Labourers including Livestock and Fishing occupation in rural area and Tailoring occupation in urban area. The paper concludes that poor remain poor due to lack of access to assets, illiteracy and ignorance. Poverty can be reduced by sifting occupation, training, loan for self-employment and continuous supply of commodities through Public Distribution System (PDS) with increased quantity and quality products.

Keywords: Poverty; Rural; Urban; Agriculture labourers including livestock and fishing; Construction workers; Trade and transport, Tailoring and other services.

Introduction

Poverty is one of the evil problems of the third world countries, particularly in poor countries. It brings misery and moral degradation to human society. People live in poverty owing to lack of income and poor purchasing power, ill-health, unemployment, low productivity, low level of skill and social exclusion and discrimination. Poverty is found

both rural and urban area. The characteristics of urban and rural poverty are although seems to be same but varies across occupation. As most of the people live in rural area, India's poverty is termed as rural poverty than urban poverty. The government of India has implemented a number of programmes and schemes to eradicate the poverty from India. "Garibi Hatao" and "Bakari Hatao" are slogan in 1980s for removal of poverty from India. However, Government investment on social security programmes had not yielded expected result in poverty reduction. The objective of the study is to identify the type of occupation which determines poverty in rural and urban area in Puducherry.

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Methods

Both primary and secondary data were collected for the study. The study was conducted in Puducherry region in 2011. Two villages in the rural Puducherry (Karikalampakkam and Bahoor) and two slums in urban Puducherry (Solai Nagar and Lawspet) were selected through proportionately stratified random sampling method. The selection of the area was based on higher incidence of poverty living people in Puducherry. 100 samples from rural and another 100 samples from urban were selected for the study. Thus, data was collected from 200 samples.

Four occupational groups (Agriculture Labourers including Livestock and Fishing-39, Construction Workers-15, Trade and Transport-18 and other services - 28) from rural area and five occupational groups (Agriculture Labourers including Livestock and Finishing-24, Construction Workers -27, Trade and Transport-16, Tailoring-18 and Other Services-15) from urban area were selected for the study. Engle's Law of Consumption Expenditure, Head Count Ratio, Poverty Gap and Lorenz Curve have been used for analysing the data.

(a) Engel's law of consumption expenditure

According to Engel, as income increases the proportion of income spent on food declines and the proportion of income spent on comforts and luxuries increases. By using a simple regression, the law was verified for each occupational group. The per capita monthly income is taken as independent variable and the per capita monthly food expenditure is taken as dependent variable.

Using the linear form,

$$n = ([b \times \bar{x} / \bar{y}] \times 100)$$

Where, \bar{x} = Monthly per capita income

\bar{y} = Monthly per capita food expenditure

n = Elasticity, which should be less than 1

(b) Head count ratio

The head count ratio is used to find out the percentage of people live below poverty line.

$$HCR = q/n$$

Where, q = Number of households with income below the poverty line,

n = Total number of population and

HCR = Head Count Ratio

(c) Poverty gap

The poverty gap (P1) was developed to measure the severity of poverty and measured as the distance from the average consumption expenditure of the poor. Higher the poverty gap, higher would be the proportion of people live below poverty line.

It is given as:

$$P_1 = P_0 G ; G = \frac{z - y}{z}$$

Where, Z = Poverty line

Y = Average consumption expenditure of poor

P₀ = Percentages of population living below the poverty line to the total population and

P₁ = Poverty gap.

(d) Lorenz curve

The degree of inequality in the distribution of income is studied by using Lorenz Curve for different occupational groups. It is a cumulative percentage curve in which the percentage of respondents is combined with percentage of income. The 45° line shows the line of equal distribution.

Results and Discussion

The study found that male dominates (more than 76 per cent) in both rural and urban segments (Table 1). Majority of the respondents (more than 83 per cent) falls in the age group of less than 45 years. Backward community

Table 1: Social Background of the Respondents

Sl. No.	Social Indicators	Rural	Urban
1	Sex		
	Male	76	79
	Female	24	21
	Total	100	100
2	Age		
	< 45 years	83	87
	45 yrs & above	17	13
	Total	100	100
3	Caste		
	B.C	73	85
	S.C	27	15
	Total	100	100
4	Religion		
	Hindu	100	79
	Christian	Nil	21
	Total	100	100
5	Family Size		
	Small Size (<4 members)	43	56
	Medium Size (4-6 members)	49	37
	Large (>6 members)	08	07
	Total	100	100
6	Education		
	Illiterate	23	34
	Primary	59	17
	Secondary	10	49
	College	8	nil
	Total	100	100

Source: Primary data

Table 2: Economic Condition of the Respondents

Sl. No	Economic Indicators	Rural	Urban
1	Nb. of Working Days per year		
	Below 100 days	7	3
	101 - 200 days	30	20
	201 and above days	63	77
	Total	100	100
2	Household Income per year		
	Average income (in Rs/year)	26,888	21,645
	% share of Head of the household	76	76
3	Savings		
	yes	11	18
	Average savings (in Rs/year)	1,942	3,492

Source: Primary data

dominates more than (73 per cent) the Schedule Caste community. As far as the religion is concerned all respondents in the rural area follow Hindu religion but 21 per cent of urban respondents follow Christianity. In adoption of family size, there was much difference was found between rural and urban

population. The rural respondents prepare to have large family size where as the urban respondents like to have small family size. Interestingly, more number of illiterates was found in urban (34 per cent) than in rural area (23 per cent).

Not much variation was found between rural and urban respondents in terms of number of working days in a year (Table 2). Almost 93 per cent and 97 per cent of the rural and urban respondents respectively got employment for more than 100 days per year. Average income contributed by the rural respondents was found higher (Rs.26,888) than urban respondents (Rs.21,645). This was due to large employment opportunities found in rural areas than in urban side. However, the percentage share of head of households' income to the family was found same (76 per cent) in both urban and rural segments. When it comes to average savings, the urban respondents save more than rural respondents.

The respondents in the selected rural and urban areas possess thatched tiled and pucca houses (Table 3). The urban respondents mostly live in thatched and tiled house where as the rural respondent's live in thatched houses (62 per cent). 61 per cent of the rural respondents own cow, goat and hen, whereas it was just 25 per cent of urban respondents own these livestock. Although the respondents, both in rural and urban areas live miserably, they also possess jewels, bicycles, vehicle (two wheelers), radio, TV, fan and furniture. Even here also the rural respondents possess higher number of the above assets than the urban respondents.

In terms of liabilities, the urban respondents are highly indebted (on an average of Rs.25,993/-) than the rural respondents (on an average of Rs.10,290/-). It is paradoxical that urban respondents do have a habit of savings as well as indebtedness. However, the indebtedness of urban respondents was more than their savings. The respondents have received loan from banks including co-operative bank, money lenders, friends and relatives. The money lenders play a significant

Table 3: Assets and Liabilities

Sl. No	Variables	Rural	Urban
I	Assests		
1	House		
	Thatched	62	51
	Tiled	23	43
	Pucca	15	6
	Total	100	100
2	Livestock (Cow/ Goat/ Hen)	61	25
3	Others		
	Jewels	53	30
	Bicycle	74	56
	Vehicle(Two Wheelers)	19	45
	Radio	70	26
	T.V	58	39
	Fan	61	70
	Furniture	43	65
	Total	378	331
II	Liabilities		
1	Bank including Co-op Bank credit	15	4
2	Money lenders	47	39
3	Friends & Relatives	11	24
	Total	73	67
4	Average Indebtedness (in Rs)	10,290	25,993

Source: Primary data

Table 4: Engel's Law of Consumption Expenditure of Different Occupation Group

S. No.	Occupation	Rural				Urban			
		α -coefficient	η -coefficient	R ²	T-value	α -coefficient	η -coefficient	R ²	T-value
1	Agriculture Labourers including Livestock and Fishing	0.8928	0.865	0.4138	2.91	0.3964	0.4375	0.4364	4.13
2	Construction Workers	0.5542	0.5633	0.7426	1.64	0.5517	0.5842	0.6289	6.51
3	Trade and Transport	0.8831	0.8698	0.6426	2.75	0.6481	0.6917	0.5581	4.20
4	Tailoring	-	-	-	-	0.9605	0.999	0.5495	3.61
5	Other Services	0.976	1.013	0.7508	5.06	0.6431	0.6704	0.5803	4.24

Source: Primary data

role in issuing credit to the respondents. Only 15 per cent of rural respondents and four per cent of urban respondents have obtained loan from banks.

Poverty analysis

(a) Engel's Law of Consumption Expenditure

Engel's Law of consumption expenditure of different occupational groups in rural area is given in Table 4. Considering the rural occupation, the Agricultural Labourers including Livestock and Fishing, from the regression equation the b_1 coefficient revealed

Table 5: Head Count Ratio of Different Occupation Group

Sl. No	Occupation	Head Count Ratio	
		Rural	Urban
1	Agriculture Labourers including Livestock and Fishing	97	38
2	Construction Workers	55	63
3	Trade and Transport	40	63
4	Tailoring	-	89
5	Other Services	14	60

Source: Primary data

that at one per cent level of significance, the R^2 value is 0.4138 and its t-value is statistically significant. The elasticity was found 0.865, which shows that 86.5 per cent of the income was spent on the food expenditure by the Agriculture Labourers including Livestock and Fishing. Hence, it satisfies Engel's law of consumption expenditure.

The same is the case for Trade and Transport. It is found from the regression at one per cent level, the t-values are significant and the R^2 value is 0.6426, and the elasticity co-efficient value is 0.8698. This shows that 86.98 per cent of the income of Trade and Transport occupation spent their income for food expenditure. It also satisfies Engel's Law.

In Construction Workers, from the regression equation, the b_1 co-efficient revealed at five per cent level of significance that the R^2 values is high at 0.7426 and the t-value is statistically significant. The elasticity value shows that only 56.33 per cent of the income was spent for food.

Taking Other Services, the regression equation is fit and from the b_1 co-efficient it was found that at one per cent level of significance the t-value is significant and R^2 value is 0.75. But the elasticity co-efficient was very high. So the Engel's Law is not satisfied in this occupation.

Table 4 further explains the Engel's Law of

consumption expenditure of different occupation groups of urban respondents. Taking the occupation of Agriculture Labourers including Livestock and Fishing at one per cent level, the R^2 value is only 0.4364 and the elasticity co-efficient is 0.4375, which means that only 43.75 per cent of income is spent on food. Thus, the Engel's Law was not satisfied as only 43.75 per cent of the income of this occupation was spent on food expenditure.

With respect to Construction Workers the regression equation was fit and the x co-efficient at one per cent, the t-value is significant and the elasticity co-efficient is 0.5842. This means that 58.42 per cent of income was spent on food alone. Thus, Engel's Law was satisfied and the law hold good.

Considering the occupation on Trade and Transport the regression equation was fit at one per cent level of significant and t-value was 4.20. The elasticity co-efficient was 0.6917. Thus, the proportion of income spent on food expenditure was 69.17 per cent of the total income. Hence, here again the Engel's Law was proved.

Taking Tailoring the regression equation shows that the χ co-efficient at one per cent level of significant, R^2 value was 0.5495 and the t-value was significant and the elasticity

Table 6: Estimation of Poverty Gap

S. No.	Occupation	Rural			Urban		
		P_0	G	P_1	P_0	G	P_1
1	Agriculture Labourers including Livestock and Fishing	97	0.95	92.15	37.5	0.93	34.87
2	Construction Workers	55	0.7345	40.56	62.9	0.98	61.64
3	Trade and Transport	40	0.94	37.9	62.5	0.56	35.00
4	Tailoring	-	-	-	88.8	0.83	73.70
5	Other Services	14	2.6	36.47	60.0	0.79	47.40

Source: Primary data

Table 7: Lorenz Curve Showing Inequalities in Distribution of Income

S. No.	Cumulative Percentage of Income	Cumulative percentage of various occupation				
		Agricultural Labourers Including Livestock and Fishing	Construction Workers	Trade and Transport	Tailoring	Other Services
I Rural Poverty						
1	2.8	38	6.6	16.6	-	17.8
2	11.0	100	46.6	44.4	-	42.8
3	25.0	100	66.0	66.7	-	60.7
4	44.0	100	86.0	83.3	-	71.4
5	69.0	100	100.0	94.0	-	89.0
6	100.0	100	100.0	100.0	-	100.0
II Urban Poverty						
1	5.3	-	25.93	20.00	33.30	26.60
2	15.15	33.33	51.85	53.33	61.11	40.00
3	29.55	41.67	74.07	80.00	80.00	80.00
4	48.48	75.00	85.18	86.67	83.33	86.60
5	71.97	87.50	96.30	93.3	88.89	93.30
6	100.00	100.0	100.0	100.0	100.00	100.00

Source: Primary data

Table 8: Poverty among Rural and Urban Respondent's Occupation

S. No	Tools used to Measure Poverty	Occupation of the Respondents	
		Rural	Urban
a.	Engel's Law of Consumption Expenditure	(i) Agriculture Labourers including Livestock and Fishing (ii) Trade & Transport	(i) Tailoring (ii) Trade and Transport (iii) Other Services
b.	Head Count Ratio	(i) Agriculture Labourers including Livestock and Fishing	(i) Tailoring
c.	Poverty Gap	(i) Agriculture Labourers including Livestock and Fishing	(i) Tailoring (ii) Construction Workers (ii) Trade and Transport (iii) Other Services
d.	Lorenz Curve	(i) Agriculture Labourers including Livestock and Fishing (ii) Construction Workers	(i) Tailoring (ii) Trade and Transport (iii) Other Services

Source: Primary data

of co-efficient was 0.999. Thus, 99.9 percent of the income was spent on food expenditure. This expenditure was the highest among all occupational groups of Puducherry union Territory. Hence, the Engel's Law holds well in Tailoring occupation.

Finally, taking Other Services, the regression equation shows that the χ co-efficient was 0.6431 at one per cent, which shows that the R^2 value as 0.5803 and the elasticity co-efficient as 0.6704. Thus, 67.04 per cent of income was spent on food. Thus, the law holds good for other services as well.

(b) *Head count ratio*

Analysis of head count ratio shows that 97 per cent of Agriculture Labourers, 55 per cent of Construction Workers and 40 per cent of Trade and Transport respondents were living below poverty line in rural area (Table 5). Among the four occupational groups in rural area, the less poverty living people was found in Other Services (14 per cent).

The situation in urban Puducherry shows different picture. 89 per cent of Tailoring, 63 per cent each of Construction Workers and

Trade and Transport and another 60 per cent in Other Services were living below poverty line. The least poverty living people were found from the category of Agriculture Labourers including Livestock and Fishing respondents (38 per cent).

(c) *Poverty gap*

The poverty gap analysis of the rural population shows that Agriculture Labourers including Livestock and Fishing were found greater poverty gap of 92.15 per cent, which indicates that they live very much below the poverty line (Table 6). The Construction Workers live with the poverty gap of 40.56 per cent. In Trade and Transport and Other Services the poverty gap was found 37.9 per cent and 36.47 per cent respectively. Thus, it was found that the Agriculture Labourers including Livestock and Fishing were living with a greater poverty gap and live below poverty line than other occupational group.

With respect to urban respondents it was found that 73.70 per cent of Tailoring, 61.64 per cent of Construction workers live with higher poverty gap. The Other Services (47.40 per cent), Trade and Transport (35 per cent) and Agriculture Labourers including Livestock and Fishing (34.87 per cent) were living relatively less poverty gap of the respective occupation. Thus, higher number of Tailoring occupation live below poverty line than other occupation.

(d) *Lorenz curve*

When studying rural occupation groups by using Loren Curve, the Agricultural Labourers including Livestock and Fishing respondents were living with greater inequality in their income distribution (Table 7). This was followed by Construction Workers. It was found that Other Services are living better. Similarly, the trade and transport occupation also shows less inequality in the distribution of income.

The Lorenz Curve analysis for urban occupation shows different picture -

Agricultural Labourers including Livestock and Fishing lies close to the line of equal distribution. So the dispersion of variation in the distribution of income was smaller. The Tailoring lies further away from the line of equal distribution. Hence, the dispersion was greater and shows greater inequality income in Tailoring occupation. Trade and Transport and Other Services lies just above the Tailoring occupation and it shows that the inequality of income was higher in Trade and Transport and other services. Because they live further away from the line of equal distribution. Construction Workers show smaller dispersion in the distribution of income.

Conclusion

The study found that the Agriculture Labourers including Livestock and Fishing occupation in rural area and Tailoring occupation in urban area live below poverty line or extreme poverty line. These findings were arrived by using the tools such as Engel's Law of Consumption Expenditure, Head Count Ratio, Poverty Gap and Lorenz Curve (Table 8). However, other occupational groups such as Trade and Transport and Construction Workers in rural area and Trade and Transport, Construction Workers and Other Services in Urban area were also falling under poverty living people in one analysis or the other. Nonetheless, the poverty reflection was mild in these occupation and not found too extreme in all four tools used in the study.

Suggestions

Government has to take a number of steps to reduce poverty incidence among Agriculture Labourers including Livestock and Fishing occupation in rural area and Tailoring occupation in urban area. Poverty can be reduced by providing employment through Government programmes or expanding loan facilities with subsidies for undertaking entrepreneurship activity. Intensifying public distribution system and increased allocation

of commodities such as rice, kerosene and oil may relieve the burden of poverty of the rural and urban respondents in Puducherry Union Territory.

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